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S. HRG. 115–120

HEARING ON THE NOMINATIONS OF KATHLEEN HARTNETT WHITE TO BE MEMBER OF THE COUNCIL ON ENVIRONMENTAL QUALITY AND ANDREW WHEELER TO BE DEPUTY ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

NOVEMBER 8, 2017

Printed for the use of the Committee on Environment and Public Works

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED FIFTEENTH CONGRESS
FIRST SESSION

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C O N T E N T S

Page

NOVEMBER 8, 2017

OPENING STATEMENTS

Barrasso, Hon. John, U.S. Senator from the State of Wyoming 1
Carper, Hon. Thomas R., U.S. Senator from the State of Delaware 3
Cornyn, Hon. John, U.S. Senator from the State of Texas, prepared statement 6

WITNESSES

Stivers, Hon. Steve, U.S. Representative from the State of Ohio 8
White, Kathleen Hartnett, Director, Texas Public Policy Foundation 9
Prepared statement 12
Responses to additional questions from Senator Carper 17
Response to an additional question from Senator Booker 35
Responses to additional questions from Senator Gillibrand 35
Response to an additional question from Senator Inhofe 36
Responses to additional questions from:
Senator Merkley 37
Senator Sanders 41
Senator Whitehouse 57
Wheeler, Andrew, Principal, Faegre Baker Daniels Consulting 62
Prepared statement 64
Responses to additional questions from Senator Carper 67
Response to an additional question from:
Senator Gillibrand 82
Senator Inhofe 82
Responses to additional questions from:
Senator Merkley 82
Senator Sanders 84
Senator Sullivan 93
Senator Whitehouse 94

ADDITIONAL MATERIAL

Kathleen Hartnett White, Distinguished Senior Fellow-in-Residence & Director, Armstrong Center for Energy & the Environment, www.texaspolicy.com, sourced November 7, 2017 600
Board of Directors, www.texaspolicy.com, sourced November 7, 2017 602
Information on the Texas Public Policy Foundation from www.sourcewatch.org, sourced November 7, 2017 605
Green Energy Policies May Haunt Democrats This Fall, The Patriot Post, July 2, 2016 626
Trump pick for top environmental post once wrote Texas would be 'better off' as an independent republic, www.cnn.com, October 26, 2017 628
Clean Air Act 632

HEARING ON THE NOMINATIONS OF KATHLEEN HARTNETT WHITE TO BE MEMBER OF THE COUNCIL ON ENVIRONMENTAL QUALITY AND ANDREW WHEELER TO BE DEPUTY ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WEDNESDAY, NOVEMBER 8, 2017

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The Committee met, pursuant to notice, at 10:05 a.m. in room 406, Dirksen Senate Office Building, Hon. John Barrasso (Chairman of the Committee) presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Boozman, Wicker, Fischer, Rounds, Ernst, Sullivan, Cardin, Whitehouse, Merkley, Gillibrand, Booker, Markey, Duckworth, and Harris.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Good morning. I call this hearing to order.

Today we will consider the nominations of Kathleen Hartnett White to be a member of the Council of Environmental Quality—the CEQ, and Andrew Wheeler to be Deputy Administrator of the Environmental Protection Agency.

Before I speak about the nominees, I want to reiterate remarks that I made last week on the Senate floor that are applicable to today's hearing. All year long, Democrats have been putting up roadblocks to President Trump's nominations. Democrats have been forcing 30 hours of debate on even some of the most bipartisan of President Trump's nominees. But then those Democrats have not been showing up to use the time for the debate, the 30 hours.

In the past, both sides would agree to waive the time requirements and to move on to other Senate business. But today many Democrats insist on cloture votes and then insist that we waste hour after hour on the Senate floor, even when there is no one on the floor to debate the nominees that are in front of us.

It is time to end this pointless spectacle. We have nearly 100 nominees for important jobs in the Administration on the Executive Calendar waiting a vote on the Senate floor. The Environment and Public Works Committee has reported 11 nominees to the full Sen-

ate for approval, only two of whom have received votes on the Senate floor so far.

I am pleased that we will be able to vote on another this week, but unfortunately, it required cloture and another 30 hours of debate time.

As of last Friday, there have been 51 cloture votes on President Trump's nominees. In comparison, the previous four Administrations had only a total of seven cloture votes on their nominees at this point in their administrations. That would be Bill Clinton, Barack Obama, and both Presidents Bush.

Democrats are not using the Senate rules for debate or deliberation, only for delay. It is therefore time to change the rules and go back to the process that Senator Schumer supported in 2013 and 2014. Today, the schedule allows us to do only one or two nominations in a typical week. If we go back to the 2014 Schumer standard, we could clear multiple nominations in a day.

Now I would like to turn to today's nominees.

President Trump has nominated Kathleen Hartnett White to be a member of the CEQ. The President intends to designate her as the Chair of the CEQ upon her confirmation by the Senate. CEQ was established pursuant to the National Environmental Policy Act, the implementation of which the CEQ oversees. CEQ is responsible for coordinating Federal environmental efforts. It develops and recommends national policies to the President that promote the improvement of environmental quality.

James Connaughton, who is the former Chair of the CEQ under President George W. Bush, said this of Ms. Hartnett White. He said, "She is clearly highly qualified, adept, and has a breadth of experience."

Ms. White currently serves as a distinguished senior fellow in residence and director of the Armstrong Center for Energy and Environment at the Texas Public Policy Foundation, which she joined in 2008. From 2001 to 2007 she served as Chairman and Commissioner of the Texas Commission on Environmental Quality.

Ms. White has also served as a leader of the Lower Colorado River Authority, the Texas Water Development Board, the Texas Economic Development Commission, the Environmental Flow Study Commission, the Texas Emissions Reduction Advisory Board, the Texas Water Foundation, the National Cattlemen's Association, and the Texas Wildlife Association.

I look forward to hearing from Ms. White how she will bring her breadth of experience to bear on CEQ.

President Trump also nominated Andrew Wheeler to be Deputy Administrator of the EPA. The Deputy Administrator plays a central role in developing and implementing programs and activities focused on fulfilling the EPA's mission of protecting human health and the environment. The Deputy Administrator oversees Agency-wide initiatives and coordinates important issues with EPA's regional and program offices.

I was heartened by the Ranking Member's positive comments about Mr. Wheeler and his dedication to the EPA's mission. Our Ranking Member has previously stated, "The fact that we have worked with him, we know him, he used to work with George Voinovich, who is one of my closest friends and allies on the envi-

ronment, is certainly helpful." He went on to say, "And I think, having worked in the Agency, he actually cares about the environment, the air we breathe, the water we drink, and the planet on which we live."

Mr. Wheeler has spent over 25 years working in the environmental field, first as a career employee with the title of Environmental Protection Specialist at EPA for 4 years, then as the EPW's Clean Air Subcommittee Staff Director for 6 years; next as the EPW's Republican Staff Director and Chief Counsel for 6 years; and finally, as a consultant and lobbyist for a large variety of energy and environmental clients for the last 8 years.

We know how well qualified Mr. Wheeler is, and if confirmed, what a wealth of experience and expertise he will bring to a critically important role in protecting America's public health and safety.

As I turn to Senator Carper, I would also add, like your two sons, Andrew is also an Eagle Scout.

I would like to also now turn to the Ranking Member for his statement.

OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. Thank you. Thank you, Mr. Chairman. We are grateful for this hearing and for our nominees that will be appearing before us today.

John Barrasso and I are friends. I consider everybody on this Committee a friend. And I wasn't going to mention this, but I have to say this. We have an Administration, Mr. Chairman, that has basically said to heads of various agencies they don't have to respond to oversight inquiries from anybody except the Chairman of a committee. And you know and I know that usually the party that is not in the White House tends to be more rigorous in exercising oversight over the Administration. That is the way it has always worked, whether you have a Democrat or Republican President.

We have asked, on our side of the aisle, some 30 letters to EPA asking for response. We think we are exercising our oversight responsibilities. We have heard now on about 10 of them. And if you are playing baseball, you are batting .333. In baseball, that is pretty good, but it is not pretty good here in the U.S. Senate.

We can do better here. And as my colleagues know, when we had a Democratic administration, and my colleagues said they weren't getting the responses they needed, I would literally call the heads of the agencies and say, for God's sake, respond to Senator whoever it is. For God's sake, respond. And that is kind of like regular order, and we need to get back to that. We get good responses on our letters, and we can move people. We move people a lot faster, and I want to. I want to do that.

I come from a background that, as Governor, folks I nominate, I expect them to be confirmed. Get a hearing; be confirmed. Eight years as Governor of Delaware, and we had a Republican House, Democratic Senate, not one was ever turned down to lead an administration, to lead a department, to lead an agency, to serve as a judge. Not one was turned down. And I think part of it was the way we treated and responded to legislators for their lawful re-

sponsibilities, obligation to do oversight. And we are not getting that right now.

I had not planned to say that, but I felt compelled to do that, especially the part that I regard you as my friend.

Before I turn to the nominations, I want to say I look forward to the day when Scott Pruitt, the head of the EPA, comes and testifies before us again. And my hope is that that day will come soon.

Turning to today's hearing, we have two nominees before us who have been nominated to serve in very important capacities, very important capacities. The Council on Environmental Quality is led by the White House's top environmental official. CEQ has historically played a vital role in coordinating the efforts of all Federal agencies on cost cutting and important environmental issues. For example, CEQ co-chaired President Obama's Climate Adaptation Task Force to help communities strengthen their resilience to extreme weather and prepare for other impacts of climate change.

CEQ leads the Office of Federal Sustainability, which develops policies to modernize Federal property and save money through increased energy efficiency and other purchasing requirements. CEQ also plays a key role in identifying ways to make sure Federal agencies work together well and in a coordinated fashion. And CEQ helped to get the almost unanimously enacted Toxic Substance Control Act, which a bunch of us worked on, over the finish line by coordinating with a wide range of stakeholders during negotiations between the House and the Senate and those stakeholders and the Administration.

The nominee to carry on this important work must be someone who can build alliances, someone who can work with Congress and be a credible leader. Unfortunately, in my view, the nominee before us today, Kathleen Hartnett White, does not, in my opinion, meet this standard.

In her years serving the Texas Commission on Environmental Quality and thereafter, Ms. White has shown a disdain for science, a disregard for laws and regulations already on the books, and a staggering disrespect for people who have views with which she disagrees.

Ms. White, who has been asked to hold the top environmental position in the White House, has shown that she is not only a science denier, but actively promotes misinformation on climate, on ozone, on mercury, particulate matter, and other known health hazards that impact our air and our waterways. From describing the Renewable Fuel Standard as unethical, to comparing people who believe in climate programs to pagans, to saying that environmentalism will lead to mass starvation or other large scale calamities, her tone, her words, and her actions are simply unacceptable.

Our second nominee, Andrew Wheeler, once occupied a seat on this side of the dais, as the Chairman has said. He is no stranger to the Environmental and Public Works Committee. As a long time staff member for the senior Senator from Oklahoma, Mr. Wheeler was someone with whom we didn't always agree on each and every policy, but he did prove to be one with whom we were always able to work together on policies that we did agree on.

Given the polarizing nature of Scott Pruitt's EPA, as well as the polarizing nature of one of Mr. Wheeler's long-time clients, Bob Murray, of Murray Energy, I am anxious to hear from Mr. Wheeler about whether he can assure members of this Committee that his confirmation to be Deputy Administrator of the EPA would not be more of the same approach at the Agency.

I would like to know if Mr. Wheeler can leave his clients and his conflicts of interest behind him and start over with the interests of the country as his No. 1 priority. I also want to understand whether, unlike Ms. White, Andy Wheeler can embrace and acknowledge accepted environmental and public health science.

So thanks, Mr. Chairman. We look forward to hearing from all of our witnesses, and especially welcome as a Buckeye our lead off witness. Thank you for joining us today.

Senator BARRASSO. Well, thank you very much, Senator Carper.

I would point out that, according to the EPA, to date, the Agency has delivered over 4,300 pages of documents to the minority, including civil and criminal enforcement summaries, travel records, communications relating to the Clean Power Plan Executive Order, communications relating to the oil and gas industry, information collection requests, and then ethics documents as well, including recusal forms, training records, and ethics pledges.

I do agree that the Administration needs to be responsive to members from both sides of the aisle. I would point out that as an early member of this Committee a number of years ago, under Chairman Boxer, I was the Ranking Member of something called the Oversight Committee, and I had a number of things that I wanted to look into in terms of oversight, and the Chairman at that time told me the only oversight that was going to be done under her Committee at that time was over what she described as abuses of the Bush administration; nothing of that was happening during that current Obama administration.

Senator CARPER. Well, for good or for bad, I am not Barbara Boxer.

[Laughter.]

Senator CARPER. I am Tom Carper, and I want to work together, and I want to get things done, and I want to get reasonable responses to the two-thirds of requests we have made. I just want reasonable responses, and I don't think that is too much to ask for. Thank you.

Senator BARRASSO. Thank you, Senator Carper.

Senator Cornyn of Texas was scheduled to be here to introduce Ms. Hartnett White. He had a conflict that he just could not avoid, so I am going to submit his statement to the record of support for Kathleen Hartnett White into the record without objection.

Hearing none, it is submitted.

Senator CARPER. I object.

Senator BARRASSO. Too late.

[Laughter.]

[The prepared statement of Senator Cornyn follows:]

Introduction
Nomination Hearing of Ms. Kathleen Hartnett White to be Chairman of the White House Council on Environmental Quality
Senate Committee on Environment & Public Works
8 November 2017

*Chairman Barrasso, Ranking Member Carper – thank you for allowing me to introduce my friend and fellow Texan, Kathleen Hartnett White, to be the Chairman of the White House Council on Environmental Quality.

*Kathleen hails from Bastrop County, Texas where she and her husband raise National Champion Jack Russell Terriers and Hereford cattle. As a rancher, Kathleen understands the value of protecting our nation's natural resources. And that a successful ranching operation depends upon a healthy and thriving environment.

*In Texas, Kathleen has served at multiple levels of government, including a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). As the head of the second largest environmental regulatory agency in the United States, Kathleen worked tirelessly to protect the people and environment of Texas. In fact, during her tenure at TCEQ, Texas experienced a dramatic reduction in harmful emissions and pollution levels.

*Kathleen also served on the Texas Water Development Board and the Texas Strategic Economic Development Commission and the Environmental Flows Study Commission.

*Given her extensive experience as a regulator, I have no doubt she's the right person for this important position. Kathleen understands what it takes to manage a large regulatory entity. She has proven her ability to coordinate a multitude of government

actors and competing interests, and to do it with a high degree of intelligence, an understanding of complex policy issues, and plenty of good will.

*Her extensive background as a regulator makes her the perfect choice to help President Trump ensure that federal agencies comply with the National Environmental Policy Act (NEPA).

*We are fortunate that Kathleen has agreed to once again answer the call to public service, and I am honored to support her nomination here today.

Senator BARRASSO. Now, I would like to welcome to the Committee Congressman Steve Stivers from the Ohio 15th District. And he would be doing us the privilege of introducing Mr. Wheeler.

Congressman Stivers, please proceed.

STATEMENT OF HON. STEVE STIVERS,
U.S. REPRESENTATIVE FROM THE STATE OF OHIO

Mr. STIVERS. Thank you, Chairman Barrasso, Ranking Member Carper, and Senators for the honor to be with you today. It is certainly my honor to introduce my good friend, Andrew Wheeler, who is nominated to be Deputy Administrator of the Environmental Protection Agency.

Andrew comes with an unmatched amount of experience in energy and environment policy both in government and in the private sector, which will make him an excellent candidate for this role. Andrew and I met back in 1983 at Woodland Trails Boy Scout Camp, where I was Commissioner and he was the Director of Nature Conservation. He and I both went on to become Eagle Scouts, so I have great information, as you go through your due diligence for your confirmation process. He is indeed a Boy Scout.

Even back then Andrew had clear passion for the environment and understood the importance of stewardship. Andrew began his career with the EPA, serving in the Office of Pollution Prevention. He then went on to the U.S. Senate, starting with Senator James Inhofe, then moving to the Subcommittee for Clean Air, Wetlands, and Nuclear Safety, and later the Committee on Environment and Public Works.

In more than 10 years with these committees, he worked on nearly every piece of major energy and environmental related legislation that came through Congress. For example, in his time as Staff Director on this Committee, Andrew was responsible for managing Senate floor debate and strategy for legislation on topics including regulations, offshore oil reserves, alternative fuel vehicles, biofuels, and tar sands. In his role, he also gained experience developing long term goals and strategies, and managing a staff and budget.

Currently, Andrew is a principal at Faegre Baker Daniels Consulting and co-lead of Faegre Baker Daniels' energy and natural resources practice. In that role, he advises clients on a variety of complicated legislative, regulatory, and operational issues.

With his years of experience in the Senate and working with multiple Federal agencies, it is clear that Andrew is more than qualified for this position. Moreover, Andrew had a top tier education, earning a B.A. in English and Biology from Case Western Reserve University and a Juris Doctorate from Washington University School of Law, and an MBA from George Mason University School of Business.

Andrew understands the balance we need to have between environmental stewardship and responsible use of our natural resources. I have the utmost confidence in Andrew, and I hope you will move forward with his confirmation as Deputy Administrator of the United States Environmental Protection Agency.

I want to thank you for your consideration, and it is certainly my honor to introduce my friend, Andrew Wheeler.

Senator BARRASSO. Thank you very much, Representative Stivers. I appreciate your being here. You are welcome to stay or leave, whichever works best for your schedule, but you can't continue to sit there.

Mr. STIVERS. Thank you. I will move away.

[Laughter.]

Senator BARRASSO. Thank you.

Senator Inhofe, I heard your name raised in that glowing recommendation.

Senator INHOFE. Thank you very much, Mr. Chairman. You can hear from the non-Eagle Scout group now.

I have to say there is no one in this room right now, or no one at this table, who knows Andrew Wheeler better and loves him more than I do, and I would just say that all the things that we did together, I think the Chairman did a good job talking about his background. When you stop and think about all the highway bills, all these bills, we did these together. We accomplished a lot, and a lot of that was due to Andrew Wheeler. They desperately need him over there. They are understaffed. And I just want those in this room to know that if you knew him as well as I would, we would have this over with already. Thank you.

Senator BARRASSO. Thank you, Senator Inhofe.

Now I would like to welcome our nominees to the Committee and ask that they please come forward.

Kathleen Hartnett White, who is the nominee to be a member of the Council on Environmental Quality, and Andrew Wheeler, who is the nominee to be the Deputy Administrator of the Environmental Protection Agency.

I want to remind each of you that your full written testimony will be made a part of the record. I look forward to hearing the testimony from both of you.

We will hear first from Ms. Hartnett White.

Would you like to introduce any members of the family, folks who may be with you today? And after you do, we would ask that you please proceed with your testimony at your convenience.

STATEMENT OF KATHLEEN HARTNETT WHITE, DIRECTOR, TEXAS PUBLIC POLICY FOUNDATION

Ms. WHITE. Thank you very much, Chairman Barrasso. I would like to welcome and introduce some family members here who are with me.

Senator BARRASSO. Please.

Ms. WHITE. My niece, Melanie. I can't find you. My niece, Melanie, and her son, Mason O'Brien. His father, Jim O'Brien, is my closest relative who could not attend today, but I would like to list them. I am proud to say his wife, Melanie, just retired from the U.S. Navy. I am very, very proud of her.

My husband, also, got incredibly sick from some mean, mean flu, so I am a little sparse on family. But I would like to raise him up. My husband is a fifth generation cattle rancher in Presidio County in Texas, extremely remote, and he also managed to be chairman of the El Paso branch of the Dallas Federal Reserve and President of the American Hereford Association. I am very proud of him. I am very thankful for him and his patience.

Senator BARRASSO. Please proceed. Welcome.

Ms. WHITE. I will now proceed with my personal statement.

Senator BARRASSO. Please do. Welcome to the Committee, and please proceed.

Ms. WHITE. Chairman Barrasso, Ranking Member Carper, all the members of the Committee, I am honored to appear before you today as President Trump's nominee for member, and if confirmed, Chairman of the White House Council on Environmental Quality. And I am most grateful to the President for the confidence he has placed in me.

As I just mentioned, my husband, Beau, is a fifth generation cattle rancher. His family ranch in Presidio County is really a living example of the mission of the NEPA, of the National Environmental Policy Act, that promotes an enduring and productive harmony between humans and the natural world.

I grew up in rural Kansas, and there my late parents instilled in me a lifelong curiosity and reverence for the natural world. They also told me to wisely use the natural resources with which our country is so blessed.

A strong economy, I believe, is what makes environmental gains possible. As Chairman of the TCEQ, my record of achieving major improvements in air quality and water quality demonstrates that economic growth can go hand in hand with remarkable environmental enhancement. And I am proud to say Texas has been a leader in that. The Texas environment is dramatically cleaner now than it was 30 or 40 years ago, while the State's economy has continued to grow.

While I was Chairman at TCEQ, Texas experienced nation leading growth in population, in gross State product, and in jobs, while dramatically reducing point source emissions, and my written testimony gives the percentages on all of those.

It was a big job to chair TCEQ in a big State. In particular, I had regulatory oversight over more than 350,000 public and private entities, implementing and enforcing binding regulations on air quality, water quality, water supply, and waste disposal. And I might add, I have to submit for the record—or in whatever format you need—documents for all the enforcement actions I took while I was at TCEQ.

Senator BARRASSO. They will be included. Thank you.

Ms. WHITE. Thank you.

Execution of environmental laws is essential, and we took a very strong perspective on that.

With the help of a dedicated staff of over 3,000, and working with officials across the State and Federal agencies, TCEQ had many successes. As an example, for years Houston has vied with Los Angeles as the worst ozone polluter in the country. But under the implementation plan I developed while I was Chair, Houston actually attained the then ozone standard in 2010 and 2011, far earlier than many thought possible.

The achievements in Texas in recent years I think were possible because we insisted upon robust science, coordination across the agencies, efficient permitting, and timely, predictable outcomes. These principles are also now the keys to the President's agenda for regulatory reform and urgently needed new infrastructure.

I strongly believe that the Federal Government can and should provide a predictable, transparent, and timely process for making decisions, including for major infrastructure projects. We owe this to the American people. And I commend this Committee for recognizing these issues in two, now, law. I believe one is called the FAST Act and MAP–21, and I think that is wonderful.

This Committee has a proud history of working together to solve complex national problems with practical solutions that benefit all Americans. If confirmed, I pledge to work with this Committee and the President to continue that tradition and achieve a balanced and effective national approach to our environmental challenges.

Thank you very much, and I look forward to answering your questions today.

[The prepared statement of Ms. White follows:]

Kathleen Hartnett White
Distinguished Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment
Texas Public Policy Foundation

Ms. Kathleen Hartnett White currently serves as Distinguished Senior Fellow for energy & the environment at the Texas Public Policy Foundation (TPPF). From 2001 to 2007, she was Chairwoman and Commissioner of the Texas Commission on Environmental Quality (TCEQ) - the second largest environmental regulatory agency in the world. Ms. White also served as a Director of the Lower Colorado River Authority, the Texas Water Development Board, the Environmental Flows Advisory Group, the Texas Strategic Economic Development Planning Commission and the Texas Emissions Reduction Advisory Board. A leader and scholar in both environmental and energy matters, Ms. White is a past recipient of the Texas Water Conservation Association's President's Award and the Colorado River Foundation's friend of the river award. A native of Kansas, Ms. White earned her bachelor's and master's degrees from Stanford University, and currently resides with her husband, Beau, in rural Bastrop County, Texas.

Opening Statement of Kathleen Hartnett White
Nominee for Member, White House Council on Environmental Quality
U.S. Senate Committee on Environment and Public Works
November 8, 2017

Chairman Barrasso, Ranking Member Carper, and Members of the Committee, I am honored to appear before you today as President Trump's nominee for member, and if confirmed, chairman of the White House Council on Environmental Quality. I am grateful to the President for the confidence he has placed in me.

As I mentioned earlier, my husband Beau is a fifth generation cattle rancher. His family ranch in Presidio County of far west Texas, among the most remote areas of the country, is a living example of the mission of the National Environmental Policy Act to promote an enduring and productive harmony between humans and nature.

Growing up in rural Kansas, my late parents instilled in me a lifelong curiosity and reverence for the natural world. They also taught me to wisely use the natural resources with which our country is so blessed.

A strong economy, I believe, is what makes environmental gains possible. As chairman of the Texas Commission on Environmental Quality, my record of achieving major improvements in air quality demonstrates that economic growth indeed can go hand in hand with remarkable environmental improvements. And, I am proud to say, Texas has been a leader in showing that.

The Texas environment is dramatically cleaner now than it was 30 or 40 years ago, while the state's economy has continued to grow. While I was chairman of TCEQ, Texas experienced nation-leading growth in population (3.05 million [14.6%]), Gross State Product ($438 billion [59.1%]), and jobs (872,352 [7.6%]), while dramatically reducing point source emissions (e.g., Nitrogen Oxides [51.3%], Volatile Organic Compounds [28.6%], and Sulfur Dioxide [27.1%]), as well as ambient pollution levels (e.g., Ozone [30%]). Win-win outcomes are indeed possible.

In particular, as chairman of TCEQ, I had regulatory oversight over more than 315,000 public and private entities – implementing and enforcing binding regulations on air quality, water quality, water supply, waste disposal, and recycling. With the help of a dedicated staff of over 3,000, and working with officials across the state and federal agencies,

TCEQ had many successes. As an example, for years, Houston had vied with Los Angeles as the worst ozone polluter in the United States. But under the state implementation plan developed when I was chair, Houston actually attained those federal ozone standards in 2010 and 2011, far earlier than many thought possible.

The achievements of Texas in recent years, I think were possible because we insisted upon robust science, coordination across agencies, efficient permitting and timely, predictable outcomes. These principles are also the keys to the President's agenda for regulatory reform and urgently needed new infrastructure. I strongly believe that the Federal government can and should provide a predictable, transparent, and timely process for making decisions, including for major infrastructure projects. We owe this to the American people.

I am an environmental optimist. I believe in and played a part in win-win environmental and economic outcomes. I have witnessed first-hand in Texas dramatic environmental improvements in air and water quality while the economy grew and jobs increased. Similar opportunities are now possible across the country. The biggest challenge to expanding win-win outcomes is the weight of unnecessarily burdensome costs and unpredictable regulatory processes.

This Committee has a proud history of working together to solve complex national problems with practical solutions that benefit all Americans. If confirmed, I pledge to work with this Committee to continue that tradition and achieve a balanced and effective national approach to our environmental challenges.

Thank you. I look forward to responding to any questions the Committee may have.

Senate Committee on Environment and Public Works
Hearing entitled *"Hearing on the Nominations of Kathleen Hartnett White to be Member of the Council on Environmental Quality and Andrew Wheeler to be Deputy Administrator of the Environmental Protection Agency."*
November 8, 2017
Questions for the Record for Ms. Kathleen Hartnett White

Ranking Member Carper:

Please provide a response to each question, ***including each sub-part.***

1. Do you agree to provide complete, accurate and timely responses to requests for information submitted to you by any Member of the Environment and Public Works Committee? If not, why not?

   Yes.

2. The Rule of Law Defense Fund is an affiliate of the Republican Attorneys General Association. Have you ever contributed any money or time to the Rule of Law Defense Fund? If so, please provide details.

   No.

3. In the *White Stallion Energy Center v. EPA, February 2012,* industry argued, "the record does not support EPA's findings that mercury, non-mercury HAP metals, and acid gas HAPs [hazardous air pollutants] pose public health hazards."[1] Do you agree with this statement? Why or why not?

   EPA calculated that nearly all (>99%) of the benefits from the Mercury and Air Toxics (MATS) rule would not come from the reduction of mercury and air toxics, but would come from co-benefits from the reduction of $PM_{2.5}$. EPA estimated that mercury reductions from MATS would prevent a 0.00209 IQ point loss per child. IQ tests cannot detect such a miniscule change. The benefits from non-mercury HAP metals and acid gas HAPs were so tiny that EPA did not even attempt to quantitate them. Therefore, EPA's own analysis demonstrates that the MATS will not result in a measurable improvement in public health from reductions in the very pollutants it is intended to reduce.

4. On April 17, 2012, Dr. Jerome Paulson, Chair, Council on Environmental Health, American Academy of Pediatrics, testified before the EPW Committee, stating, "Methyl mercury causes localized death of nerve cells and destruction of other cells in the developing brain of an infant or fetus. It interferes with the movement of brain cells and the eventual organization of the brain…The damage it [methylmercury] causes to an individual's health and development is permanent and irreversible. …There is no

[1] https://www.cadc.uscourts.gov/internet/opinions.nsf/284AC47088C07D0985257CBB004F0795/%24file/12-1100-1488346.pdf

evidence demonstrating a "safe" level of mercury exposure, or a blood mercury concentration below which adverse effects on cognition are not seen. Minimizing mercury exposure is essential to optimal child health."[2]

a. Do you agree with the American Academy of Pediatrics' finding on the importance of minimizing mercury exposures for child health? If not, please cite the scientific studies that support your disagreement.

I wholeheartedly agree that children should not be exposed to unsafe levels of mercury or any other toxic substance.

b. Do you agree that the record supports EPA's findings that mercury, non-mercury hazardous air pollutant metals, and acid gas hazardous air pollutants emitted from uncontrolled power plants pose public health hazards? If not, why not?

Yes. EPA calculated with controls that nearly all (>99%) of the benefits from the Mercury and Air Toxics (MATS) rule would not come from the reduction of mercury and air toxics, but would come from co-benefits from the reduction of $PM_{2.5}$. EPA estimated that mercury reductions from MATS would prevent a 0.00209 IQ point loss per child. IQ tests cannot detect such a miniscule change. The benefits from non-mercury HAP metals and acid gas HAPs were so tiny that EPA did not even attempt to quantitate them. Therefore EPA's own analysis demonstrates that the MATS will not result in a measurable improvement in public health from reductions in the very pollutants it is intended to reduce.

c. Do you agree that it is currently difficult to monetize the reduced risk of human health and ecological benefits from reducing mercury emissions from power plants? If so, please explain. If not, why not?

I agree that it is difficult to monetize the human health and ecological benefits from any environmental regulation. Assessing exposure and responses to low levels of environmental pollutants is fraught with uncertainty. No one disputes this.

5. The Edison Electric Institute (EEI), the association that represents all U.S. investor-owned electric companies, has told my staff that, to its knowledge, all of its member companies have fully implemented the Mercury and Air Toxics Standards Rule. EPA staff has reported to my staff something similar. The Mercury and Air Toxics Standards Rule protects our children from harmful mercury and air toxics pollution; and by industry accounts is already being met with technology that is already bought, paid for and running on almost all our power plants.

[2] https://www.epw.senate.gov/public/_cache/files/4/3/4324fd62-dc89-4820-bd93-ff3714fcbe30/01AFD79733D77F24A71FEF9DAFCCB056.41712hearingwitnesstestimonypaulson.pdf

a. Do you dispute reports that nearly all covered facilities are already in compliance with the Mercury and Air Toxics Standards? If so, please explain.

I have no reason to dispute the claim that power plants that remain open have met the MATS.

b. According to a recent report by Bloomberg New Energy Finance Report and the Business Council for Sustainable Energy, "consumers now pay 3% less per kilowatt-hour for electricity than in 2007."[3] This means the near universal compliance of the Mercury and Air Toxics Standards Rule has been achieved without significant impacts to electricity reliability or affordability, in fact electricity prices have gone down. Do you agree? If not, why not?

I cannot agree with the second statement in the question because it is not backed up by any data to establish a specific relationship between MATS compliance costs and general market affordability trends and no information regarding reliability is provided in the question. I share the universally held view by utility rate experts, which is that low natural gas prices are the primary reason why electricity prices have dropped. A credible assumption would be that electricity costs would have dropped even more without MATS given that MATS-compliant coal units have continued to be a significant share of electric generation and additional emission control requirements add costs to a power plant, both in terms of up-front capital and ongoing operation and maintenance costs. Also, the question does not account for the fact that "affordability and reliability" are impacted in different regions/localities by the types of electric generating units in each region/locality. I do not believe that generalized statements about the entire fleet can be assumed to accurately represent trends of all regions/localities.

c. Even though industry has achieved near universal compliance with the Mercury and Air Toxics Standards and electricity prices have gone down, not up, Administrator Pruitt is currently reviewing whether it is "appropriate and necessary" to issue the standards in the first place. Do you agree that the EPA should be conducting this review, and if so, why?

Mercury is listed as a hazardous air pollutant under Section 112 of the Clean Air Act and is subject to regulation from listed source categories of hazardous air pollutants. Electric utility steam generating units are subject to regulation under Section 112 only upon a lawful showing that their regulation is appropriate and necessary. In Michigan v. EPA, the Supreme Court concluded that EPA interpreted Section 112(n) unreasonably by failing to consider costs in its "appropriate and necessary" determination. Therefore, I believe it is entirely appropriate

[3] http://www.bcse.org/wp-content/uploads/2017-Sustainable-Energy-in-America-Factbook-Executive-Summary.pdf

for the Administrator to be conducting review of that finding.

d. If the EPA determines the agency has not met the "necessary and appropriate" criteria found in Section 112(n), and revokes the Mercury and Air Toxics Standards Rule, what does that mean for all the pollution control technology that has been bought, paid for and running on our power plants that is helping the industry be in full compliance of the rule?

I cannot predict whether power plant operators will, in the absence of a federal regulatory requirement to do so, continue to incur the ongoing operating and maintenance costs associated with MATS-driven pollution control technology.

6. If confirmed, how do you plan to maintain a relationship with the White House Office of Science and Technology Policy (OSTP)?

CEQ and OSTP are important components of the Executive Office of the President and I expect to work closely with OSTP to ensure that sound science is used in our recommendations to the President.

7. In the absence of Senate-confirmed leadership at OSTP, how will you work with OSTP if confirmed? With whom will you interact?

I will work with the acting leadership of the OSTP.

8. Do you believe it would benefit the administration to nominate leaders for OSTP so that OSTP is better positioned to work with CEQ? Why or why not?

Yes.

9. The National Environmental Policy Act (NEPA) process provides the public with often their only opportunity to influence federal agency decision-making. Do you agree that it is important for citizens to be able to participate in the analysis of impacts of a proposed federal action that may affect their lives and businesses before that decision is made? Will you work to ensure that those opportunities are not weakened?

Yes. Yes.

10. Similarly, the NEPA process provides other government agencies, whether other federal agencies, local and state agencies or tribal governments the opportunity to participate as partners in the analysis of proposed federal actions. Do you support the mechanisms that allow for that participation?

Yes.

11. In response to a question from Chairman Barrasso about why you would like to serve at CEQ, one of the reasons you articulated is that given the last two surface transportation

bills, you said that this is a unique opportunity to "reform much of the NEPA process" and later added that you would seek "very significant changes in environmental review". Are you aware, according to an April 2014 Government Accountability Office (GAO) Report on NEPA Analyses, that less than 1 percent of Federally assisted highway projects require the preparation of an Environmental Impact Statement, the most detailed NEPA review document, while almost all other Federally assisted highway projects proceed under a Categorical Exclusion? Why specifically do you believe that "very significant changes in environmental review" are necessary given the information included in the GAO report?

Yes. As currently administered, the NEPA process is suboptimal for taxpayers and decision makers, especially with respect to the length of time now required.

12. Are you aware that the same GAO report found that overwhelming evidence shows that the causes of delay for these major projects are more often tied to local/state and project-specific factors, agency priorities, project funding levels, local opposition to a project, project complexity, or late changes in project scope? Why specifically do you believe that "very significant changes in environmental review" are necessary given the information included in the GAO report?

I'm certain that there are a variety of factors that complicate infrastructure development in the United States. Only one of them – NEPA administration – is jurisdictional to CEQ.

13. You have indicated that Executive Order 13807 on "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure" is a top priority for you to implement. As you may be aware, President Trump has failed to appoint an Executive Director for the Federal Permitting Improvement Steering Council (FPISC). The FPISC Executive Director is charged, among other tasks, with establishing standard schedules for completing the environmental review process for specific types of infrastructure projects. Would you agree that a new director should be appointed quickly and empowered with the resources and staff to make the FAST Act's Title 41 permitting provisions a success? Why or why not?

Decisions on appointments are made at the President's discretion.

14. As you may know, American Indians and Alaska Natives share a unique relationship with the federal government. As part of that relationship, the federal government has a duty to perform meaningful consultation with Indian Tribes and Alaska Native villages regarding issues that affect tribal communities and tribal members. Do you commit to engage in essential and honest consultation with tribes and tribal governments?

Yes.

15. You asserted in an August 31, 2015 press release[4] that under the Clean Water Rule established by the Obama Administration, "EPA can seize control of dry land where water may flow after heavy rains. This means that if common drainage ditches or the channels between planted rows of crops contribute water flow, regardless of frequency or volume, to a downstream water it would categorically be within EPA's purview." You further assert that "The average person will be forced to obtain a permit, potentially costing hundreds of thousands of dollars, from the U.S. Corps of Engineers just to erect a fence or put in a driveway."

    a. Under the Clean Water Act Section 404(f), all normal farming activities—including row crop farming—are exempt from permit requirements. Do you agree that the Clean Water Rule did not change that exemption for normal farming activities? If not, please explain why not, using specific textual references from the Clean Water Rule.

       EPA has proposed to rescind the 2015 WOTUS Rule and recodify the rule that was in place prior to the 2015 rule. 82 FR 34,899 (July 27, 2017). Public comment closed in September. Regarding the 2015 rule, while the 2015 rule did not specifically revise the statutory exemptions located in Section 404(f)(1), it is possible that the expansive descriptions and new definitions in the 2015 rule could be interpreted as redefining areas or activities incidental to an activity or area that was once excluded from coverage under 404(f) under the prior rule to be considered jurisdictional under the 2015 rule. Section 404(f)(2) also contains an exemption from the exemption thus allowing certain activities to require a permit. It is possible this exemption might be invoked more often thus eroding a statutory exemption by regulation.

    b. Please explain how channels between planted rows of crops and construction of fences by farmers are not a result of normal farming activities, and thus exempt from Clean Water Act regulation.

       As stated above, it is possible under the lens of the 2015 rule to view longstanding agricultural features as jurisdictional. Channels are often provided to move water whether it is storm or irrigation water. A change in the activity or relocation of a historical feature might trigger a new jurisdictional evaluation under the 2015 rule.

    c. Under the Clean Water Rule, EPA ditches would be regulated only if they meet the definition of "tributary," which means they contain a bed, a bank and ordinary high water mark. What percentage of "common drainage ditches" associated with agricultural practices meet that definition?

[4] https://www.texaspolicy.com/press_release/detail/tppf-statement-on-federal-court-injunction-against-environmental-protection-agencys-redefinition-of-waters-of-the-united-states

I cannot quantify that percentage, but the 2015 rule would expand the definition.

d. You mention in your press release that anyone desiring to erect a fence or put in a driveway would be forced to obtain a permit, potentially costing hundreds of thousands of dollars. In reality, is it not the case that this cost estimate is based on a single analysis and applies only to the cost of applying for an individual permit from the Corps of Engineers?

There may be additional costs for surveys, consultants, scientists and attorneys necessary to defend a feature or obtain a permit, and that would not include the value of a permittee's time. These costs will increase dramatically if a jurisdictional determination is denied and there is need to appeal.

e. Is it not also true that such permits account for only about three percent of the permits that the Corps of Engineers issues?[5]

I do not know the exact percentage of the permits, but given the expansive 2015 rule which created more questions than certainty, that percentage could be expected to increase.

f. And is it not true that smaller-scale activities like building fences and putting in driveways would fall under the Corps' nationwide permits, whose average cost is about $29,000 per application?

The expansive rule could minimize the benefit of the Nationwide Permits. Activities that once were covered under a Nationwide Permit could be seen under the 2015 rule as impacting larger areas and requiring individual permits.

16. As you may be aware, two weeks prior to Hurricane Harvey devastated vast portions of Texas, Executive Order 13807 on "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure" went so far as to repeal the Federal Floodplain Risk Management Standard (FFRMS), which would have held new infrastructure projects to more resilient standards. The FFRMS guidance provided three flexible options for meeting the standard in flood hazard areas: (1) build standard infrastructure, such as federally funded housing and roads, two feet above the 100-year flood standard and elevate critical infrastructure, like hospitals and fire departments, by three feet; (2) elevate infrastructure to the 500 year flood standard; or (3) simply use data and methods informed by the best-available, actionable climate science. In short, the FFRMS was meant to protect taxpayer dollars spent on projects in areas prone to flooding, not to mention the human toll of such events. That is a common-sense approach given that in just the past five years, all 50 states have experienced flood damage.

[5] https://www.everycrsreport.com/files/20160623_97223_c7ac7572206557c3a1c7044778014d7bb25bcf3c.pdf p. 2a

a. In light of the Hurricane-related damage observed this season, would you support the reinstatement of the FFRMS? If not, why not, and how would you suggest resiliency be factored into the infrastructure project design and approval process?

State and local governments remain free to impose higher design standards where needed. We should continue to provide technical support and assistance to those communities who may be at a higher risk for flooding. If confirmed I commit to work with FEMA to improve the nation's preparedness and resilience against all-hazards and will continue to encourage local communities to take actions that limit or reduce the impact of hazards.

b. Do you agree that infrastructure projects that do not account for flooding hazards in the manner(s) prescribed by the FFRMS would be more likely to suffer flood damage over the lifetime of the infrastructure? Would such damage be likely to result in additional costs to repair? If not, why not?

Not necessarily. There are multiple ways to account for the potential risk associated with flooding. State and local governments remain free to impose higher design standards where needed. We should continue to provide technical support and assistance to those communities who may be at a higher risk for flooding. If confirmed I commit to work with FEMA to improve the nation's preparedness and resilience against all-hazards and will continue to encourage local communities to take actions that limit or reduce the impact of hazards.

c. Do you view the repeal of the FFRMS as a national security threat, given the security threat that rising sea levels could pose to military bases? If not, why not?

The military is capable of assessing and mitigating the risk posed to its facilities. State and local governments remain free to impose higher design standards where needed. We should continue to provide technical support and assistance to those communities who may be at a higher risk for flooding. If confirmed I commit to work with FEMA to improve the nation's preparedness and resilience against all-hazards and will continue to encourage local communities to take actions that limit or reduce the impact of hazards.

d. Do you think Executive Order 13653 should be reinstated? If not, why not?

For the reasons set forth above, I do not. State and local governments remain free to impose higher design standards where needed. We should continue to provide technical support and assistance to those communities who may be at a higher risk for flooding. If confirmed I

commit to work with FEMA to improve the nation's preparedness and resilience against all-hazards and will continue to encourage local communities to take actions that limit or reduce the impact of hazards.

17. You said in a 2015 op-ed that, quote, "extreme weather events have not been more frequent or more intense than in the 20th century." This country just suffered three unusually intense hurricanes in quick succession – including one in your home state of Texas and one that has left the majority of Puerto Rico without electricity and water for weeks. Over 137 wildfires have raged in the West, costing hundreds of billions of dollars in damages and dozens of lost lives. Two weeks ago, the Trump White House released a final (ie, not draft, as was inaccurately asserted at the hearing) report[6] that concluded that, quote, "it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century." The report also documented increases in sea levels, heatwaves, wildfires, and flooding, and said that, quote, "Changes in the characteristics of extreme events are particularly important for human safety."

    a. Do you continue to reject the evidence that carbon dioxide pollution is causing the earth to warm, that human activity is responsible for that warming, and that with increased warming comes an increased frequency and intensity of extreme flooding, hurricanes and wildfires? If so, please fully document the basis for such rejection.

    The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

    b. Do you agree with the report's conclusion that "it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century?" If not, please fully document the basis for your disagreement.

    The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

[6] https://science2017.globalchange.gov/

c. Do you agree with the report's documentation that demonstrated increases in sea levels, heatwaves, wildfires, and flooding? If not, please fully document the basis for your disagreement.

I agree that sea level is rising, just as it was in the mid-1800s and has been since the end of the last ice age. I disagree that we know with any level of certainty how much human activity has caused that rate of rise to increase. There are large decadal and even century time scale variations in these events.

18. Can you name one Clean Air Act regulation that was promulgated by the Obama Administration – not a voluntary or grant program – that you do support, and why?

I support those regulations that are based on sound science and good public policy considerations.

19. Are there any other EPA regulations – not a voluntary or grant program - that are on the books today that you support? If so, which ones?

Yes. I support all the regulations although I may have concerns about the scientific merits of some of the standards incorporated into those regulations.

20. Please define the Council on Environmental Quality (CEQ)'s mission and the role you believe that sound science plays in fulfilling that mission.

"To declare national policy which will encourage productive and enjoyable harmony between humans and their environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of people; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."

Science should play an informational and educational role in the policy-making process.

21. The President has signaled in his 2018 Budget that he would like to restart the licensing process for the nuclear waste repository at Yucca Mountain. The Department of Energy will have to supplement the Environmental Impact Statement and CEQ may be asked to be involved. You have made statements in favor of nuclear energy – do you support President Trump's proposal to move forward with the Yucca Mountain project?

Although generally supportive of nuclear power, I have not studied or been briefed on the specific merits of the nuclear waste repository at Yucca Mountain. I would need to reserve judgment until fully informed on the project.

22. Delaware is already seeing the adverse effects of climate change with sea level rise, ocean acidification, and stronger storms. While all states will be harmed by climate

change, the adverse effects will vary by state and region. Can you comment on why it is imperative that we have national standards for the reduction in carbon pollution? If you do not believe it is imperative, why not?

I believe it is the responsibility of Congress to determine what, if any, standards we should have for regulating carbon dioxide.

23. In a *per curiam* opinion, the U.S. Circuit Court of Appeals for the District of Columbia affirmed the Endangerment Finding and the U.S. Supreme Court declined to issue a writ of certiorari on the D.C. Circuit's decision. The Endangerment Finding set in motion EPA's legal obligations to set greenhouse gas emissions standards for mobile and stationary sources, including those established by the Clean Power Plan in August 2015.[7] During an exchange with Senator Gillibrand during Administrator Pruitt's confirmation hearing before the Environment and Public Works Committee, he stated, "I believe that the EPA, because of the Mass v. EPA case and the endangerment finding, has obligations to address the CO2 [carbon dioxide] issue." Do you agree with Administrator Pruitt's statement that the EPA has an obligation to address CO2? If not, why not?

Yes.

24. Clean car standards save consumers money at the pump and help reduce oil imports. Automakers are complying with vehicle standards ahead of schedule. If confirmed, will you commit to support federal programs to address emissions from vehicles?

These standards are under the purview of the Environmental Protection Agency and not CEQ. However, if confirmed, I look forward to being briefed on this matter and working with OMB on the regulatory review process.

25. For the most part, patients and their families only participate in scientific trials and studies once they know their privacy - and any resulting health-related information - will remain confidential and secure. If confirmed, do you commit to respecting confidentiality agreements that exist between researchers and their subjects? Will you protect the health information of the thousands of people that have participated in health studies in the past?

Yes, I will commit to ensuring that sensitive personal information remains secured.

26. In December 2007, President Bush's EPA proposed to declare greenhouse gases as a danger to public welfare through a draft Endangerment Finding, stating, "The Administrator proposes to find that the air pollution of elevated levels of greenhouse gas (GHG) concentrations may reasonably be anticipated to endanger public welfare...Carbon dioxide is the most important GHG (greenhouse gas) directly emitted by human activities, and is the most significant driver of climate change." [8] Do

[7] https://www.epa.gov/climatechange/us-court-appeals-dc-circuit-upholds-epas-action-reduce-greenhouse-gases-under-clean
[8] https://insideclimatenews.org/sites/default/files/2007_Draft_Proposed_Endangerment_Finding.pdf

you agree with these statements, if not, why not?

The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

27. How many times have you called for the end of the Renewable Fuel Standard (RFS)? Please list each such instance, along with the argument you used in support of your views.

New data regarding the increased size of the corn crop and for innovative new uses of ethanol have altered my previous comments about renewable fuels. Thanks to the prodigious increase in the US corn crop and innovative science, America and the world are enjoying a "win-win" gain in our energy supply and global food supply.

28. Do you agree that the EPA's recent consideration of the costs of the Mercury and Air Toxics Standards Rule shows that the agency has met the "necessary and appropriate" criteria Congress provided under 112(n) to direct the EPA to regulate power plant mercury (and other air toxic) emissions under Section 112, and more specifically under Section 112(d)? If not, why not?

The quantifiable monetized benefits of the HAP reductions predicted to occur under MATS measured only a few million dollars. I understand that EPA has recalculated the benefits attributable to MATS in response to the Supreme Court remand. I am not familiar with the new estimates and I cannot prejudge any decision that might be made by EPA as it conducts its ongoing review of the rule.

29. Do you agree with Justice Scalia's opinion in Whitman v. American Trucking Associations that it is "fairly clear that [the Clean Air Act] does not permit the EPA to consider costs in setting the standards"? If you do not agree, why not?

I agree with Justice Scalia's opinion that the Clean Air Act does not explicitly tell the EPA to consider costs in setting the NAAQS. However, I also agree with Justice Breyer's opinion that "we should read silences or ambiguities in the language of regulatory statutes as permitting, not forbidding, this type of rational regulation."

30. Do you agree with President Trump's decision to withdraw the United States from the International Paris Climate Accord? If so, please explain.

I agree that it was wise, for at least two reasons. First, the U.S. is unfairly burdened under the agreement compared to other major emitters like China and India. Secondly, the terms of the agreement would be all economic pain for the U.S. with no measurable climate gain.

31. In our personal meeting, you also expressed that you did not support the Mercury and Air Toxics Standards or MATS rule.

    a. Please provide a detailed explanation of why you do not support the regulation.

       EPA's own analysis demonstrates that the MATS will not result in a measurable improvement in public health from reductions in the very pollutants it is intended to reduce.

    b. Do agree with the comments in the President's budget, that state the Mercury and Air Toxics Standards Rule is burdensome, and do you support Administrator Pruitt rescinding the rule?

       I think it is always appropriate for any agency to determine if a regulation is "appropriate and necessary" as long as the agency follows the appropriate administrative procedures.

32. Currently, you are a member of the CO2 Coalition that promotes misinformation about climate science. In February of this year, you spoke on a panel hosted by the CO2 Coalition. There you described the CO2 Coalition as, a "very, very meaningful source [of information]," and said that you were "very hopeful because of organizations like the CO2 Coalition." You go on to say that "carbon dioxide is not a pollutant." Ms. White, do you denounce the CO2 Coalition as a misinformation campaign or do you continue to agree that climate policies deprive mankind of the benefits of carbon dioxide?

    The CO2 Coalition increases public awareness of scientific issues that should be part of the public debate on climate change and energy policy, such as: CO2 is necessary for life on Earth.

33. Is the U.S. National Academies of Sciences a reliable authorityon scientific matters? If not, why not?

    They certainly can be.

34. In a 2011 Americans for Prosperity Conference, you stated that particulate matter is not a health hazard. What is the scientific basis for this statement, and do you continue to stand by it?

    Ambient PM levels in the United States today are low and I do not believe that PM at these levels pose a health hazard. There is considerable uncertainty in the scientific literature about whether exposure to PM actually causes adverse health

outcomes and, if it does, at what concentration effects may occur. EPA's own assessment documents for the 2012 PM NAAQS outline many of these uncertainties.

35. What, if any, are the casual connections between hydraulic fracturing and environmental problems such as contamination of drinking water, air emissions of toxic pollutants and greenhouse gases and even earthquakes?

In EPA's recent study, it found that there is no clear evidence or widespread cases of hydraulic fracturing contaminating drinking water. I do believe that concerns associated with hydraulic fracturing, and all other forms of energy production, should continue to be studied.

36. In 2012, you wrote, "The Clean Air Act (CAA) no longer provides an effective, scientifically credible, or economically viable means of air quality management."[9] Do you still agree with this statement? If so, why? If not, why not?

I still agree with this statement. The CAA, as applied, has become outdated and inefficient.

37. Should states have more control over the air pollution reductions requirements under the Regional Haze Program under the Clean Air Act?

It is not clear what is intended by the phrase "more control over," but I would defer to the language Congress included quite explicitly in the statute where it provides: *"air pollution prevention…at its source is the primary responsibility of States and local governments."*

38. According to the work history that you provided the Committee, from 1980 through 1985, you worked as a manager for Hartnett and Evans. Please provide a detailed description of the company, including any involvement the company had in any oil and gas related activities at any time.

When my father's health began to decline, I often came home to help. Hartnett and Evans was a farming business predominantly devoted to raising wheat. In about the 1930's, the business sold some leases to energy companies for oil and gas production and retained de minimis royalties on a very small share. The farm property sold decades ago. The wells involved were stripper wells with minimal volume and declining production. I assigned my small holding as gift to my nephew.

39. In your June 29, 2013 Fuel-fix article, *Ethanol follies continue with Domestic and Alternative fuels,* you wrote, "Unexpected in 2007, the historic upsurge in domestic oil and natural gas has brought the U.S. within sight of energy dominance in the global market. Corn ethanol deserves no credit for this stunning achievement." Do you still agree with these statements, and if so, why? If not, why not?

[9] http://thf_media.s3.amazonaws.com/2012/EnvironmentalConservation/Environmental-Conservation-Full-Book.pdf

As you know, recently the President clearly communicated his support for the Renewable Fuel Standard. If confirmed, I will fully support the President's policy on the RFS. The Chairman of the CEQ does not have direct role in implementing the RFS but I will support the letter and spirit of the law.

I support all forms of energy and that includes ethanol. Our country is blessed with diverse and abundant energy sources among which ethanols are making an increasingly significant contribution. The diversity of the energy resources we enjoy in the US is a strategic asset for our national security, the economy, jobs and fundamental human welfare.

40. In your June 29, 2013 Fuel-fix article, *Ethanol follies continue with Domestic and Alternative fuels,* you wrote, "It is time to repeal the renewable fuel standard – not to expand or entrench this market distortion. Ethanol can be made from a wide variety of sources. Genuine snake oil, in fact, might be a more thermodynamically efficient source than natural gas or corn." Do you still agree with these statements, if so, why? If not, why not?

As you know, recently the President clearly communicated his support for the Renewable Fuel Standard. If confirmed, I will fully support the President's policy on the RFS. The Chairman of the CEQ does not have direct role in implementing the RFS but I will support the letter and spirit of the law.

I support all forms of energy and that includes ethanol. Our country is blessed with diverse and abundant energy sources among which ethanols are making an increasingly significant contribution. The diversity of the energy resources we enjoy in the US is a strategic asset for our national security, the economy, jobs and fundamental human welfare.

41. Reports[10] indicate that TCEQ entered into contracts with TERA, the organization headed by EPA nominee Michael Dourson, and that work conducted by TERA was used by TCEQ to weaken air pollution standards in Texas. Did these efforts occur during your tenure at TCEQ? If so, please document and describe the relationship between TCEQ and TERA during your tenure.

TCEQ had contracts with TERA from May 2007 to June 2017 and my tenure as a Commissioner and Chairwoman at TCEQ extended from November 2001 to August 2007. Therefore, the first contract with TERA was in place for several months before I left the agency. The work that TERA engaged in for TCEQ included organizing the peer review of chemical assessments. These peer reviews involved scientists from a variety of backgrounds (academic, government, and industry), who provided their expert opinions on the TCEQ's chemical assessment. TERA's role was to find the appropriate experts, and to organize and

[10] https://insideclimatenews.org/news/20141219/one-stop-science-shop-has-become-favorite-industry%E2%80%94and-texas

mediate the discussions. This work was based on the highest standards of risk assessment and science to ensure the protection of public health and the environment in Texas.

Examples of documents written in response to comments received during the peer-review process conducted by TERA include:

- **https://www.tceq.texas.gov/assets/public/implementation/tox/dsd/comments/public_comments_and_tceq_responses_nickel.pdf**
- **https://www.tceq.texas.gov/assets/public/implementation/tox/dsd/proposed/feb14/hexavalent%20chromium_responses%20to%20comments.pdf**

42. During the hearing, you denied directing the staff of TCEQ to break the law by knowingly altering the manner in which it reported radiation levels in drinking water. Please refer to the footnoted or attached documents when responding to each sub-part of this question.
    a. Do you agree that EPA's 2000 rule[11] related to measuring radionuclides in drinking water said that states should not add or subtract the margin of error associated with the measurements out from the testing results? If not, please provide a specific explanation for your views.

       EPA rule language in 40 Code of Fed. Regulations § 141.26(c)(3) is silent regarding adding or subtracting the standard deviations (the "margin of error") from analytical results. EPA stated on p. 76727 of the December 7, 2000 issue of the *Federal Register* in adopting the rule that various states have interpreted the analytical results in a variety of ways, and then EPA expressed how EPA interprets its rule. Had EPA wanted to expressly add rule language they could have easily done so but they did not. Instead, EPA chose to leave the rule language silent.

    b. Do you agree that TCEQ was aware of the EPA 2000 rule, and chose not to follow it when it subtracted the margin of error associated with the measurements out from the testing results? If not, please provide a specific explanation for your views.

       TCEQ was aware of the rule during my tenure there. As previously stated, the rule is silent regarding the "margin of error". While I was at TCEQ, the agency followed TCEQ's interpretation of what the plain language of the rule allowed.

    c. Do you agree that TCEQ maintained its methodology even after being told by EPA that it was not legal to do so? If not, please provide a specific explanation for your views.

       I am aware of the EPA's interpretation of its rule as previously stated, but as previously stated the EPA rule language is silent regarding

[11] https://www.epa.gov/dwreginfo/radionuclides-rule#rule-history

TCEQ's methodology. I do not specifically recall EPA telling TCEQ during my tenure there that TCEQ's methodology was not legal.

d. Do you agree that a 2001 White Paper (attached) written by the predecessor entity to TCEQ stated that as many as 140 drinking water systems in Texas were out of compliance with EPA's standards, adding that "Some of these systems contain levels of radioactive contaminants with a calculated cancer risk of 1/400 (1/10,000 being the allowable federal and state cancer risk for most contaminants), posing a potentially serious health concern"? If not, please provide a specific explanation for your views.

As noted in the December 31, 2004 report from the Texas Water Advisory Council (TWAC), a letter signed by dozens of Texas Congressional members and a letter from the Texas Radiation Advisory Board call into serious question whether the EPA's standards were technically justified. This report could be fairly characterized as a report from state leadership, not just TCEQ, and includes legislative leadership and leadership from over a half-dozen major Texas agencies. Notwithstanding the questionable EPA standards, during my tenure at TCEQ the agency had mechanisms in place to assist any systems which truly had levels of contaminants which posed a health concern (e.g., options to utilize point-of-use and point-of-entry devices and bottled water).

e. Reports[12] indicate the following related to this matter. For each sub-part below, please indicate if the statement is inaccurate or accurate, and, if inaccurate, please provide documentation supporting your response:
   i. TCEQ Commissioners – which included you – directed TCEQ staff to violate EPA's rules by subtracting the margin of error from drinking water measurements, which had the effect of removing drinking water system violations.

      This statement inaccurately characterizes the EPA rule which I presume is being referenced. As previously stated, the rule language is silent regarding the "margin of error" issue, and the rule can logically and reasonably be interpreted to allow for the manner in which TCEQ addressed the "margin of error."

   ii. TCEQ told the Texas Water Advisory Council (on which you served, in addition to your TCEQ role) in 2004 that "Under existing TCEQ policy, calculation of the violation accounts for the reporting error of each radionuclide analysis. Maintaining this calculation procedure will eliminate approximately 35 violations."

[12] https://web.archive.org/web/20140528160305/http://www.khou.com/home/-Texas-politicians-knew-agency-hid-the-amount-of-radiation-in-drinking-water-122205439.html

The referenced statement was included on page 1 of the *TCEQ Report on Radionuclides and Arsenic in Drinking Water, Prepared for the Texas Water Advisory Council, June 7, 2004 Meeting.*

iii. You were present at the 2004 meeting of the Texas Water Advisory Council referenced in ii.

I was present.

iv. The Texas Water Advisory Council 2004 report[13] - which you signed, and which included materials related to the failure of Texas to comply with EPA's radionuclide drinking water rules submitted by you - noted that "According to the TCEQ, failure by the agency to adopt federal drinking water standards will result in the automatic withdrawal of the State's primacy status, the result of which would amount to the loss of federal drinking water revolving funds in the amount of approximately $65 million over a five year period. However, this result is unlikely."

The referenced statement is included in the TWAC report. As previously noted, this report could be fairly characterized as a report from state leadership.

v. The calculation procedure referenced in ii was maintained for several more years after 2004.

To my knowledge, the existing TCEQ policy continued after 2004. My tenure at TCEQ ended in August 2007. State leadership through the TWAC was expressly aware of the TCEQ policy change, and could have asked TCEQ to change it, but instead concluded that water suppliers should be given maximum flexibility for achieving compliance with the standards. Thus, any TCEQ decision was not made in a vacuum, but comported with the position of state leadership.

vi. When asked later about this matter, reports indicate that you stated "the decision to continue the subtraction was a good one. "As memory serves me, that made incredibly good sense," she told KHOU. White says she and the scientists with the Texas Radiation Advisory Board disagreed with the science that the EPA based its new rules on. She says the new rules were too protective and would end up costing small communities tens of millions of dollars to comply. "We did not believe the science of health effects justified EPA setting the standard where they did," said White. She added, "I have far more trust in the vigor of the science that TCEQ assess, than I do EPA." In response to questions about why the TCEQ did not simply file a lawsuit against the EPA and challenge the

[13] http://www.senate.state.tx.us/cmtes/78/c580/rpt_twac_jan2005.pdf

federal rules openly in court, White said that in federal court, "Legal challenges, because of law and not because of science, are almost impossible to win."

This statement generally reflects a portion of what was reported by KHOU, although I have no way of attesting to the accuracy or completeness of the KHOU report, or whether the KHOU report might have been biased.

Senator Booker:

43. Ms. Hartnett-White, on August 15, 2017, just days before Hurricane Harvey devastated your home state of Texas, President Trump made an "infrastructure" announcement that included the repeal of the 2015 Federal Flood Risk Management Standard. The rule President Trump repealed would have ensured that federally-funded projects in a floodplain, such as roads, bridges, hospitals, and other infrastructure, are built to withstand extreme weather and flooding driven by climate change. If confirmed, will you support putting back in place a standard for federally-funded infrastructure projects and post-disaster rebuilding that takes into account foreseeable flood risk?

A single federal approach to mitigation of potential risk is not necessarily the best approach.

Senator Gillibrand:

44. You served in the Administration of then-Governor Rick Perry as Chair of the Texas Commission on Environmental Quality. Recently, Secretary Perry stated that fossil fuels can prevent sexual assault in the context of electrifying African villages. Do you agree with Secretary Perry, that fossil fuels prevent sexual assault?

I believe the question as stated is an out of context and oversimplification of Secretary Perry's position that electrification and the subsequent additional lighting can provide greater security to the public in general. I do agree that adequate lighting can provide a safer environment for the public at large.

45. You have stated that "extreme weather events have not been more frequent or more intense than in the 20th century." According to the National Oceanographic and Atmospheric Administration (NOAA), the average number of extreme weather and climate events that reached or exceeded $1 billion in damage – adjusted for inflation - was 3.75 between the years 1980 and 1999. Between 2000 and 2017 the average number of billion dollar disasters has jumped to nearly 8 per year. Do you still believe that we are not seeing more frequent or more intense weather events?

Yes, I do, because the increase in weather-related damages is not due to worsening weather, but rather the rapid increase in prosperity, personal possessions, and infrastructure, especially in our coastal areas.

46. A core role of the Council on Environmental Quality is the implementation of the National Environmental Policy Act (NEPW). NEPA provides the framework for how we carryout environmental reviews for federally-funded and permitted projects. Hurricane Harvey has raised questions about how poor planning and a lack of good floodplain management makes Houston more vulnerable to excessive flooding when it is inundated by large amounts of rainfall. Do you believe we should be factoring in resiliency to extreme weather events into the NEPA process to ensure that we are avoiding the mistakes of the past and building in a smarter way?

    No. However, I believe we need to ensure that as we develop land and create more impervious surface we need to ensure storm water controls are properly designed to control increased runoff from heavy rain events which can makes these flooding events worse.

47. I am troubled by President Trump's decision to repeal the federal floodplain risk management standards that were implemented by the Obama Administration, which incorporated factors, including climate change and sea-level rise, into the decision-making process when we build in floodplains. Regardless of whether you think climate change is caused by human activity or not, is it wise to ignore the impacts of extreme weather and sea level rise when investing federal dollars in infrastructure projects built in floodplains?

    No.

48. You state in your paper, *Fossil Fuels: the Moral Case*, that "environmental quality remains an unaffordable luxury for much of the developing world." Do you believe that breathing clean air and having access to clean water is a luxury?

    Clean air and clean water should not be a luxury but can become unaffordable in some societies, such as third world economies, when the price of energy is too high. Having access to affordable and reliable electricity is necessary to power drinking water and waste water treatment plants.

Senator Inhofe:

49. During the hearing a news report was raised regarding your time at TCEQ accusing you of directing staff to underreport levels of radiation in drinking water. You were not given a chance to fully answer this charge. What was the policy of TCEQ at the time and how did it relate to federal law?

    In 2004 and prior to that time, TCEQ policy had been to allow for the subtraction of reporting error for radionuclide analyses. EPA rule language in 40 CFR § 141.26(c)(3) is silent regarding this type of reporting error, which involves adding or subtracting the standard deviations from analytical results. EPA stated on p. 76727 of the December 7, 2000 issue of the *Federal Register* in adopting the rule that

various states have interpreted the analytical results in a variety of ways, including in the way TCEQ interpreted the rule, and expressed how EPA interprets its rule. Had EPA wanted to expressly add rule language, they could have easily done so, but they did not.

Further, as noted in the December 31, 2004 report from the Texas Water Advisory Council (TWAC), a letter signed by dozens of Texas Congressional members and a letter from the Texas Radiation Advisory Board call into serious question whether the EPA's radionuclide standards were technically justified. This report could be fairly characterized as a report from state leadership, not just TCEQ, and includes legislative leadership and leadership from over a half-dozen major Texas agencies. State leadership through the TWAC was expressly aware of the TCEQ policy, and could have asked TCEQ to change it, but instead concluded that water suppliers should be given maximum flexibility for achieving compliance with the standards. Thus, any TCEQ decision to allow for a reporting error was not made in a vacuum and comported with the position of state leadership.

Senator Merkley:

50. If you are confirmed as the Chair of Council on Environmental Quality, you will be responsible for coordinating federal environmental efforts in the United States with federal agencies to develop environmental and energy policies and initiatives. Therefore, your understanding of the most basic science of climate change science will be essential to your role in the regulation of greenhouse gases. In the first volume of Fourth National Climate Assessment (found here: https://science2017.globalchange.gov/downloads/), authored by 13 federal agencies, scientists report, "Global annually averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016). This period is now the warmest in the history of modern civilization. The last few years have also seen record-breaking, climate-related weather extremes, and the last three years have been the warmest years on record for the globe. These trends are expected to continue over climate timescales." Do you agree with this finding?

    a. If you do not agree with this finding, please explain why, and please provide at least one peer reviewed study supporting your stated position.

    I agree that global average temperatures are likely the warmest in the history of modern civilization, but maybe not warmer than during either the Medieval or ancient Roman civilizations. The science is still out on whether there has been any climate-related changes in severe weather, as stated in the most recent U.N. IPCC report. The expected level of future warming is a subject of legitimate debate.

51. In the same report, the authors report, "It is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed

warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence." Do you agree with that finding?

a. If you do not agree, please explain why, and provide at least one peer reviewed study supporting your stated position.

The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data. (Miller et al, Human Contribution, Nature Geoscience, September 19, 2017).

52. The same report finds that "Global average sea level has risen by about 7–8 inches since 1900, with almost half (about 3 inches) of that rise occurring since 1993. Human-caused climate change has made a substantial contribution to this rise since 1900, contributing to a rate of rise that is greater than during any preceding century in at least 2,800 years. Do you agree with that finding?
    a. If you do not agree, please explain why, and provide at least one peer reviewed study supporting your stated position.

The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data. (Jevrejeva, S.; Moore, J.C.; Grinsted, A.; Matthews, A.; Spada, G.. 2014 Trends and acceleration in global and regional sea levels since 1807. Global and Planetary Change).

53. The same report finds that "Heatwaves have become more frequent in the United States since the 1960s, while extreme cold temperatures and cold waves are less frequent. Recent record-setting hot years are projected to become common in the near future for the United States, as annual average temperatures continue to rise. Annual average temperature over the contiguous United States has increased by 1.8°F (1.0°C) for the period 1901–2016; over the next few decades (2021–2050), annual average temperatures are expected to rise by about 2.5°F for the United States, relative to the recent past (average from 1976–2005), under all plausible future climate scenarios." Do you agree with this finding?

a. If you do not agree, please explain why, and provide at least one peer reviewed study supporting your stated position.

There are multi-decadal changes in weather over the United States, which are simply a natural feature of the climate system. For example, the Pacific Decadal Oscillation (PDO) is known to have a strong influence on the

drought-prone West (e.g. Kam et al., Geophysical Research Letters, 2014). Recent warming in the U.S. has indeed occurred, although there are concerns about how thermometer adjustments may have contributed to the calculated warming rate.

54. The same report finds that "Annual trends toward earlier spring melt and reduced snowpack are already affecting water resources in the western United States and these trends are expected to continue. Under higher scenarios, and assuming no change to current water resources management, chronic, long-duration hydrological drought is increasingly possible before the end of this century." Do you agree with this finding?

    a. If you do not agree with this finding, please explain why, and please provide at least one peer reviewed study supporting your stated position.

    The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

    The western U.S. will always have droughts to contend with, given increasing population pressure and water resources in a semi-arid region. Many studies have shown that recent droughts pale in comparison to tree-ring reconstructed droughts in the West in centuries past. E. R. Cook and co-workers have pioneered this work (e.g. Stahle et al., Climatic Change, July 2007).

55. The same report finds that "The global atmospheric carbon dioxide (CO2) concentration has now passed 400 parts per million (ppm), a level that last occurred about 3 million years ago, when both global average temperature and sea level were significantly higher than today. Continued growth in CO2 emissions over this century and beyond would lead to an atmospheric concentration not experienced in tens to hundreds of millions of years. There is broad consensus that the further and the faster the Earth system is pushed towards warming, the greater the risk of unanticipated changes and impacts, some of which are potentially large and irreversible." Do you agree with this findings?

    a. If you do not agree with this finding, please explain why, and please provide at least one peer reviewed study supporting your stated position.

    The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

56. You told me during the confirmation hearing that if confirmed, climate change would be one of your top three priorities. What specific actions would you take as CEQ Chair to address climate change issues?

If confirmed and after consultation with other Offices of the White House and lead agencies such as the EPA, I would be interested in coordinating and conducting a broad assessment of the relative effectiveness of current climate policies, programs and regulation within the federal government.

57. You told me during the confirmation hearing that if confirmed, climate change would be one of your top three priorities. One of the responsibilities of the Council on Environmental Quality is to oversee the implementation of the National Environmental Policy Act. Do you think the government should consider greenhouse gases and their impacts on climate change when analyzing and permitting infrastructure projects?

    a. If not, do you think the courts have gotten this issue wrong for decades as the courts have consistently ruled for nearly 20 years that the federal government are required to consider climate change in its environmental reviews?

    If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data, including the ever-evolving understanding of the impact that increasing greenhouse gases have on our changing climate.

58. One of the responsibilities of the Council on Environmental Quality is to oversee the implementation of the National Environmental Policy Act. The NEPA process provides citizens with an opportunity to influence federal agency decision making. How would you ensure that American citizens will continue to be able to participate in the analysis of impacts of a proposed federal action that may affect their lives and businesses before that decision is made?

    I believe that public participation is a vital part of the NEPA process, and will work to ensure ample effective opportunities for such participation.

    a. Similarly, how would you ensure that other government agencies, whether other federal agencies, local and state agencies and tribal governments will opportunity to participate as partners in the analysis of proposed federal actions?

    CEQ has a vital role in overseeing the interagency coordination, and coordination with state, local, and tribal governments, at the heart of the NEPA process, and I will work diligently to ensure that those agencies and governments are fully integrated into agency decision-making.

Senator Sanders:

Climate Change

59. President Trump has suggested in the past that climate change is a hoax. Is the President correct? Is climate change a hoax?

    No.

60. Are you familiar with the effects of the greenhouse gasses on our planet? If so, please provide a brief explanation.

    Greenhouse gases (GHGs) such as water vapor and CO2 absorb and emit the infrared (IR) energy that the Earth's surface emits to outer space. That IR cooling must, on average, balance absorbed solar radiation by the Earth in order for temperatures to remain roughly constant over time. The net effect of GHGs is to warm the surface of the Earth and lower atmosphere sufficiently for life to exist.

61. Do you agree with the vast majority of scientists that the greenhouse effect is a real phenomenon? If not, why not?

    Yes.

62. Do you believe that the combustion of fossil fuels releases carbon pollution into the atmosphere? If not, why not?

    The combustion of fossil fuels releases carbon dioxide into the atmosphere.

63. Do you agree with the vast majority of scientists that carbon dioxide absorbs and emits radiation within the thermal infrared range and is therefore a greenhouse gas? If not, why not?

    Yes.

64. Do you agree with the vast majority of scientists that releasing carbon pollution into the atmosphere contributes to climate change through the greenhouse effect?

    Yes.

65. Do you believe that the generation of energy through the combustion of fossil fuels contributes to climate change more than generating energy through renewable sources like wind, solar, and geothermal? If not, why not?

    It is likely, but the ability to measure the degree and extent of that impact are subject to continuing debate and dialogue.

66. If confirmed, what will you do at CEQ to promote renewable sources of energy like wind, solar, and geothermal?

I do not believe it is the role of CEQ to promote particular energy sources. Energy diversity is an important factor in our country's energy portfolio.

67. If confirmed, what will you do to stimulate economic innovation and opportunity through a robust response to climate change?

I do not believe it is the role of CEQ to promote particular energy sources.

68. Over this past year, we have seen unprecedented devastation from Hurricanes Harvey, Irma and Maria plus dozens of wildfires that have ravaged the West. Do you agree with the vast majority of the scientific community that climate change has exasperated the frequency and devastation of these natural disasters?

If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data, including the ever-evolving understanding of the impact increasing greenhouse gases have on our changing climate. Before the landfalling major hurricanes of 2017, we went an unprecedented 11 years without a major hurricane strike.

69. Congress has already appropriated $51.8 billion to address these disasters, and we intend to continue to work to rebuild communities devastated by the impacts of these disasters. A recent study published in the journal *Science* found that for every degree Celsius the planet warms, there is a loss of roughly 1.2% GDP in the United States. Do you believe that addressing climate change is good economics?

If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data, including the ever-evolving understanding of the impact increasing greenhouse gases have on our changing climate.

70. Last week, the Trump Administration released a Climate Science Special Report written by 13 federal agencies that calls human activity the dominant driver of global warming. "It is extremely likely," the report concludes, "that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence."

    a. During your nomination hearing, you said that you view this report as a "product of the last administration." Do you think the current administration rejects science? If so, why would the current administration release a scientific report?

I do not think the current administration rejects science. If I am confirmed, I will seek thorough briefings on the Climate Science Special Report.

b. You have previously supported revoking the EPA's endangerment finding, which states that greenhouse gasses threaten the public health and welfare of current and future generations. Given that the Trump Administration's recent Climate Science Special report, which strongly supports the idea that greenhouse gasses are a significant threat to environmental and human welfare, do you still believe the EPA should revoke its endangerment finding? If so, why? If not, what has changed?

I would support the Administration's policy on this matter.

c. In a 2015 *Daily Signal* op-ed, you wrote that "temperatures have not warmed as predicted by the models over the last 18 years." Given the Climate Science Special Report's findings that we are currently experiencing the warmest period in the history of modern civilization, do you stand by that statement now? If so, why? If not, what has changed?

It remains true that global average temperatures have not warmed as much as many models predicted. This is a different issue from whether global temperatures are currently warmer than they have been in the last century or more.

d. In a 2015 Daily Signal op-ed, you wrote that "extreme weather events have not been more frequent or more intense than in 20th century." Given the Climate Science Special Report's findings that we are seeing more frequent and intense heavy rainfall, heat waves, droughts, and forest fires, do you stand by that statement now? If so, why? If not, what has changed?

If confirmed, I would look forward to extensive briefing on the special report and follow the President's policy on this issue.

71. In your book, *Fueling Freedom: Exposing the Mad War on Energy*, you state: "Unless feeding the world's seven billion human residents is not a priority, the increased atmospheric concentration of carbon dioxide attributable to human activity is unquestionably a huge social benefit." On what scientific reports and data does this statement rely? Given the Climate Science Special Report's findings that emissions of greenhouse gases like carbon dioxide are a significant threat to environmental and human welfare, do you stand by that statement now? If so, why? If not, what has changed?

Yes. Natural atmospheric CO2 and human induced CO2 enhances plant growth and thus the global food supply. I offer the following list of attached scientific publications that speak to the global impact of those combined benefits:

A CO2-Induced Global Stimulation of Terrestrial Carbon Uptake and Water Use Efficiency (http://www.co2science.org/articles/V20/oct/a1.php)
A Half-century Increase in Global Terrestrial Net Primary Production Driven Primarily by Rising Atmospheric CO2 (http://www.co2science.org/articles/V20/aug/a19.php)
The Interactive Effects of CO2, Nitrogen Application and Water Supply on Spring Wheat (http://www.co2science.org/articles/V20/nov/a5.php)
Elevated CO2 and Ozone Improve the Growth of Japanese Cedar Trees (http://www.co2science.org/articles/V20/oct/a17.php)
Two Soybean Cultivars Respond Positively to Atmospheric CO2 Enrichment (http://www.co2science.org/articles/V20/oct/a8.php)
Elevated CO2 Mitigates the Negative Effects of Drought on Grapevines (http://www.co2science.org/articles/V20/sep/a14.php)
Elevated CO2 Improves Both the Quantity and Quality of Two Lettuce Cultivars (http://www.co2science.org/articles/V20/sep/a3.php)
Elevated CO2 and High Temperature Improve the Growth of Rice and Chinese Yam (http://www.co2science.org/articles/V20/sep/a1.php)

72. While speaking at an Americans for Prosperity forum in 2011, you stated that in the U.S. "there is no environmental crisis – in fact, there's almost no major environmental problems." When asked if you still stand by this statement during your nomination hearing, you said "that's not what I intended for it to mean." What was the underlying intent of your 2011 statement?

    a. If that in fact was not the intent of your 2011 statement, do you believe the United States is currently experiencing any major environmental problems? If so, please list all the environmental problems you believe the United States is currently facing.

       The US environment has improved immensely over the last 40-50 years. We have much cleaner air and cleaner water than before. Perhaps the greatest environmental risks stem from failing wastewater and drinking water infrastructure as well as levels of toxins in certain areas.

73. During your nomination hearing, you were asked if you knew how much of the excess heat generated by greenhouse gas emissions has been absorbed by the oceans. You admitted that you did not know and were not able to say whether the answer is above or below 50 percent. You further stated that you believed there were differences of opinion on whether more or less than 50 percent of the heat generated by greenhouse gas emissions is absorbed by the oceans. There is, in fact, scientific consensus on the greenhouse gasses absorbed by the oceans.

    Should the CEQ Chair be familiar with basic scientific information like the amount of heat stored in the oceans? If so, why are you qualified to be CEQ Chair? If not, what is,

in your view, the minimum level of scientific competency necessary to serve the American people as CEQ Chair?

Please provide the scientific studies that indicate a "difference of opinion" on whether the oceans absorb more or less than 50 percent of the heat generated by greenhouse gas emissions.

There is in fact no consensus on how much heat is being absorbed into the oceans, it is an emerging field of study that still in its infancy. Oceans are the least understood and studied part of the earth due to the technical complications of studying the vast deep ocean. Ocean absorption of heat has only recently been posited as a reason for incorrect temperature projections of the climate models.

74. During your nomination hearing, you were asked if the law of thermal expansion applies to seawater and if water in the ocean warms as it expands. You answered that you did not have any expertise, or even much "layman's study" of the oceans.

    a. Should the CEQ Chair be familiar with the law of thermal expansion? If so, how are you qualified to serve the American people as CEQ Chair? If not, do you commit to studying this phenomenon?

       The CEQ chair is not, and cannot be, an expert in everything. Luckily there are agencies in the federal government which are ocean experts. As my record as regulator in Texas demonstrates, I will be a champion of rigorous analysis of the best available science to ensure that as one of the President's senior advisors, I always provide the most well informed and objective counsel.

    b. If you lack the knowledge to say whether or not the ocean expands when warmed, why do you feel comfortable asserting that there are legitimate differences of opinion on whether the oceans absorb more or less than 50 percent of the heat generated by greenhouse gas emissions?

       There is no consensus on how much heat is being absorbed into the oceans, it is an emerging field of study that is still in its infancy. Oceans are the least understood and studied part of the earth due to the technical complications of studying the vast deep ocean. Ocean absorption of heat has only recently been posited as a reason for incorrect temperature projections of the climate models.

Past Career/Conflicts of Interest

75. During your time at the Texas Public Policy Foundation, you represented and received millions of dollars from fossil fuel interests like Koch Industries, ExxonMobil, and Chevron.

a. As Chair of CEQ, would you have any active conflicts with any of these organizations? If so, will you commit to recuse yourself for the full course of any matter in which any of your former clients is a party? If not, why not?

I will consult with relevant ethics officials and review relevant rules of professional conduct and will follow the advice of the CEQ Ethics Counsel in determining any recusals.

b. If confirmed, how will you prevent inappropriate undue influence from regulated industries on CEQ employees, including yourself?

In consultation with appropriate counsel, CEQ would follow the law and applicable policies regarding undue influence.

c. CEQ is tasked with ensuring the health and safety of working people, their families, and the communities in which they live. Given that your recent work history has consisted of taking large donations from fossil fuel companies to represent their interests rather than the interests of ordinary Americans, will you commit to refusing undue influence from special interests and instead fight to protect the environment?

I will proudly and aggressively carry out CEQ's legal mission regarding environmental protection. As previously noted, Texas Public Policy Foundation (TPPF) receives donations from a variety of individuals and entities with interests in TPPF's mission. However, I did not receive dollars in a personal or professional capacity directly from any individual or any entity in exchange for my work at TPPF, nor did I professionally represent any individual or entity other than TPPF as part of my work at TPPF. In consultation with appropriate counsel, I will follow the law and applicable policies regarding undue influence in order to maintain the integrity of the office.

d. President Trump has repeatedly stated that he intends to "drain the swamp" by reducing corporate influence on the U.S. Government. Given that your former organization engaged in exactly the type of behavior that the President has disavowed, how do you fit into his commitment to "drain the swamp"?

Since I have not spoken directly with the President about his comments relating to "draining the swamp" it would not be appropriate for me to speculate as to his intentions about his comments.

76. During your time as a member of the Texas Council on Environmental Quality (TCEQ), the Council routinely manipulated data from the Texas Department of State Health Services on the amount of alpha radiation traceable in drinking water. TCEQ manipulated this data to make the amount of alpha radiation appear lower than the EPA legal limit for exposure to alpha radiation. TCEQ emails and documents show that the agency was

attempting to help water systems avoid formally violating federal limits so they did not have to inform their residents of the increased health risk.

In an interview with KHOU News, you confirmed that TCEQ modified data and defended those actions by stating: "As memory serves me, that made incredibly good sense. We did not believe the science of health effects justified EPA setting the standard where they did. I have far more trust in the vigor of science that TCEQ assess (sic), than I do EPA."

a. Manipulating scientific findings is incredibly troubling. In hindsight, do you see how problematic it is to falsify or modify scientific data, as you have admitted TCEQ did in this case?

I have never falsified scientific data nor directed my staff to do so and I did not admit to doing so during the hearing.

The aforementioned statement inaccurately suggests TCEQ "manipulated" data on radionuclides in drinking water. TCEQ policy in 2004 and prior had been to allow for a reporting error for radionuclide analyses. EPA rule language in 40 CFR § 141.26(c)(3) is silent regarding this type of reporting error, which involves adding or subtracting the standard deviations from analytical results. EPA stated on p. 76727 of the December 7, 2000 issue of the *Federal Register* in adopting the rule that various states have interpreted the analytical results in a variety of ways, and expressed how EPA interprets its rule. Had EPA wanted to expressly add rule language they could have easily done so but they did not.

Further, as noted in the December 31, 2004 report from the Texas Water Advisory Council (TWAC), a letter signed by dozens of Texas Congressional members and a letter from the Texas Radiation Advisory Board call into serious question whether the EPA's radionuclude standards were technically justified. This report could be fairly characterized as a report from state leadership, not just TCEQ, and includes legislative leadership and leadership from over a half-dozen major Texas agencies. State leadership through the TWAC was expressly aware of the TCEQ policy, and could have asked TCEQ to change it, but instead concluded that water suppliers should be given maximum flexibility for achieving compliance with the standards. Thus, any TCEQ decision was not made in a vacuum, but comported with the position of state leadership.

b. If confirmed, will you commit to upholding the scientific integrity at CEQ?

Yes.

77. In a 2015 *The Hill* op-ed, you questioned if ozone is a harmful pollutant, stating that it is not harmful to human health unless "you put your mouth over the tailpipe of a car for eight hours every day." During your nomination hearing, you mentioned the reduction of ozone-producing emissions in the Houston/Galveston area as one of your most proud accomplishments. If you consider ozone to be a non-harmful substance, why are you proud of reducing ozone-producing emissions?

The statement referenced in *The Hill* op-ed clearly demonstrates my opinion that ozone is a harmful pollutant, but it is only harmful if you are exposed to a high enough concentration of it. This has been well-established in experiments where humans are exposed to ozone[14]. During my tenure as a Commissioner and Chairwoman at the TCEQ, concentrations of ozone in the Houston/Galveston area were occasionally above a level where some respiratory effects may occur in an exposed person. In addition, the Houston/Galveston area was not in attainment with the federal laws and regulations for ozone concentrations. Therefore, it was my responsibility, and the responsibility of the TCEQ and the people and industry of Texas, to reduce emissions that contribute to ozone formation. We were very successful and tbe area saw a decrease in emissions and ozone concentrations that was more rapid than the national average decrease of ozone in non-attainment areas.

78. While you were Chair of the TCEQ, you were vocally opposed to federal rules limiting ozone pollution, or smog, implying that air quality is already good enough. Do you recognize the public health effects of ozone pollution, which include reducing lung function and causing lung damage? If confirmed, how will you advise the President, EPA, and others about ozone standards?

As I stated in the response to question 77, ozone is harmful when at a higb enough concentration. If confirmed, I would advise the president and the EPA based on our responsibilities as outlined by the Clean Air Act, with a priority on regulations where the risks to human health and the environment are the greatest.

79. In the past, you have repeatedly criticized the Clean Air Act and a 2007 Supreme Court ruling that carbon dioxide and other greenhouse gases are pollutants that can be regulated under the Clean Air Act. During your confirmation hearing, you said you would "uphold all law, the letter and the spirit." If confirmed, how will you specifically commit to carrying out the CEQ's obligations under existing law, including as decided by the Supreme Court?

I will follow the law.

[14] http://jap.physiology.org/content/jap/102/2/688.full.pdf; https://www.ncbi.nlm.nih.gov/pubmed/?term=22906168

80. In April 2016, you appeared before the U.S. House Committee on Natural Resources and stated that "after 40 years of private conservation and environmental regulation under the major federal environmental laws, most of the greatest risks to human health, wildlife, and other natural resources in the United States have been dramatically reduced."

    a. To which environmental laws were you referring?

       NEPA, Clean Air Act, Clean Water Act, RCRA and many other federal laws.

    b. Do you still believe that federal environmental laws have been responsible for dramatically reducing risks to human health, wildlife, and other natural resources in the United States? If so, why? If not, why has your view changed?

       Yes I still believe that the many federal laws significantly contributed to improving environmental quality.

    c. If confirmed, will you commit to protecting these effective environmental laws in your role as CEQ's Chair?

       Yes, I will uphold and protect these laws and all federal laws.

81. During a 2016 interview with *The Right Perspective* radio show, you stated: "There's a real dark side of the kind of paganism – the secular elites' religion now – being evidently global warming". In your book, *Fueling Freedom: Exposing the Mad War on Energy*, you state: "Many cultural historians contend that environmentalism is the ideological successor to failed Marxist and socialist ideologies." In your article, *Fossil Fuels: The Moral Case*, you state: "IPCC science claims of 95 percent certainty that human activity is causing climate calamity are more like the dogmatic claims of ideologues and clerics than scientific conclusions."

    During your nomination hearing, you were asked whether it is right to compare world leaders who believe in climate science to pagans and ideologues. You answered that your words were taken out of context. Did you in fact write the book, *Fueling Freedom: Exposing the Mad War on Energy,* and the article, *Fossil Fuels: The Moral Case*? If so, your words were not taken out of context.

    a. Our previous three presidents believe in human-driven climate change. Do you consider them pagans and ideologues?

       No.

    b. What about the vast majority of ordinary Americans who believe in human-driven climate change? Do you think they are pagans and ideologues?

No.

82. During your nomination hearing, you admitted that your previously-held opinion on the renewable fuel standard (RFS), expressed in your book, *Fueling Freedom: Exposing the Mad War on Energy*, was incorrect and based on out-of-date data.

    a. Why did you publish a book that contained opinions based on out-of-data data?

       Data and new information are continually becoming available and due to the time frames involved in writing, editing, and publication it is difficult to always include the most current data.

    b. What steps did you take before publishing your book to ensure it contained opinions based on up-to-date data?

       I undertook multiple rounds of editing and fact-checking with my co-author Steve Moore and Regnery Publishing but I am responsible for the data error about ethanol.

    c. Are there any other assertions in your book that are based on out-of-date data?

       Not to my knowledge. However, with a 300 page book with over 600 citations, it would be fair to say there may be newer data for some of the citations.

    d. Please list all the assertions from your book that you are completely confident are based on up-to-date data.

       I am always reevaluating my own beliefs to ensure they continue to be supported by the most current facts and data.

    e. What assurances do we have that your currently-held opinions are based on up-to-date data?

       I am always reevaluating my own beliefs to ensure they continue to be supported by the most current facts and data.

    f. Should the CEQ Chair make decisions based on up-to-date information?

       Yes.

    g. Given the fact that your published work contains inaccurate information, why should we believe that, if confirmed, your decisions as CEQ Chair will be based on up-to-date data?

I am always reevaluating my own beliefs to ensure they continue to be supported by the most current facts and data.

83. During your nomination hearing, you stated that it is "confusing" whether or not there is a crisis in the country regarding air quality and particulate matter.

    a. Do you agree that the people of this country deserve a CEQ Chair who is not confused by basic climate science and data? If not, why not?

    Yes.

    b. What other environment-related matters do you find confsing?

    Although environmental matters are often complicated, it was your question I found confusing, not the matter itself.

CEQ

84. In 2005, CEQ Chief of Staff Philip Cooney, a former American Petroleum Institute lobbyist, was caught improperly editing government climate reports to downplay connections between carbon pollution emissions from human activity and climate change. Cooney resigned after these revelations. If confirmed, how will you prevent this type of behavior from CEQ staff?

    We should ensure that all work processes are marked by transparency and accountability.

85. On August 15, 2017, President Trump signed Executive Order 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects*. Among other things, this Executive Order rolls back federal floodplain risk management standards that require the federal government to account for climate change and sea-level rise when building infrastructure.

    Given that climate change will likely increase impacts on infrastructure like we saw during the recent hurricanes and resulting floods that devastated Texas, Florida, Puerto Rico, the Virgin Islands, and other U.S. communities, do you believe it is a good idea to weaken federal floodplain risk management standards? If so, why? If not, how can CEQ work to ensure taxpayer dollars are spent wisely on public infrastructure, especially with regard to issues arising from climate change?

    A single federal approach to mitigation of potential risk is not necessarily the best approach.

NEPA

86. As you may know, the stated goal of the National Environmental Policy Act (NEPA) is:

"To declare national policy which will encourage productive and enjoyable harmony between humans and their environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of people; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality"

a. If confirmed, do you commit to supporting NEPA's stated goal?

Yes.

b. If confirmed, how will you work to prevent or eliminate damage to the environment and biosphere?

By following the statutory requirements as created by Congress.

c. If confirmed, how will you work to enrich the understanding of ecological systems important to the nation?

By following the statutory requirements as created by Congress.

87. As you know, each federal agency consults with the CEQ to develop NEPA procedures that supplement the CEQ's regulations. If confirmed, how will you work with other agencies to meet the goals of NEPA as defined by Congress?

If confirmed a major part of my role will be to coordinate and facilitate interagency matters.

88. On September 14, 2017, CEQ released a Federal Register notice that, among other things, makes several references to revising Categorical Exclusions (CE) under NEPA. If confirmed, will you commit to rejecting new CEs that thwart the stated goals of NEPA?

I could not pre-judge the proposal but if confirmed it would be a priority to receive extensive briefing on these matters.

a. Describe the criteria you would use when considering whether new or revised CEs are in conformity with NEPA and CEQ regulations.

I will be guided by the relevant law, science, precedent, and advice of counsel.

b. If confirmed, how will you ensure transparency and public participation when an agency is considering a new or revised categorical exclusion?

I will follow the Administrative Procedure Act.

c. If confirmed, will you commit to rejecting any new or revised CEs related to new fossil fuel infrastructure?

I could not pre-judge the matter but if confirmed it would be a priority to receive extensive briefing on the report.

89. Please describe the criteria you will use to mediate NEPA-related disputes between federal agencies.

I will be guided by the relevant law, science, precedent, and advice of counsel.

90. Transparency and public participation are central tenants of NEPA. If confirmed, how will you work to protect and promote transparency and public participation in regard to Environmental Assessments and Environmental Impact Statements?

Diligently.

Science

91. Please explain what scientific integrity means to you. If confirmed, will you commit to protecting scientific integrity at CEQ?

To me, scientific integrity includes a process of unbiased data collection, analysis, and public transparency, which has no particular desired political policy outcome to answer to or abide by. I will commit to upholding these values.

92. During your nomination hearing, you were asked for your views on the role of science in the regulatory process. You answered that "it is key to have access to the data." But, it remains unclear what you will do with the data once you obtain access. What should the role of science be in the development of the CEQ's policies, rules, and regulations?

Science (i.e. knowledge) is integral to these processes. Everyone should have access to data which is collected through taxpayer funded efforts. This is a noncontroversial statement, and our government agencies have improved greatly in recent decades in making data public. I will expect to see further progress in this area.

93. During your nomination hearing, you stated that you have many unanswered questions about climate science in your "personal capacity." I know many scientists who would be happy to answer these questions for you. Please list the unanswered questions you have in your "personal capacity" regarding climate science. I am sure this committee would be more than happy to connect you with scientists who can answer them for you.

1) To what extent do chaotic ocean changes contribute to climate change? How do you know?
2) If major droughts today are caused by increasing CO2, what caused the exceptional drought of the 1930s in the U.S.?
3) Did the Medieval Warm Period and Roman Warm Period exist? If so, what caused them?
4) If humans are to blame for receding glaciers in Alaska, why are some of those glaciers uncovering tree stumps dated to be 1,000-2,000 years old, obviously having grown during an extended time of previous warmth?
5) Why are climate models still producing warming rates roughly double what has been observed in recent decades, even though the climate modelers know what the answer is ahead of time?

If confirmed, do you commit to sitting down with members of the scientific community so they can answer your unanswered questions?

Yes.

94. During your nomination hearing, you supported the full participation of scientists in all EPA discussions. As you may know, EPA Administrator Pruitt recently banned scientists who receive EPA grant money from serving on panels that counsel the agency on scientific decisions.

    a. If confirmed, will you commit to publicly stating your disagreement with Administrator Pruitt on this matter?

       I don't disagree with Administrator Pruitt and will defer to Administrator Pruitt on this matter.

    b. If confirmed, will you commit to advising the president in your role as CEQ Chair that the EPA should allow the full participation of scientists in all EPA discussions?

       I don't disagree with Administrator Pruitt and will defer to Administrator Pruitt on this matter. However, scientists who receive EPA grant funding are still able to publicly comment on proposed EPA actions just like any other citizen.

Most Pressing Challenges

95. The EPA's FY18 budget lists the following as priorities: clean water and drinking water, infrastructure, work at Brownfields and Superfund projects, improving and protecting air quality, and ensuring the safety of chemicals. If confirmed, would these also be the most pressing challenges that deserve your and CEQ's attention? If confirmed, how will you ensure CEQ better addresses these challenges?

Yes. By focusing on the priority items allocated in the Congressional budget.

Environmental Justice

96. As you may know, low-income and minority communities are disproportionately impacted by climate change. People in these communities are more likely to live near petrochemical facilities and be exposed to carcinogenic emissions and toxic waste discharge. Latino farmworkers, who make up the majority of agricultural workers in the U.S., are exposed to pesticides at a far higher rate than the general U.S. population. Latino children are twice as likely as non-Latino children to die from asthma. From 2012-2014, African American children had a death rate ten times that of non-Latino white children. African American children are three times as likely to suffer an asthma attack.

    If confirmed, how will you address growing issues associated with environmental justice?

    I am familiar with the concept of environmental justice. I agree that it is important that all Americans be treated equally under the law, including the environmental laws. Low-income and minority communities are disproportionately exposed to air pollutants because they live near industry, where housing is often cheaper. Unnecessary regulations often increase consumer prices, also disproportionately impacting low-income and minority communities.

97. Executive Order 12898, *Environmental Justice for Low Income and Minority Populations*, requires federal agencies that are complying with NEPA to consider environmental effects on human health, as well as economic and social impacts, specifically within low-income communities and communities of color. This Executive Order states that proposed federal actions must address "significant and adverse environmental effects" on low-income communities and communities of color.

    If confirmed, how will you work to ensure that federal agencies, including CEQ, comply with this Executive Order when executing NEPA environmental reviews?

    I hope to work with other agencies charged with execution of NEPA in a collegial fashion.

Environmental Regulations

98. Oil and natural gas extraction by way of hydraulic fracturing, or "fracking," has expanded rapidly in the United States. The EPA conducted a study of the drinking water impacts of fracking and released a final report in December 2016. The Agency found "hydraulic fracturing activities can impact drinking water resources under some circumstances."

a. Do you concur with the conclusions of the EPA's final report on fracking and drinking water? If not, why not?

The EPA's findings on hydraulic fracturing from this report and other studies it has conducted are consistent: there is no clear evidence or widespread cases of hydraulic fracturing contaminating drinking water.

b. In your book, *Fueling Freedom: Exposing the Mad War on Energy*, you state: "Contrary to false reports in the media, virtually no documented environmental problems have been associated with fracking – ever." Is this still your view? If so, how do you explain the numerous studies and anecdotal accounts that find risks to human health and environmental health from fracking? If your view has not changed, please explain why.

It's important to recognize that "fracking" has become a buzz word associated with every step of the oil and natural gas development process. If a truck en route to a drilling site has a spill, that's labeled a fracking accident. The same goes for pit liner leaks, or well blowouts, which can happen on occasion.

Anecdotes do not equal evidence. The practice of hydraulic fracturing has been studied by countless credible entities with professional authority (i.e. government, university, private environmental consulting firms, etc) and all come to the same conclusion, which is when performed properly, hydraulic fracturing can (and is) being done properly without major impacts to our environment.

For nearly every sensational headline produced after a new study comes out, there is usually a scientist or credited environmental professional who can refute or dispute the rumors that hydraulic fracturing is causing massive risks to our health.

c. What studies – if any – do you believe would be appropriate for the EPA to conduct on the effects of fracking on water quality?

I do believe hydraulic fracturing, and the entire drilling and oil and natural gas production process, should be studied. For that matter, we should never stop studying potential environmental impacts from all forms of energy development, be it from fossil fuels or renewable sources.

99. Data shows that mercury pollution in the North Atlantic and mercury concentrations in our fisheries have fallen dramatically since the United States started requiring stronger emissions controls from coal power plants.

Given this scientific confirmation of the positive effects of these regulations, what will you do, if confirmed, to continue to accelerate the clean-up of all sources of mercury emissions, including from coal power plants?

The question presupposes that the reductions in mercury pollution are due solely to the regulations that have been imposed on coal fired power plants. However, the aforementioned reductions also coincide with reductions in mercury from waste water treatment plants and stricter solid waste regulations requiring more stringent management of mercury waste. Therefore before increasing requirements on coal power plants, the issue should be further studied.

Senator Whitehouse:

100. You have repeatedly tried to associate climate science with paganism. You went as far as to label Pope Francis's statements about climate change as reciting "propaganda" in a 2015 article on Townhall.com. Earlier this month, scholars gathered at the Vatican to review the science of climate change, in particular how it is affecting human health.

    a. Do you consider the participants at the Pontifical Academy of Sciences conference "pagans" for accepting and speaking about the reality of climate change?

    I cannot speak for the personal religious beliefs and motivations of specific individuals.

    b. Do you continue to believe climate change science to be "propaganda"?

    The public almost always only hears from media about improbably worst case scenarios.

101. You stated in a 2016 interview with *Rolling Stone* that the United States is "not a democracy if science dictates what our rules are." In reality, Congress specifically required science to guide the rules, regulations, and policies agencies use to execute our keystone environmental laws. CEQ has an important role in coordinating and overseeing the faithful implementation of these laws.

    a. How should CEQ use science?

    The CEQ must rely upon science. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data, including the ever-evolving understanding of the impact increasing greenhouse gases have on our changing climate.

    b. What or who would you consider reliable sources of scientific knowledge?

If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data, including the ever-evolving understanding of the impact increasing greenhouse gases have on our changing climate. I would listen to all sides.

c. Should the funding source for research be considered in determining the validity and trustworthiness of scientific research?

Yes.

102. Do you support the National Ocean Policy and will you maintain CEQ's role in its implementation? Do you have any views on how the NOP should be modified or changed?

I support the purpose and goals of the National Ocean Policy. Not at this time.

103. Have you reviewed EPA's endangerment finding for carbon dioxide? If not, will you commit to reviewing it before the Committee votes on your nomination?

Yes.

104. Earlier this month, the U.S. Global Change Research Program (GCRP) released its Climate Science Special Report. Among its conclusions, the report, which was authored by scientists from NOAA, NASA, EPA, DOE, Army Corps of Engineers, and other agencies and leading universities, stated: "This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century."

a. Do you agree with this assessment? If not, on what scientific studies do you base your opinion?

If confirmed it would be a priority to receive extensive briefing on the report.

b. If confirmed, will you use the science summarized in the report to guide your decisions and make policy recommendations to the President?

If confirmed, I would consider the most rigorous analyses of the best available science.

c. Will you commit to not taking any adverse action or making any adverse recommendation concerning the employment of any federal agency scientists who contributed to the report?

Honest scientific inquiry is vital to good environmental policy and I will always support fair and respectful treatment of scientists.

d. Will you direct agencies to consider the report the best and latest compilation of climate science for the U.S.?

If confirmed it would be a priority to receive extensive briefing on the report.

105. Do you agree with each of the following statements included in the U.S. Global Change Research Program's recent Climate Science Special Report?

If confirmed it would be a priority to receive extensive briefing on the report.

a. "Human-caused climate change has made a substantial contribution to [sea level rise] since 1900, contributing to a rate of rise that is greater than during any preceding century in at least 2,800 years." (page 10)

If confirmed it would be a priority to receive extensive briefing on the report.

b. "The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse gases (especially carbon dioxide) emitted globally." (page 11)

If confirmed it would be a priority to receive extensive briefing on the report. The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

c. "There is broad consensus that the further and faster the Earth system is pushed towards warming, the greater the risk of unanticipated changes and impacts, some of which are potentially large and irreversible." (page 11)

The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of that impact, and what to do about it, are subject to continuing debate and dialogue. If confirmed, I will work to ensure that any regulatory actions are based on the most up to date and objective scientific data.

d. "The world's oceans are currently absorbing more than a quarter of the CO_2 emitted to the atmosphere annually from human activities, making them more acidic (*very high confidence*), with potential detrimental impacts to marine ecosystems." (page 28)

The climate is changing and human activity impacts our changing climate in some manner. The ability to measure with precision the degree and extent of

that impact, and what to do about it, are subject to continuing debate and dialogue.

e. "The rate of acidification is unparalleled in at least the past 66 million years." (page 28)

If confirmed it would be a priority to receive extensive briefing on the report.

f. "This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence." (page 10)

If confirmed it would be a priority to receive extensive briefing on the report.

g. "Human activities are now the dominant cause of the observed trends in climate." (page 36)

If confirmed it would be a priority to receive extensive briefing on the report.

h. "[T]here are no suggested factors, even speculative ones that can explain the timing or magnitude and that would somehow cancel out the role of human factors." (page 37)

If confirmed it would be a priority to receive extensive briefing on the report.

106. You have worked for or collaborated with a number of organizations with funding ties to the Koch Brothers, ExxonMobil, Donors Trust, and other front groups for fossil fuel financing.

a. Will you provide this Committee a full listing of all specific donors that have supported your work, including any public remarks, writings, or other communications pieces?

Since 2008, my work has been funded through my employment with the Texas Public Policy Foundation. As a 501(c)(3) non-profit, non-partisan research institute, the Foundation does not disclose its donor information in accordance with IRS regulations, nor do I have access to this information. My public remarks, writings, or other communications pieces published during my tenure at the Foundation are voluminous in nature and available online at www.texaspolicy.com.

b. Will you recuse yourself from taking meetings with former funders?

I believe that when CEQ is considering significant decisions, it is important

to meet with all stakeholders. I can assure the Committee and the American people that I will abide by all ethical standards set by the White House and follow both the letter and the spirit of the law.

107. You mention in a 2009 blog post on the Texas Public Policy Foundation's website that "[w]ind power must shed the government supplement and meet the tests of the free market place." Also, in your book, you state that "[t]he grand prize winner in the government subsidies sweepstakes was the wind industry, which received $5 billion."

    a. What is the value of government subsidies received by the fossil fuel industry? If you are unable to provide a specific amount, how were you able to conclude that the wind industry was the "grand prize winner"?

    From the same reference where the $5 billion figure was sourced, the report states that Natural Gas and Oil industries receive $2.8 billion, coal $1.4 billion.

    b. Are you familiar with the International Monetary Fund's 2015 analysis of subsidies to the fossil fuel industry which puts just the U.S. subsidy at around $700 billion a year? Do you agree with the IMF independent analysis?

    I have not studied that report and therefore cannot conclude whether I agree with that statement or not.

108. Will you recuse yourself from any meetings, decisions, or recommendations that will directly affect or involve any former funders for your work at the Texas Public Policy Foundation?

I will always follow the advice of CEQ ethics officials regarding conflicts of interest.

109. Will you agree not to seek any waivers under the President's ethics agreement?

At this time, I do not expect to seek any waivers. However, if such circumstances were to arise, I would follow the advice of CEQ's ethics officials. If I receive a waiver, I will make it public.

Senator BARRASSO. Well, thank you very much, Ms. Hartnett White. We appreciate your testimony and your presence here today.

Mr. Wheeler, it is now your turn. If you would like to introduce anyone and then proceed with your testimony.

STATEMENT OF ANDREW WHEELER,
PRINCIPAL, FAEGRE BAKER DANIELS CONSULTING

Mr. WHEELER. Thank you, Senator. I would like to introduce my sister, Liesel, right behind me; her husband, Tim Cooper; and my nephew and godson, Luke Cooper. And I really appreciate Luke being here today because, being here, he has broken his perfect attendance record at school.

[Laughter.]

Mr. WHEELER. So I am very happy and proud.

Senator BARRASSO. Does he need a note from a doctor? We can help him.

[Laughter.]

Mr. WHEELER. Thank you.

And I do have three friends: my friend Don, whom I met my first day of law school in 1987, flew here from Seattle to be here just for this hearing; and my friends John and Michael, who climbed Kilimanjaro with me 2 years ago. And I figured if they could get me to the top of the mountain, they could get me through today.

[Laughter.]

Mr. WHEELER. Good morning, Chairman Barrasso, Ranking Member Carper, and Chairman Emeritus Inhofe, and members of the Committee. I am truly honored and humbled by this opportunity to appear today as the nominee for the position of Deputy Administrator at the U.S. Environmental Protection Agency. I want to thank President Trump for this distinguished opportunity, and I want to thank Administrator Pruitt for the trust he has shown in me in supporting my nomination.

As many of you know, I spent 14 wonderful years working on this Committee for Chairman Inhofe and Senator Voinovich in a number of different roles, including the Majority and Minority Staff Director and Chief Counsel. I must say the view from this table is far different from the view from the staff bench behind the dais.

As a side note, I have never sat here before. I think this table is really kind of high. If I had sat here when I was staff director, we would have lowered it.

Starting with the Safe Drinking Water Act amendments in 1996 through three highway bills, several WRDA bills, brownfields, diesel reduction legislation, and numerous other bills that I had the privilege to work on, I always tried to find common ground and work across the aisle.

I would like to take a moment and speak directly to the career employees of the EPA who may be watching this hearing. I started my career at EPA in the Toxics Office in 1991 as a career employee. I have always believed that the career employees at the EPA are some of the most dedicated and hard working employees in the Federal Government, and if confirmed, I would be honored to join you again. The mission of the EPA, to protect human health

and the environment, is critical to our country and its citizens, and something that I take very seriously, and I know that you do, too.

President Trump and Administrator Pruitt have set an ambitious agenda that I intend to help implement, if confirmed to this position. Administrator Pruitt has talked about returning EPA to its core mission and purpose, a goal that I wholeheartedly support.

During his confirmation hearing, Administrator Pruitt emphasized three key objectives: first, we are a nation of laws, and it is EPA's role to administer those laws faithfully. I understand the separation of powers through my time spent working here in the Senate, I know where the laws are drafted, many of them here in this very room, and I will work with the Administrator to ensure that the Agency is following the laws.

Second, Administrator Pruitt committed that the Agency would acknowledge, respect, and promote the critical role of the States in implementing the Federal environmental laws. Cooperative federalism is a cornerstone of the Administrator's approach. We must work cooperatively with the States to ensure that the environment and public health are both protected.

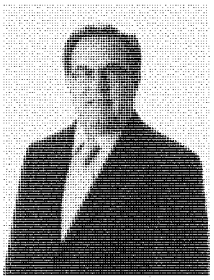
Third, Administrator Pruitt emphasized the important role that the public plays in the regulatory process. He said it is critical that the EPA truly listen to the diverse views of the American people, and that includes all of the people. It is vitally important that the American public understands the mutual goals of environmental protection and economic growth.

The environment today is cleaner than it has ever been in modern times. As a nation, we have made tremendous progress since the 1970s, and we have to build upon that progress going forward.

I would like to go off script for just a minute and recognize my mother, who was too ill to travel here today. When I was 21 months old, my sisters were 8 years and 8 months old, our father passed away. Our mother went back to school to finish her teaching degree, taught elementary school for almost 30 years, and raised us on her own. She put all three of us through college and helped us with various graduate schools. She has been my No. 1 mentor, next to Senator Inhofe, and confidante, and I know I would not be here today if it wasn't for her constant love and support.

Mr. Chairman and members of the Committee, thank you again for the opportunity to appear before you today, and I want to thank your staff for their service. I look forward to starting our dialogue now by answering any questions you may have.

[The prepared statement of Mr. Wheeler follows:]



Andrew R. Wheeler
Principal
Faegre Baker Daniels Consulting

Mr. Wheeler is a principal and the head of the energy & environment team at Faegre Baker Daniels Consulting and co-chairs the energy and natural resources industry team within the law firm. Prior to joining Faegre Baker Daniels, Mr. Wheeler worked at the U.S. Senate Environment and Public Works Committee for fourteen years serving in various roles including as the majority and minority staff director and chief counsel. He started his career at the Environmental Protection Agency as a special assistant in the toxics office where he received three bronze medals. He has a B.A. from Case Western Reserve University, a J.D. from Washington University in St. Louis, and an M.B.A. from George Mason University. Mr. Wheeler is a member of the District of Columbia bar and an Eagle Scout.

Statement of Andrew R. Wheeler
Nominated to be Deputy Administrator
U.S. Environmental Protection Agency

Good morning. Chairman Barrasso, Ranking Member Carper, and members of the Committee, I am truly honored and humbled by this opportunity to appear today as the nominee for the position of Deputy Administrator at the U.S. Environmental Protection Agency. I want to thank President Trump for this distinguished opportunity. And I want to thank Administrator Pruitt for the trust he has showed in me in supporting my nomination.

As many of you know, I spent fourteen wonderful years working on this Committee for Chairman Inhofe and Senator Voinovich in a number of different roles including the Majority and Minority Staff Director and Chief Counsel. I must say the view from this table is far different than the view from the staff bench behind the dais.

Starting with the Safe Drinking Water Act Amendments in 1996, through three highway bills, several WRDA bills, Brownfields, diesel reduction legislation and numerous others bills that I had the privilege to work on, I always tried to find common ground and work across the aisle.

I would like to take a moment and speak directly to the career employees of the EPA who may be watching this hearing. I started my career at EPA in the toxics office in 1991, as a career employee. I have always believed that the career employees at the EPA are some of the most dedicated and hard-working employees in the federal government, and if confirmed I would be honored to join you again. The mission of the EPA to protect human health and the environment is critical to our country and its citizens and something that I take very seriously and I know you do too.

President Trump and Administrator Pruitt have set an ambitious agenda that I intend to help implement if confirmed to this position. Administrator Pruitt has talked about returning EPA to its core mission and purpose, a goal that I whole-heartedly support. During his confirmation hearing Administrator Pruitt emphasized three key objectives:

First, we are a nation of laws and it is "EPA's role to administer those laws faithfully." I understand the separation of powers and through my time spent working here in the Senate, I know where the laws are drafted, many of them here in this room. I will work with the Administrator to ensure that the Agency is following the laws.

Second, Administrator Pruitt committed that the Agency would acknowledge, respect, and promote the critical role of the states in implementing the Federal environmental laws. Cooperative federalism is a cornerstone of the Administrator's approach. We must work cooperatively with the States to ensure that the environment and public health are both protected.

Third, Administrator Pruitt emphasized the important role that the public plays in the regulatory process. He said it is critical that the EPA truly listen to the diverse views of the American people. That includes all of the people. It is vitally important that the American public understands the mutual goals of environmental protection and economic growth.

The environment today is cleaner than it has ever been in modern times. As a nation we have made tremendous progress since the 1970s and we must build upon that progress going forward.

Mr. Chairman and members of the Committee, thank you again for the opportunity to appear before you today, and I want to thank your staff for their service. I look forward to starting our dialogue now by answering any questions you may have.

Senate Committee on Environment and Public Works
Hearing entitled *"Hearing on the Nominations of Kathleen Hartnett White to be Member of the Council on Environmental Quality and Andrew Wheeler to be Deputy Administrator of the Environmental Protection Agency."*
November 8, 2017
Questions for the Record for Mr. Andrew Wheeler

Ranking Member Carper:

Please provide a response to each question, ***including each sub-part.***

1. For decades, both Republican and Democratic administrations alike have had written policies limiting White House contacts with agencies that have investigatory and enforcement responsibilities. These policies have recognized that even a simple phone call from the White House to an agency inquiring about or flagging a specific matter can upset the evenhanded application of the law. I recently learned that Devon Energy, a strong political supporter of Administrator Pruitt's, informed the EPA just 5 days after Mr. Pruitt was sworn in as Administrator that it was no longer willing to install air pollution technology or pay a high penalty to EPA for its illegal air emissions of cancer-causing benzene and other chemicals. We also know that Trump family casinos, hotels and golf courses have been the subject of EPA enforcement actions for violations of the Clean Air Act and Clean Water Act.
    a. Do you agree that it is essential that in making decisions, EPA must be shielded from political influence and spared even the appearance of being subject to political influence or considerations?

       I agree that it is important that EPA should be shielded from political influence, particularly in areas involving enforcement.

    b. Will you commit to restricting communications between EPA and the White House staff regarding specific matters under the authority of EPA?

       I commit to restricting any inappropriate communications.

    c. Will you commit to ensuring the staff of EPA is familiar with those restrictions?

       Yes

    d. Will you commit to advising this Committee within one week if any inappropriate communications from White House staff to EPA staff, including you, occur?

       I commit to reporting any inappropriate communications to the pertinent authorities.

2. Recently, EPA conducted "anti-leaking" training for its employees[1]. According to EPA sources, the briefing stated that "Prohibitions we will discuss do not refer to "Whistleblowing". Agency employees have the right to make lawful disclosures to anyone, including, for example, management officials, the Inspector General, and/or the Office of Special Counsel. Employees may make disclosures to the EPA Office of the Inspector General through the EPA OIG Hotline at 888-546-8740." This presentation evidently failed to note the rights of federal employees have to make disclosures to Congress.
5 U.S.C. § 7211, provides that: The right of employees, individually or collectively, to petition Congress or a Member of Congress or to furnish information to either House of Congress, or to a committee or Member thereof, may not be interfered with or denied. Pursuant to 5 U.S.C. § 2302(b)(8), it is a violation of federal law to retaliate against whistleblowers. That law states: Any employee who has authority to take, direct others to take, recommend, or approve any personnel action, shall not, with respect to such authority ... take or fail to take, or threaten to take or fail to take, a personnel action with respect to any employee or applicant for employment because of. ... (A) any disclosure of information by an employee or applicant which the employee or applicant reasonably believes evidences- (i) a violation of any law, rule, or regulation, or (ii) gross mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, any disclosure to the Special Counsel, or to the Inspector General of an agency or another employee designated by the head of the agency to receive such disclosures, of information which the employee or applicant reasonably believes evidences a violation of any law, rule, or regulation... " In addition, pursuant to 18 U.S.C. § 1505, it is against federal law to interfere with a Congressional inquiry: Whoever corruptly, or by threats or force, or by any threatening letter or communication influences, obstructs, or impedes or endeavors to influence, obstruct, or impede the due and proper administration of the law under which any pending proceeding is being had before any department or agency of the United States, or the due and proper exercise of the power of inquiry under which any inquiry or investigation is being had by either House, or any committee of either House or any joint committee of the Congress.
   a. If you are confirmed, will you commit to protect the rights of all career employees in EPA to make lawful disclosures, including their right to speak with Congress?

      I will.

   b. Will you commit to communicate employees' whistleblower rights via email to all EPA employees within a week of being sworn in?

      I will ensure that the EPA employee's whistleblower rights are communicated to them in a timely fashion.

[1] https://www.washingtonpost.com/politics/whitehouse/federal-employees-are-ordered-to-attend-anti-leaking-classes/2017/09/21/032b40d6-9edd-11e7-b2a7-bc70b6f98089_story.html?utm_term=.e2bfc5e54d95

3. In the wake of Hurricane Irma, at least 11 deaths and numerous injuries have been reported in Florida due to accidental carbon monoxide poisoning from gasoline-powered portable generators.[2] One additional death has also been reported in North Carolina, along with other injuries throughout the Southeastern United States.[3] Many of these deaths and injuries could have been prevented had stronger safety standards been in place for portable gasoline generators. In November 2016, the U.S. Consumer Product Safety Commission (CPSC), following years of work on the issue, voted to issue a Notice of Proposed Rulemaking (NPRM) to implement a mandatory safety standard for portable generators.[4] Since then, Administrator Pruitt and Acting CPSC Chairman Buerkle have separately opined that section 213 of the Clean Air Act precludes CPSC action.
    a. Section 213 of the Clean Air Act is intended to regulate emissions from non-road engines or vehicles when the EPA determines that such emissions "are significant contributors to ozone or carbon monoxide concentrations in more than 1 area which has failed to attain the national ambient air quality standards for ozone or carbon monoxide." In your opinion, would the occasional indoor use of portable generators following a power outage be likely to be a significant contributor to ambient carbon monoxide concentrations in more than 1 area that has failed to attain the national ambient air quality standards for carbon monoxide? Why or why not?

       I am unaware of the specifics of this issue and would be reluctant to comment on an ongoing issue in the event that I would be participating in a final agency determination.

    b. There are currently no areas in the United States that have failed to attain the national ambient air quality standards for carbon monoxide, and this has been the case since 2010[5]. As a matter of law, could section 213 of the Clean Air Act be used to regulate carbon monoxide emissions due to the indoor use of portable generators if there are no areas in the United States that fail to attain the national ambient air quality standards for carbon monoxide? Why or why not?

       I am unaware of the specifics of this issue and would be reluctant to comment on an ongoing issue in the event that I would be participating in a final agency determination.

[2] http://www.miamiherald.com/news/weather/hurricane/article174097351.html http://www.sun-sentinel.com/news/weather/hurricane/sfl-carbon-monoxide-deaths-20170914-story.html
[3] http://www.charlotteobserver.com/news/article173612361.html
[4] https://www.federalregister.gov/documents/2016/11/21/2016-26962/safety-standard-for-portable-generators
[5] https://www.epa.gov/green-book/green-book-carbon-monoxide-1971-area-information

4. Your ethics agreement states that you "for a period of one year after my resignation, I also will not participate personally and substantially in any particular matter involving specific parties in which I know the firm is a party or represents a party, unless I am first authorized to participate, pursuant to 5 C.F.R. 2635.502(d). In addition, I will not participate personally and substantially in any particular matter involving specific parties in which I know a former client of mine is a party or represents a party for a period of one year after I last provided service to that client, unless I am first authorized to participate, pursuant to 5 C.F.R. 2635.502(d)."

    a. Please provide a list of all such particular matters involving specific parties that you will either need to recuse yourself from or seek authorization to participate in. For each such particular matter, please also indicate whether you plan to seek authorization to participate.

    I will rely on the guidance from EPA's career ethics officials to determine any issues for which I am to be recused. I do not anticipate seeking a waiver, and if I do I will make these waivers public.

    b. 5 C.F.R 2635.502(a) states that:

    > "where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the employee determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and received authorization from the agency designee in accordance with paragraph (d) of this section."

    Do you agree that you or your firm's representation of clients in particular matters that are before EPA would cause a reasonable person with knowledge of the relevant facts to question your impartiality if you are confirmed and continue to participate either in the particular matter itself or in an administrative action designed to accomplish the identical outcome the particular matter was intended to accomplish? Why or why not?

    I will rely on the guidance from EPA's career ethics officials to determine any issues for which I am to be recused. I do not have any financial interests in any of my current or former clients. I commit to severing my relationship, including all financial interests, with my firm at the time of my departure.

5. Do you intend to seek a waiver to participate in non-public meetings with your former clients or your firm's clients if you are confirmed? If so, please list which clients you intend to seek such waivers to meet with and explain will why this would not cause a reasonable person with knowledge of the relevant facts to question your impartiality in the matter at hand.

   I do not plan to seek any waivers, and if I do I will make those waivers public.

6. On February 28, 2017, President Trump directed EPA and the Army Corps to review and possibly rescind or repeal the Clean Water Rule in Executive Order 13776. EPA recently ended the public comment process on the first step of a two-step process to repeal the rule and replace it with a rule that will protect far fewer sources of drinking water. Individuals with first-hand knowledge of the process EPA utilized to prepare its have informed my staff that:

   i) When EPA first submitted the proposed repeal rule to OMB, the draft stated that the agency would undertake a new cost-benefit analysis as part of the second step of its process.
   ii) OMB interpreted EPA's first proposal to mean that the rule's repeal would not avoid any costs to industry or have any economic impact at all. EPA's political staff then directed the career staff to undertake a new economic analysis. In response to this direction from OMB, EPA career staff reportedly changed the table included in the 2015 rule to a) reflect 2016 dollars instead of 2014 dollars, b) convert "annual costs incurred" under the Clean Water Rule to "annual costs avoided" due to its repeal and c) convert "annual benefits gained" under the Clean Water Rule to "annual benefits forgone" due to its repeal. This new table was sent to OMB on June 8, 2017.
   iii) OMB correctly concluded from EPA's June 8 submittal that repealing the rule would cost more in lost benefits than it would save industry in compliance costs. On June 13, 2017, presumably to avoid such an admission on the part of EPA, EPA career staff were verbally directed by political staff to solve this 'problem' by simply deleting the majority of the benefits of the rule from the table and re-submitting it to OMB, which they did[6].

[6] https://www.epa.gov/sites/production/files/2017-06/documents/economic_analysis_proposed_step1_rule.pdf See Table 1

The direction that was reportedly provided to the EPA career staff to make the various revisions to what was submitted to OMB was verbal, not written.

a. If you are confirmed, do you commit to ensure that career staff at EPA will receive appropriately documented, rather than verbal, direction from political officials before they take action? If not, why not?

I will always seek to provide my directions clearly in writing.

b. You said in the hearing that it would be wrong to direct career staff to break the law. Assuming that the events described to my staff occurred as described (and understanding that you don't have any specific knowledge about these events), is it your view that this may have been an instance in which career staff were directed to break the law? Why or why not?

I do not have any specific knowledge of these events and considering the process is still ongoing believe it would be inappropriate for me to comment on this particular situation.

7. Do you agree to provide complete, accurate and timely responses to requests for information submitted to you by any Member of the Environment and Public Works Committee? If not, why not?

I do.

8. Recently, EPA announced that Administrator Pruitt would be publishing brief summaries of his calendars biweekly, after dozens of Freedom of Information Act requests for this information as well as a March request by me and my colleagues that he do so. During the Obama Administration, the Administrator, regional Administrators and all those serving in confirmed roles published their calendars daily[7]. If you are confirmed, will you commit to publishing your calendars daily? If not, why not?

I will commit to providing my calendar in a timely manner.

9. In a *per curiam* opinion, the U.S. Circuit Court of Appeals for the District of Columbia affirmed the Endangerment Finding and the U.S. Supreme Court declined to issue a writ of certiorari on the D.C. Circuit's decision. The Endangerment Finding set in motion EPA's legal obligations to set greenhouse gas emissions standards for mobile and stationary sources, including those established by the Clean Power Plan in August 2015.[8] During an exchange with Senator Gillibrand during Administrator Pruitt's confirmation hearing before the Environment and Public Works Committee, he stated, "I believe that the EPA, because of the Mass v. EPA case and the endangerment

[7] https://yosemite.epa.gov/opa/admpress.nsf/Calendars?OpenView
[8] https://www.epa.gov/climatechange/us-court-appeals-dc-circuit-upholds-epas-action-reduce-greenhouse-gases-under-clean

finding, has obligations to address the CO2 [carbon dioxide] issue." Do you agree with Administrator Pruitt's statement? Why or why not?

I do.

10. In December 2007, President Bush's EPA proposed to declare greenhouse gases as a danger to public welfare through a draft Endangerment Finding, stating, "The Administrator proposes to find that the air pollution of elevated levels of greenhouse gas (GHG) concentrations may reasonably be anticipated to endanger public welfare…Carbon dioxide is the most important GHG (greenhouse gas) directly emitted by human activities, and is the most significant driver of climate change." [9] Do you agree with these statements? Why or why not?

I believe that climate change is real and that humans have an impact on the climate.

11. The Rule of Law Defense Fund is an affiliate of the Republican Attorneys General Association. Have you ever contributed any money or time to the Rule of Law Defense Fund? If so, please provide details.
No.

12. In the *White Stallion Energy Center v. EPA, February 2012,* industry argued, "the record does not support EPA's findings that mercury, non-mercury HAP metals, and acid gas HAPs [hazardous air pollutants] pose public health hazards."[10] Do you agree with this statement? Why or why not?

I am unfamiliar with the particulars of this case.

13. On April 17, 2012, Dr. Jerome Paulson, Chair, Council on Environmental Health, American Academy of Pediatrics, testified before the EPW Committee, stating, "Methyl mercury causes localized death of nerve cells and destruction of other cells in the developing brain of an infant or fetus. It interferes with the movement of brain cells and the eventual organization of the brain…The damage it [methylmercury] causes to an individual's health and development is permanent and irreversible. …There is no evidence demonstrating a "safe" level of mercury exposure, or a blood mercury concentration below which adverse effects on cognition are not seen. Minimizing mercury exposure is essential to optimal child health."[11]

[9] https://insideclimatenews.org/sites/default/files/2007_Draft_Proposed_Endangerment_Finding.pdf
[10] https://www.cadc.uscourts.gov/internet/opinions.nsf/284AC47088C07D09852S7CBB004F0795/%24file/12-1100-1488346.pdf
[11] https://www.epw.senate.gov/public/_cache/files/4/3/4324fd62-dc89-4820-bd93-ff3714fcbe30/01AFD79733D77F24A71FEF9DAFCCB056.41712hearingwitnesstestimonypaulson.pdf

a. Do you agree with the American Academy of Pediatrics' finding on the importance of minimizing mercury exposures for child health? If not, please cite the scientific studies that support your disagreement.
I am not familiar with the specific findings of the Academy but I am familiar with health concerns involving mercury and worked in the Senate to try and pass Clear Skies which would have addressed mercury pollution.

b. Do you agree the record supports EPA's findings that mercury, non-mercury hazardous air pollutant metals, and acid gas hazardous air pollutants emitted from uncontrolled power plants pose public health hazards? If not, why not?

I agree that mercury pollution is harmful but I understand the Supreme Court raised concerns about the Agency's cost benefit analysis.

c. Do you agree it is currently difficult to monetize the reduced risk of human health and ecological benefits from reducing mercury emissions from power plants? If so, please explain. If not, why not? If these costs cannot be calculated, are the risks still real?

I believe it is difficult to monetize benefits and that the agency must use all available tools to do so.

14. The US Supreme Court has expressly declined to consider whether EPA should have chosen some other mechanism "under section 112" in regulating power plant mercury and all the other HAPs emitted by the industry. What is your position on that precedent?

If confirmed, I will work with the career staff at the Agency to determine the best course of action to protect the public from the health impacts of mercury.

15. Do you agree that the EPA's recent consideration of the costs of the Mercury and Air Toxics Standards Rule shows that the agency has met the "necessary and appropriate" criteria Congress provided under 112(n) to direct the EPA to regulate power plant mercury (and other air toxic) emissions under Section 112, and more specifically under Section 112(d)? If not, why not?

This case is still active before the agency and it would be inappropriate to prejudge the issue without a complete briefing from the career staff at EPA.

16. The Edison Electric Institute (EEI), the association that represents all U.S. investor-owned electric companies, has told my staff that, to its knowledge, all of its member companies have fully implemented the Mercury and Air Toxics Standards Rule. EPA staff has reported to my staff something similar. The Mercury and Air Toxics Standards Rule protects our children from harmful mercury and air toxics pollution; and by industry accounts is already being met with technology that is already bought, paid for and running on almost all our power plants.
    a. Do you dispute reports that nearly all covered facilities are already in compliance with the Mercury and Air Toxics Standards? If so, please explain.

       I do not have any particular knowledge as to the compliance status.

    b. According to a recent report by Bloomberg New Energy Finance Report and the Business Council for Sustainable Energy, "consumers now pay 3% less per kilowatt-hour for electricity than in 2007."[12] This means the near universal compliance of the Mercury and Air Toxics Standards Rule has been achieved without significant impacts to electricity reliability or affordability, in fact electricity prices have gone down. Do you agree? If not, why not?

       There are many factors that have impacted the cost of electricity since 2007.

    c. Even though industry has achieved near universal compliance with the Mercury and Air Toxics Standards and electricity prices have gone down, not up, Administrator Pruitt is currently reviewing whether it is "appropriate and necessary" to issue the standards in the first place. Do you agree that the EPA should be conducting this review, and if so, why?

       These issues were the subject of a Supreme Court decision and have ramifications on other EPA rulemakings going forward so they must be addressed.

    d. If the EPA determines the agency has not met the "necessary and appropriate" criteria found in Section 112(n), and revokes the Mercury and Air Toxics Standards Rule, what does that mean for all the pollution control technology that has been bought, paid for and running on our power plants that is helping the industry be in full compliance of the rule?

       This case underscores the necessity for the Agency to always follow the law.

[12] http://www.bcse.org/wp-content/uploads/2017-Sustainable-Energy-in-America-Factbook-Executive-Summary.pdf

17. Section 109 of the Clean Air Act is very clear. It requires EPA to review the NAAQS for six common air pollutants including ground-level ozone, particulate matter, sulfur dioxide, nitrogen dioxide every 5 years. The Clean Air Act requires EPA to set these standards that "are requisite to protect the public health," with "an adequate margin of safety," and secondary standard necessary to protect public welfare. Please respond to each sub-part below:
    a. If confirmed, will you continue to hold to the five-year National Ambient Air Quality Standards review time period that the Clean Air Act requires of the EPA?

       I believe the five year review is important to maintain and will seek to follow the law.

    b. Do you agree with Justice Scalia's opinion in Whitman v. American Trucking Associations that it is "fairly clear that [the Clean Air Act] does not permit the EPA to consider costs in setting the standards"? If you do not agree, why not?

       I agree with Justice Scalia.

    c. Do you agree that the Trump Administration's November 6, 2017 announcement that "the Clean Air Act requires EPA to issue designations [for non-attainment areas] no later than 2 years after the agency sets a new National Ambient Air Quality Standard or revises an existing standard. The Administrator may extend this deadline up to 1 year, if there is insufficient information to designate areas by the 2-year deadline"[13] is accurate? If not, why not?

       I believe this is a correct statement of the law.

    d. Do you agree that the agency set a new National Ambient Air Quality Standard for ozone on October 1, 2015[14], as was also stated in the Trump Administration's November 6, 2017 announcement? If not, why not?

       I agree.

[13] https://www.epa.gov/sites/production/files/2017-11/documents/fact_sheet_for_final_ozone_designations_round_1.pdf
[14] https://www.epa.gov/ozone-pollution/2015-revision-2008-ozone-national-ambient-air-quality-standards-naaqs-supporting

e. Do you agree that the November 6, 2017 announcement by the Trump Administration stated that "EPA is not extending the time provided under section 107 of the Clean Air Act [to designate non-attainment areas] but is not yet prepared to issue designations"?

I am not familiar with the specifics of the November 6, 2017, announcement.

f. Do you agree that the Trump Administration has failed to comply with the Clean Air Act by failing to designate ozone non-attainment areas by October 1, 2017 while also choosing not to extend the deadline for such designations to be made?

I believe it is important to meet all statutory deadlines.

g. If confirmed, will you commit to not further delay the implementation of the 2015 ozone NAAQS? If not, why not?

I believe it is important to meet all statutory deadlines.

18. Do you agree with President Trump's decision to withdraw the United States from the International Paris Climate Accord? If so, please explain.

I do agree with the President's decision.

19. In part of his justifications for withdrawing from the Paris Climate Agreement, President Trump stated the Paris Accord could, "cost America as much as 2.7 million lost jobs by 2025 according to the National Economic Research Associates (NERA)."[15] This economic statistic and others linked to the NERA study were also distributed in White House materials as reasons the President was deciding to withdraw from the Paris Accord. Soon after the President's speech, NERA stated, "In a set of talking points distributed by the White House in conjunction with its announcement of the US withdrawal from the Paris Agreement, the Trump Administration selectively used results from a NERA Economic Consulting study, "Impacts of Greenhouse Gas Regulations on the Industrial Sector." ... Use of results from this analysis as estimates of the impact of the Paris Agreement alone mischaracterizes the purpose of NERA's analysis, which was to explore the challenges of achieving reductions from US industrial sectors over a longer term. Selective use of results from a single implementation scenario and a single year compounds the mischaracterization."[16]

[15] https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord
[16] http://www.nera.com/news-events/press-releases/2017/nera-economic-consultings-study-of-us-emissions-reduction-polici.html

a. In light of the NERA statement, do you think the President misspoke when he wrongly cited information from the NERA study in his Paris speech? If not, why not?

I am not familiar with the specific citations to the NERA study.

b. If confirmed, will you commit that you will not distort the NERA study – or any other economic study - to justify the U.S. withdrawing from the Paris Climate Accord or to justify the elimination or delay of climate policies?

My goal would be to not distort any scientific or economic analysis.

c. After the President's Paris Climate Accord speech, MIT's Joint Program on the Science and Policy of Global Change issued a statement stating the President's characterization of their analysis of the Paris Accord to be misleading.[17] If confirmed, will you commit that you will not distort the climate science studies to justify the U.S. withdrawing from the Paris Climate Accord or to justify the elimination or delay of climate policies?

My goal would be to not distort any scientific or economic analysis.

20. As you may know, American Indians and Alaska Natives share a unique relationship with the federal government. As part of that relationship, the federal government has a duty to perform meaningful consultation with Indian Tribes and Alaska Native villages regarding issues that affect tribal communities and tribal members. Do you commit to engage in essential and honest consultation with tribes and tribal governments?

Absolutely, I worked closely with several Oklahoma tribes during my tenure in the Senate and look forward to enhancing and expanding these important relationships, if confirmed.

21. An article[18] about the President's decision to leave the Paris Climate Agreement in Inside Climate News stated that "Other hardliners include Murray Energy's chief executive Robert Murray and his coal company's lobbyist, Andrew Wheeler, who helped enlist Pruitt to talk to the National Mining Association before it joined the rejection lobby." Is this excerpt accurate? If so, please describe the manner in which you helped "enlist Pruitt to talk to the National Mining Association" and provide any documents you prepared or received that are related to this effort. If not, please describe the inaccuracies.

[17] http://news.mit.edu/2017/mit-issues-statement-research-paris-agreement-0602
[18] https://insideclimatenews.org/news/05052017/paris-agreement-climate-change-donald-trump-jared-kushner-steve-bannon-clean-power-plan

I do not recall any role in enlisting Administrator Pruitt to speak at NMA.

22. Please provide me with a copy of the following presentations that are listed in the materials you sent the Committee: **Attached are the available presentations as noted.**

    a. How to Conduct Congressional Oversight (2017) **[a copy of handouts used]**
    b. Preparing for the New Administration (2017) **[no materials available]**
    c. The Air Up There: Developments and Opportunities for Clean Air, Coal, Energy and Climate (2016) **[no materials available, agenda attached]**
    d. Preparing for the Change in Administration (2016) **[a copy of handouts used]**
    e. Focusing on What Really Should be Debated: The Cases of Boiler MACT, Utility MACT and CSPAR (2012) **[copy of Powerpoint attached]**
    f. The Waxman-Markey American Clean Energy and Security Act: Cap-and-Trade (2009) **[copy of Powerpoint attached]**

23. Earlier this year, the fiscal year 2018 budget proposal[19] submitted to Congress sought to eliminate the $20 million in funding the EPA provides for the Justice Department's Environment and Natural Resources Division. EPA has historically provided about 27 percent of that office's budget. Do you support such a reduction in funding? Please provide your reasoning and any information you have supporting your answer.

    If confirmed, I will implement the appropriations levels provided by Congress.

24. Since 1987, how much funding has been provided to ENRD by EPA? How much money has DOJ secured through fines, penalties, and commitments to remediate contamination and pollution during this same time period?

    I am unfamiliar with and do not have access to this type of information at this time.

25. In September, the EPA Inspector General issued a report titled "EPA's Distribution of Superfund Human Resources Does Not Support Current Regional Workload." It concluded, among other things, that one of the impediments to progress in cleaning up Superfund sites is lack of adequate EPA staff. Do you agree with and accept the conclusions of the IG in this regard? If not, why not?

    I am unfamiliar with the IG report and any responses by the Agency. I do believe it is important to provide adequate resources to the Superfund program in order to speed up the current pace of cleanups. If confirmed, I will implement the appropriations levels provided by Congress.

[19] https://www.documentcloud.org/documents/4061910-EPA-Superfund-reimbursements-to-DOJ-documents.html#document/p7/a378119

26. The Administration's budget request proposes to reduce the size of EPA's workforce by approximately 3000 Full Time Employees (FTEs) in FY 2018, including just under 600 FTEs in the Superfund program. Administrator Pruitt has stated that he would like to greatly accelerate the cleanup of hazardous waste sites, in particular Superfund sites. Do you believe that reducing the Superfund workforce by 23 percent will accelerate or reduce the pace of cleanups at Superfund sites across the country?
If confirmed, I will implement the appropriations levels provided by Congress. However, I do believe that programs can always be made more effective and efficient.

27. This country just suffered three unusually intense hurricanes in quick succession – including one in your home state of Texas and one that has left the majority of Puerto Rico without electricity and water for weeks. Over 137 wildfires have raged in the West, costing hundreds of billions of dollars in damages and dozens of lost lives. Two weeks ago, the Trump White House released a final (i.e., not draft, as was inaccurately asserted at the hearing) report[20] that concluded that, quote, "it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century." The report also documented increases in sea levels, heatwaves, wildfires, and flooding, and said that, quote, "Changes in the characteristics of extreme events are particularly important for human safety."

    a. Do you accept the evidence that carbon dioxide pollution is causing the earth to warm, that human activity is responsible for that warming, and that with increased warming comes an increased frequency and intensity of extreme flooding, hurricanes and wildfires? If not, please fully document the basis for such rejection.

    Although I am not from Texas as the question states, I do believe that the climate is changing and that humans have an impact on the climate.

    b. Do you agree with the report's conclusion that "it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century?" If not, please fully document the basis for your disagreement.

    I do believe that the climate is changing and that humans have an impact on the climate.

[20] https://science2017.globalchange.gov/

c. Do you agree with the report's documentation that demonstrated increases in sea levels, heatwaves, wildfires, and flooding? If not, please fully document the basis for your disagreement.

I do believe that the climate is changing and that humans have an impact on the climate. I have not had an opportunity to review the report's documentation.

28. The CO2 Coalition[21] is a group that promotes misinformation about climate science. In February of this year, Ms. White spoke on a panel hosted by the CO2 Coalition. There she described the CO2 Coalition as, a "very, very meaningful source [of information]," and said that she is "very hopeful because of organizations like the CO2 Coalition." The group also produces 30 second cartoons extolling the virtues of increased levels of CO2 in the atmosphere[22]. Do you agree with Ms. White's statements, and do you agree that the CO2 Coalition is a meaningful source of information on climate change? If not, why not?

I am not familiar with the coalition.

29. Can you name one Clean Air Act regulation that was promulgated by the Obama Administration – not a voluntary or grant program – that you do support, and why?

To the best of my recollection I only worked in opposition to two Clean Air Act regulations during the Obama Administration, MATS and CPP. I did not fully review any of the other regulations and therefore cannot provide an opinion on them.

30. Are there any other EPA regulations – not a voluntary or grant program - that are on the books today that you support? If so, which ones?

There are relatively few EPA regulations that I did not support over the years.

[21] http://co2coalition.org/
[22] https://youtu.be/5Oapr4fopuI

Senator Gillibrand:

31. Cleaning up Superfund sites is a core function of the EPA. However, the Trump Administration proposed cutting the Superfund budget by 30 percent in this year's budget. If enacted, those cuts would imperil the ability of the EPA to clean up the most hazardous contamination in New York and across the country. The longer it takes to clean up Superfund projects, the longer the health of children and families who live near these toxic sites are put at risk. This is immoral, and an abdication of the EPA's responsibility to protect public health. Do you support the cuts to the Superfund program that were in President Trump's budget request?

    I did not participate in the budget process and I am unfamiliar with the budget assumptions; although I believe that the agency can be more effective, more focused, and less costly as we partner with states to fulfill the Agency's core mission. If confirmed I will implement the appropriations levels provided by Congress.

Senator Inhofe:

32. In 2016, President Obama signed a bi-partisan provision of the WIIN Act allowing states to develop risk-based programs to manage coal ash from power plants. Unfortunately, before the WIIN Act became law, EPA had issued self-implementing coal ash regulations under the RCRA program. Accordingly, the existing EPA regulations do not contain the flexibility and protections established by the WIIN Act. Many groups -- including electric co-ops and public power -- have repeatedly asked EPA to harmonize its existing regulations with the WIIN Act. There is increasing urgency for EPA to act now to allow states the ability regulate coal ash. It is the desire of the states that regulate electric power generating plants to exercise their rights under the WIIN Act. If confirmed, will you pledge to work with me to address this issue?

    Yes, and as a general rule I believe it is important to work with our state partners to provide as much flexibility as the law allows in furthering the goals of cooperative federalism.

Senator Merkley:

33. In a recent public disclosure of Administrator Pruitt's calendar of meetings, less than 3% of his meetings were with public health and environmental advocacy organizations, whereas over 25% of his meetings were with industry representatives. Do you believe this reflects fair and balanced input from public health and environmental advocacy organizations?

    I have no knowledge of meetings scheduled, but if confirmed, I commit to meet and listen to all stakeholders.

34. In the final version of the Fourth National Climate Assessment Report (Volume 1) (found here: (found here: https://science2017.globalchange.gov/downloads/), scientists from EPA and 12 other agencies find that "Global annual average temperature has increased by more than 1.2°F (0.7°C) for the period 1986– 2016 relative to 1901–1960." (Figure ES.1)
    a. Do you agree with this finding?
    b. If you do not agree with this finding, please explain why, and please provide at least one peer reviewed study supporting your stated position.

    I have not had the opportunity to closely review the finding of the report but I will always turn to the career scientists from EPA and its sister agencies for the most recent updates on climate science.

35. In the hearing you said, "I believe that man has an impact on the planet. What's not completely understood is what the impact is." Yet the Fourth National Climate Assessment finds that "human activities are the primary driver of recent global temperature rise" (Figure ES. 2).
    a. Do you agree with this finding?
    b. If you do not agree with this finding, please explain why, and please provide at least one peer reviewed study supporting your stated position.

    I have not had the opportunity to closely review the finding of the report but I will always turn to the career scientists from EPA and its sister agencies for the most recent updates on climate science.

36. You told me in our conversation that when it comes to scientific matter, you would defer to career staff and independent scientists. However, recently the EPA banned scientists who have received EPA funding from sitting on the agency's science advisory boards. As a result, many independent scientists were dismissed before they even completed their terms. EPA has not raised similar concerns about potential conflicts of interest for scientists who work for industries that EPA regulates. At the same time, EPA is replacing these scientists with people from the very industries that the EPA is support to regulate.
    a. Do you agree that EPA should bar scientists from serving on its advisory boards simply because they have received funding through EPA grants?

    I am not familiar with the specifics of the recent announcement but I do believe it is important to have individuals without conflicts serve on the various boards.

b. Do you think it is acceptable for someone who receives money from Exxon-Mobil or even from a foreign government to serve but not someone who receives a grant from the agency itself?

I am not familiar with the specifics of the recent announcement but I do believe it is important to have individuals without conflicts serve on the various boards.

c. How is EPA supposed to carry out its mission to protect human health and the environment when it receives scientific advices from the industries that the agency is supposed to regulate?

I am not familiar with the specifics of the recent announcement but I do believe it is important to have individuals without conflicts serve on the various boards.

37. As a lobbyist for Murray Energy, you were present for the preliminary discussions that led to the crafting of the Department of Energy's cost recovery proposal for coal and nuclear plants. You also viewed a three-page memo drafted by Murray to the White House to revive the domestic coal sector. Additionally, you admitted to attending two meetings with DOE and the House Energy and Commerce committee staffers. As the EPA Deputy Administrator, you would be in charge of regulating companies like Murray Energy, one of your former clients. Moving forward, how will you guarantee that the EPA will act in the best interests of the American people rather than in the interests of your former clients?

I will follow the advice and guidance of the career ethics officials at the EPA regarding my former clients and law firm. Additionally, I have no financial interests in any of my clients nor will I have any interests in the firm after my departure. At no time have I had any equity ownership in the firm.

Senator Sanders:

Climate Change

38. President Trump has suggested in the past that climate change is a hoax. Is the President correct? Is climate change a hoax?

I believe that climate change is real and human activity contributes to climate change.

39. Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels and toward energy efficiency and sustainable energy like wind, solar, and geothermal?

I believe that climate change is real and human activity contributes to climate change. I believe in the use of all forms of energy including wind, solar, geothermal and fossil fuels.

40. Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change?

I believe that climate change is real and that humans have an impact on the climate, which could include actions such as the combustion of fossil fuels.

41. This past year, we have seen unprecedented devastation from hurricanes Harvey, Irma and Maria plus dozens of wildfires that have ravaged the West.

    a. Do you believe, as the scientific community does, that climate change contributes to the frequency and devastation of these natural disasters?

    I believe that climate change is real and that humans have an impact on the climate.

    b. Congress has already appropriated $51.8 billion to address these disasters, and we intend to continue to work to rebuild communities devastated by the impacts of these disasters. A recent study published in the journal *Science* found that for every degree Celsius the planet warms, there is a loss of roughly 1.2% GDP in the United States. Do you believe that addressing climate change is good economics?

    I believe it is important to address adaptation and in the late 90's I worked on the Stafford Act reauthorization to help ensure that communities are rebuilt to withstand stronger storms in the future.

Fossil Fuels

42. In your view, how important is it for the United States to reduce our reliance on fossil fuels?

I believe that a diverse fuel supply helps ensure reliable and affordable energy resources for jobs and low income families who are most susceptible to fluctuations in energy prices.

43. You previously worked at Murray Energy Corporation, a privately-owned coal company. Do you believe the federal government needs to invest more in polluting, finite fossil fuel resources like coal?

I believe that it is important for the federal government to invest in energy research such as clean coal technology and battery storage for renewable energy. However, it is also important for the government, particularly regulatory agencies, to not pick winners and losers absent clear statutory authority from Congress.

44. EPA is tasked with ensuring the health and safety of working people, their families, and the communities in which they live. If confirmed, will you commit to refusing undue influence from special interests and instead fight to protect the environment?

Absolutely.

Energy Future

45. In your view, what is the role of renewable energy in our energy future?

I believe renewable energy is very important going forward but it is also important for the government, particularly regulatory agencies, to not pick winners and losers absent clear statutory authority from Congress.

46. If confirmed, how will you work to support renewable energy like wind, solar, and geothermal?
I will commit to not picking winners and losers and to ensure a level-playing field for all energy sources.

47. In your view, what should the United States' energy infrastructure look like at the end of this century? Specifically, what should be our main sources of energy?

I cannot predict what the energy future will look like. I will say that America's abundant low-cost energy in the 20th century extended people's lives, brought prosperity and lifted more people out of poverty then probably any government program. In 1917 no one could have predicted nuclear, wind, solar, or geothermal energy and I look forward to living long enough to see what innovations occur in the 21st century.

Past Career/Conflicts of Interest

48. In the past, you worked for Murray Energy Corporation, which brought suit against the EPA for its enforcement of the clean air and water protections. Can you explain why federal courts should be in the position of determining safe levels of air pollution to protect the health and welfare of Vermonters, as opposed to the federal Agency whose mission it is to protect human and environmental health?

I believe that too many of EPA's regulations have been driven by litigation from both industry and environmental organizations and I will strive to ensure that the agency enacts timely regulations that will be upheld by the courts.

49. Your former clients include Whirlpool Corporation, Bear Head LNG Corporation, Celanese Corporation, Coalition For Domestic Medical Isotope Supply, Darling International, Domestic Fuel Solutions Group, Enterprises Swanco LLC, ICOR International, Insurance Auto Auctions, Inc, KAR Holdings, Murray Energy, Nuclear Energy Institute, Sargento Foods Inc, South Coast Air Quality Management District, and Underwriters Laboratories. If confirmed as Deputy Administrator of the EPA, would you have any conflicts of interest with these companies, or any other companies you represented during your time as a lobbyist? If so, will you commit to recuse yourself for the full course of any matter in which any of your former clients is a party? If not, why not?

I will follow the advice and guidance of the career ethics officials at the EPA regarding my former clients and law firm. Additionally, I have no financial interests in any of my clients nor will I have any interests in the firm after my departure.

50. Murray Energy Corporation paid millions in fines and penalties for contaminating waterways in Ohio, West Virginia and Pennsylvania with coal slurry and discharge during your tenure.

    a. Were you aware this type of environmental contamination was occurring? If you were aware, what actions did you take to address this water contamination? If you were aware of the contamination and did not act, why not? If you were not aware, why not? Do you think it is acceptable for a senior corporate official to lack knowledge of their company's pollution?

       I was never an employee of Murray Energy. I represented them on specific issues in Washington, DC, and did not work on the issue referenced in the question.

    b. Do you believe this type of environmental contamination endangers the health and wellbeing of American citizens?

       I believe that discharges into waterways can endanger public health.

    c. If confirmed, how will you ensure corporate environmental polluters like Murray Energy Corporation are held accountable?

       I believe all violations of permits or the law should be prosecuted.

51. In 2015, Federal regulators accused Murray Energy of attempting to silence whistleblowers and said that "Murray Energy chided 3,500 workers for making too many confidential safety complaints to regulators and -- at one of the mines -- threatened to retaliate by closing down operations."

    a. If confirmed, how will you work to prevent retaliation against whistle blowers who help the federal government enforce the nation's environmental laws?

    I am unaware of the specifics of this particular situation; however, I believe that whistleblower rights should be protected.

    b. Were you aware of this behavior? If you were aware, what did you to do ensure Murray complied with environmental laws and took whistleblower complaints seriously? If you were not aware, how will you ensure EPA employee's concerns are taken seriously, if confirmed?

    I am unaware of the specifics of this particular situation; however, I believe that whistleblower rights should be protected.

52. You criticized the Paris Climate Agreement, calling it a "sweetheart deal" for China that gave the United States' competitor a manufacturing edge. China is still in the deal, and their climate policies are rapidly outpacing ours. China is moving away from dirty fossil fuels at a rate much quicker than the United States, and they are on track to more than double their renewable energy infrastructure and get a fifth of their energy from non-fossil fuel sources by 2030.

    a. If both countries remain on their current paths, China will soon replace us as the world's technological and economic leader in the fields of climate science and energy generation. Do you believe we should continue to allow China to out-compete us in these areas?

    I believe that we should compete against China in all areas.

    b. Should the U.S. be concerned that China is rapidly outpacing us in these areas? Do you recognize that China's leadership in these fields represents a threat to our economy and national security?

    I believe that we should compete against China in all areas.

    c. The Carnegie Mellon Institute estimates that air pollution from energy production caused at least $131 billion in damages in the U.S. alone. Do you think this financial drain threatens our ability to compete with countries like China on the international scale?

    I am unfamiliar with this particular study.

Science

53. If confirmed, do you commit to relying on independent scientists with relevant expertise to evaluate and review the data that the EPA uses when making decisions related to the implementation of environmental regulations?

    I do.

Most Pressing Challenges

54. In your opinion, what are the most pressing environmental challenges that deserve the attention of the EPA? If confirmed, what will you do at the EPA to better address these challenges?

    I believe that the agency needs to return to its core mission, in particular addressing Superfund cleanups in a faster manner and working to get more nonattainment areas, for the criteria air pollutants, to attainment. I also believe that our aging water infrastructure is in need of attention and I look forward to working with Congress on this issue.

Environmental Regulations

55. If confirmed, do you commit to upholding the goal of the Clean Air Act, which according to the EPA website is "to address the public health and welfare risks posed by certain widespread air pollutants"?

    I do.

56. Do you support EPA Administrator Pruitt's decision to rescind the Clean Power Plan?

    I do.

57. According to the EPA, the Clean Power Plan will lead to climate and health benefits "worth an estimated $55 billion to $93 billion in 2030, including avoiding 2,700 to 6,600 premature deaths and 140,000 to 150,000 asthma attacks in children."

    a. Do you agree with the EPA's findings? If you do agree or are unfamiliar with these data, do you agree that, if the EPA's estimations are correct, we have a moral imperative to maintain the Clean Power Plan and protect the thousands of people that it positively impacts? If you do not agree with the EPA's findings, on which data or scientific studies do you base your opinion?

       I believe that the Clean Power Plan was outside of the direct authority of the EPA under the Clean Air Act as evidenced by the unusual stay implemented by the Supreme Court.

b. If confirmed, what will you tell the parents who have children with asthma that will be adversely impacted by Administrator Pruitt's decision to rescind the Clean Power Plan?

As a former asthmatic child who still occasionally uses an inhaler, I take these issues seriously and I will work with Administrator Pruitt on solutions within the statutory authority that the agency has been granted.

58. Oil and natural gas extraction by way of hydraulic fracturing, or "fracking," has expanded rapidly in the United States. The EPA conducted a study of the drinking water impacts and released a final report in December 2016. The Agency found "hydraulic fracturing activities can impact drinking water resources under some circumstances."
    a. Do you concur with the conclusions of the EPA's final report on fracking and drinking water?

    I am unfamiliar with the specifics of the report but will work with the career EPA employees on this issue.

    b. What further studies—if any—do you believe would be appropriate for the EPA to conduct on the effects of fracking on water quality?

    Since I am unfamiliar with the specifics in this report, I will rely upon the advice of the career employees on the need for future studies.

    c. If confirmed, would you support implementing a requirement to provide full, well-specific public disclosure of all information related to oil and gas development involving fracking's possible impacts on groundwater, surface water, public health and safety, and habitat potential impacts?
    I started my career working on the TRI program and the Right-to-Know aspects of that program and I believe all of the environmental laws function better with the information in the hands of the communities most-impacted.

59. Data shows that mercury pollution in the North Atlantic and mercury concentrations in our fisheries have fallen dramatically since the United States started requiring stronger emission controls from coal power plants.

Given this scientific confirmation of the positive effects of these regulations, what will you do, if confirmed, to continue to accelerate the clean-up of all sources of mercury emissions, including from coal power plants?

Since the MATS regulatory program is currently under review by the agency it would be inappropriate for me to comment at this time.

60. Changes in weather patterns, such as heavier precipitation events that increase run-off and flooding, are affecting lakes, rivers, and reservoirs nationwide. Water quality, quantity, and the integrity of our water infrastructure are at risk. Recent studies in the Northeast have found that degraded water quality on lakes can cost lakeside communities millions of dollars in losses from both tourism and taxable income due to reduced property values. If confirmed, how will you work as Deputy Administrator to support water resource management programs that address these issues?

    I believe that water infrastructure and water quality issues are the sleeper environmental issues of our times and need our full attention. I will work with both Administrator Pruitt and the career staff at EPA to address the variety of water-related issues.

Environmental Justice

61. How do you define "environmental justice"?

    EPA defines Environmental Justice as the fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, income, and educational levels with respect to the development, implementation, and enforcement of protective environmental laws, regulations, and policies.

62. Do you think environmental justice is a serious issue that the EPA should address?

    Yes.

63. If confirmed, will you commit to addressing the growing environmental and economic justice issues associated with exposure to environmental pollution?

    I will.

64. Latino children are twice as likely as non-Latino white children to die from asthma while, from 2012-2014, African American children had a death rate ten times that of non-Latino white children. African American children are three times as likely to suffer an asthma attack. As Deputy Administrator, how will you work to protect vulnerable low-income communities and communities of color from the harmful impacts of air pollution?

    All children, regardless of race or income deserve clean air and safe water. We must ensure that all communities are treated the same.

65. Describe how you will, if confirmed, ensure that EPA's Environmental Justice 2020 plan is fully implemented.

    I have not been briefed on the 2020 plan, but look forward to working with the career agency employees on its implementation if I am confirmed.

66. If confirmed, do you commit to meeting with community members and leaders who have concerns about environmental or health issues within the EPA's jurisdiction?

I will.

67. If confirmed, what steps will you take as Deputy Administrator to ensure that the EPA and other federal agencies are complying with Executive Order 12989 on Environmental Justice?

I will work to ensure that all Executive Orders are complied with and will work to the extent possible with our sister agencies and departments in that compliance.

68. If confirmed, will you commit to addressing issues of environmental justice in Native American communities and offer a voice to those most affected by the environmental consequences of industrialization, especially in regard to resources protected by treaties?

I will work with Native American communities and have done so in my previous work in the U.S. Senate.

Vermont

69. Lake Champlain is one of Vermont's most treasured environmental features. Tourism and property values are tied to the health of the lake—keeping its waters swimmable, fishable and drinkable is important to Vermonters. Run-off – including from farmlands, lawns, and paved roads and point source pollution – contributes to high levels of phosphorus that spur algae growth. The algae turns the lake green and can be toxic. In 2016, the EPA released new phosphorus limits for the lake by establishing a Total Maximum Daily Load (TMDL).
    a. If confirmed, do you commit to continuing the Agency's support for the clean-up of Lake Champlain through this new TMDL and federal funding?

    I will work with the appropriations levels provided to the EPA by Congress.

    b. Will you, if confirmed, support increased funding and support from the EPA to crack down on pollution? If not, how will you ensure Clean Water Act obligations are satisfied?

    I will work with the appropriations levels provided to us by Congress.

Senator Sullivan:

Permitting:

70. The EPA has jurisdiction over permitting for discharges of effluent into water and emissions into the air. They also administer registration and use safety testing for chemicals in commerce as well as tracking disposal of waste cradle to grave to sanitary landfills as opposed to open dumps. Permits and authorizations pursuant to these authorities add time and regulatory requirements to business and infrastructure project. A key concern in recent years has been the increasing amount of delays to do extended permitting application reviews and environmental challenges to issued permits. EPA must find ways to more efficiently permit projects in a manner that can survive legal scrutiny and provide greater certainty to project proponents and citizens.

    a. Will you work as Deputy Administrator to modernize EPA's permitting reviews while maintaining adequate environmental protections?

       I believe that it is paramount for the EPA to provide permitting certainty to the American public and will work with Administrator Pruitt on his agenda to modernize the permitting process.

    b. Will you work with other agencies to ensure interagency coordination is done in a timely manner?

       Yes, I will.

    c. How can the EPA, ensure that it makes timely decisions while limiting environmental impacts from a permitted discharge?

       I believe that we can use the structure that Congress passed as part of the Highway Streamlining process and apply those lessons learned to all EPA permits.

ANCSA Contaminated Lands

71. In 1971, Congress enacted the Alaska Native Claims Settlement Act to settle aboriginal land claims. Earlier this year this Committee held a hearing regarding the legacy of federal contaminated lands and the challenge we face in cleaning them up. One of the witnesses at that hearing testified about the particular challenges in addressing contaminated lands that were conveyed under ANCSA to Alaska native corporations and villages. These are lands the government gave to these Native Alaskans as a settlement that were in fact contaminated before the native corporations and villages took possession. 46 years later, the majority of those contaminated sites have not been remediated and, under current law, Alaska Native entities that received those lands can be liable under for costs associated with cleaning up those lands.

a. Do you recognized that these issues are fundamental problem for the Alaska Native community?

I am unfamiliar with this specific issue but will work with the career staff at EPA to assist your office in addressing this problem.

b. Can you commit to work to address and prioritize cleanup of ANCSA contaminated lands within the EPA and coordinating/communicating with other federal agencies including The Army Corps and Department of the Interior?

Yes, I will commit to working with the other agencies to address this problem.

Senator Whitehouse:

72. You agreed in your ethics agreement that if confirmed you will sign the Trump ethics pledge. The pledge prohibits appointees from "participat[ing] in any particular matter involving specific parties that is directly and substantially related to [their] former employer or former clients" for the first two years after their appointment. The pledge also prohibits you from participating in any particular matter, and more broadly the issue area in which that particular matter falls, on which you lobbied within the two years before your appointment.
    a. Do you commit to abide by the pledge and not seek a waiver to participate in matters that you would otherwise be recused from?

    I will follow the advice and guidance of the career EPA ethics officials and if a waiver is necessary I will make the waiver publicly available. However, based upon preliminary discussions with the career ethics officials I do not believe that a waiver will be necessary. If one is required I will make it public.

    b. You've worked against EPA during your time at Faegre Baker Daniels LLP. To ensure compliance with the pledge, please provide all of Faegre Baker Daniels LLP clients and cases or work from the past two years, noting all clients with whom you've worked, cases on which you've worked, and regulatory work you've done?

    I will follow the advice and guidance of the career EPA ethics officials and if a waiver is neeessary I will make the waiver publicly available. However, based on preliminary discussions with the career ethics officials, I do not anticipate that a waiver will be necessary however, if one is needed I will make it public.

c. Will you also recuse yourself from matters that your client Bob Murray included on his three-page environmental agenda?

I do not have a copy of the agenda and therefore cannot comment on it.

73. Energy Secretary Rick Perry directed FERC to initiate a rulemaking that would effectively subsidize the coal industry in the name of ensuring grip reliability. The proposal has been criticized by environmental groups, natural gas companies, solar and wind companies, former Republican FERC commissioners, the American Petroleum Institute, and even the regional grid operators. And research by the Center for American Progress outline that ratepayers would be on the hook for this bailout.
    a. At your confirmation hearing, you acknowledged that you knew about this proposal in your role as a Murray Energy lobbyist. What exactly was your involvement in the development of this proposal?

    I was not involved in the development of the proposal at all, I attended a meeting at the Department of Energy earlier this year with representatives from Murray Energy. At that point there was no proposal.

    b. If the proposal comes before EPA in any manner, will you recuse yourself from any role or involvement on it?

    I will follow the advice and guidance from the career EPA ethics officials.

    c. In your opinion, how would Perry's proposal, if approved by FERC, benefit Murray's coal mining assets?

    Given that I was no longer representing this client at the time of the proposal, I am unfamiliar with any potential impacts it would have on their interests.

74. EPA Administrator Pruitt recently told CNBC that "I would not agree that [carbon dioxide is] a primary contributor to the global warming that we see." Do you agree with his statement?

I believe that the climate is changing and that humans have an impact on the climate. What is not completely understood is to what extent that impact might be.

75. Have you reviewed EPA's endangerment finding for carbon dioxide? If not, will you commit to reviewing it before the Committee votes on your nomination?

I reviewed the endangerment finding at the time it was issued. I was critical at the time of the process that the agency used to make the determination; however, the process has been affirmed by the DC Circuit.

76. Do you agree with each of the following statements included in the U.S. Global Change Research Program's recent Climate Science Special Report?
    a. "Human-caused climate change has made a substantial contribution to [sea level rise] since 1900, contributing to a rate of rise that is greater than during any preceding century in at least 2,800 years." (page 10)
    b. "The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse gases (especially carbon dioxide) emitted globally." (page 11)
    c. "There is broad consensus that the further and faster the Earth system is pushed towards warming, the greater the risk of unanticipated changes and impacts, some of which are potentially large and irreversible." (page 11)
    d. "The world's oceans are currently absorbing more than a quarter of the CO_2 emitted to the atmosphere annually from human activities, making them more acidic (*very high confidence*), with potential detrimental impacts to marine ecosystems." (page 28)
    e. "The rate of acidification is unparalleled in at least the past 66 million years." (page 28)
    f. "This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence." (page 10)
    g. "Human activities are now the dominant cause of the observed trends in climate." (page 36)
    h. "[T]here are no suggested factors, even speculative ones that can explain the timing or magnitude and that would somehow cancel out the role of human factors." (page 37)

    I have not reviewed the Climate Science Special Report and it is my understanding that the report is currently in the notice and comment phase so it would be inappropriate for me to comment at this time.

Requested Wheeler Presentations

a. How to Conduct Congressional Oversight (2017) **[a copy of handouts used]**

b. Preparing for the New Administration (2017) **[no materials available]**

c. The Air Up There: Developments and Opportunities for Clean Air, Coal, Energy and Climate (2016) **[no materials available, agenda attached, please note there was a typo on the date, the conference occurred in 2015, not 2016]**

d. Preparing for the Change in Administration (2016) **[a copy of handouts used]**

e. Focusing on What Really Should be Debated: The Cases of Boiler MACT, Utility MACT and CSPAR (2012) **[copy of Powerpoint attached]**

f. The Waxman-Markey American Clean Energy and Security Act: Cap-and-Trade (2009) **[copy of Powerpoint attached]**

FAEGRE BAKER DANIELS

Andrew Wheeler

As a principal and the team leader of the energy and environment practice group at FaegreBD Consulting and Of Counsel at Faegre Baker Daniels law firm, Andrew Wheeler employs his extensive background in energy, environmental, and infrastructure policy. He helps lead the firm's practice by advising numerous types of clients on comprehensive legislative, regulatory and operational strategies. His knowledge and insider understanding of the Senate, House and various federal agencies allows Andrew to develop tailored, comprehensive strategies that assist clients in realizing their federal affairs goals and build lasting relationships with key policymakers.

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How to Conduct Congressional Oversight - Bipartisan Policy Center 2017

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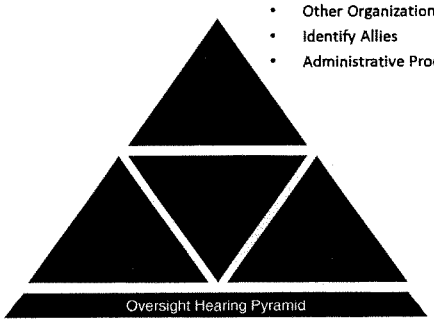
Oversight Toolbox

- Letters to Agencies.
- Committee Briefings, Office Briefings
- Member Meetings
- Other Organizations (GAO, NAS, Commissions, IGs)
- Identify Allies
- Administrative Procedures Process



Senator Inhofe. Let me start by asking Mr. Davis the question. In your testimony, both your written testimony and your oral testimony, you talked about the 14 days as the average time the takes the Corps to approve a general permit and 104 days for the approval of individual permit, but I've heard all kinds of scary stories from the field saying it has been much, much longer than that.

One of the reasons that I understand is that it takes the Corps quite a number of days before it decides when an application is complete, so that you don't start the clock running until that point, and then maybe after that point it's 104 days.

Now, I would like to ask you, have you done any studies to determine how long it is from the time the application is first submitted and is granted, not when it's accepted as an application of proper form?

Mr. Davis. I don't think, Mr. Chairman, we've done any specific studies. We have, though, encouraged our field, through training and guidance, to expedite the process and to not allow this initial phase, which is obviously very important to get a complete application before we can go out with a public notice and advertise to the public the proposed project, we have encouraged them to keep that moving.

If you look at the literally tens of thousands of actions a year, I'm sure there are some abuses of that. But, on balance, when you look at the way the program is working --

Senator Inhofe. It's striking an average here. If it's 104 days, do you think that maybe at an average it would take 200 additional days from the time it's submitted until it's considered to be complete?

Mr. Davis. Absolutely not. I mean, the law requires us to submit a -- to publish a public notice within 15 days of complete application. My experience has been that a large majority of them come in relatively complete and we're ready to go with that and we meet that 15-day requirement. So I think it would be much less than 200 days.

Now, there are projects that are very, very large projects --

Senator Inhofe. No. I'm talking about just average, because --

Mr. Davis. No. On average it would not be 200 days.

Senator Inhofe. This is my concern. I know there are exceptions. All right.

Senator Inhofe. Okay. That's not the figure that I have.

Let's go to this chart up here. At our last wetlands hearing three years ago, we asked you to start keeping track of the length of time it takes for the Corps to review and act on an individual permit. I know you kept track on the periods between the time of application -- why don't you go up there and point to this -- the time of application is deemed complete, and the time it is approved. But the period of time -- that's 127 days -- the period of time that I'm concerned about is the period from which it is submitted to the time it is approved.

Now, we had asked for that information. Do you have that information for us?

Mr. Davis. Mr. Chairman, I don't believe we have that information.

Senator Inhofe. All right. That's a good, honest answer. Let's get it.

Justification for 2000 WRDA Amendment

Timeline on Permits Requests

June 26, 1997	Hearing where you first asked Mr. Davis about the process timing for individual permits.
August 29,1997	Corps answered Hearing followup questions regarding the average time for individual permits.
Jan 26, 1998	Staff requested in briefing that they track the individual permits processing time.
Feb 20, 1998	Corps responded that it would be difficult to track
March 5, 1998	Staff reiterated in briefing that Senator Inhofe would like the data tracked.
Oct 9, 1998	Staff reiterated in briefing that Senator Inhofe would like the data tracked.

From 2000 WRDA

Sec. 214. Regulatory Analysis and Management Systems Data.

This provision requires the Secretary to publish on the Army Corps' Regulatory Program website, quarterly reports that include all Regulatory Analysis and Management Systems (RAMS) data, including the date on which an individual or nationwide permit application under Section 404 of the Federal Water Pollution Control Act is received, the date on which the application is considered complete, the date on which the Corps either grants or denies the permit. Also, if an application is not complete when first received by the Corps, a description of the reason the application is not complete should be included in the RAMS. This provision was an amendment offered by Senator Inhofe and adopted by unanimous consent.

SEC. 2027. FISCAL TRANSPARENCY REPORT.

(a) IN GENERAL.—On the third Tuesday of January of each year beginning January 2008, the Chief of Engineers shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on—

(1) the expenditures by the Corps for the preceding fiscal year and estimated expenditures by the Corps for the current fiscal year; and

(2) for projects and activities that are not scheduled for completion in the current fiscal year, the estimated expenditures by the Corps necessary in the following fiscal year for each project or activity to maintain the same level of effort being achieved in the current fiscal year.

(b) CONTENTS.—In addition to the information described in subsection (a), the report shall contain a detailed accounting of the following information:

(1) With respect to activities carried out with funding provided under the Construction appropriations account for the Secretary, information on—

(A) projects currently under construction, including—

(i) allocations to date;

(ii) the number of years remaining to complete construction;

(iii) the estimated annual Federal cost to maintain that construction schedule; and

(iv) a list of projects the Corps of Engineers expects to complete during the current fiscal year; and

(B) projects for which there is a signed partnership agreement and completed planning, engineering, and design, including—

(i) the number of years the project is expected to require for completion; and

(ii) estimated annual Federal cost to maintain that construction schedule.

10 USC 3036 note.

121 STAT. 1080 PUBLIC LAW 110–114—NOV. 8, 2007

(2) With respect to operation and maintenance of the inland and intracoastal waterways identified by section 206 of the Inland Waterways Revenue Act of 1978 (33 U.S.C. 1804)—

(A) the estimated annual cost to maintain each waterway for the authorized reach and at the authorized depth;

(B) the estimated annual cost of operation and maintenance of locks and dams to ensure navigation without interruption; and

(C) the actual expenditures to maintain each waterway.
(3) With respect to activities carried out with funding provided under the Investigations appropriations account for the Secretary—
(A) the number of active studies;
(B) the number of completed studies not yet authorized for construction;
(C) the number of initiated studies; and
(D) the number of studies expected to be completed during the fiscal year.
(4) Funding received and estimates of funds to be received for interagency and international support activities under section 234 of the Water Resources Development Act of 1996 (33 U.S.C. 2323a).
(5) Recreation fees and lease payments.
(6) Hydropower and water storage receipts.
(7) Deposits into the Inland Waterways Trust Fund and the Harbor Maintenance Trust Fund.
(8) Other revenues and fees collected by the Corps of Engineers.
(9) With respect to permit applications and notifications, a list of individual permit applications and nationwide permit notifications, including—
(A) the date on which each permit application is filed;
(B) the date on which each permit application is determined to be complete;
(C) the date on which any permit application is withdrawn; and
(D) the date on which the Corps of Engineers grants or denies each permit.
(10) With respect to projects that are authorized but for which construction is not complete, a list of such projects for which no funds have been allocated for the 5 preceding fiscal years, including, for each project—
(A) the authorization date;
(B) the last allocation date;
(C) the percentage of construction completed;
(D) the estimated cost remaining until completion of the project; and
(E) a brief explanation of the reasons for the delay.

Preston|Gates|Ellis & Rouvelas|Meeds LLP

MEMORANDUM

TO: Interested Parties

FROM: Michael W. Evans

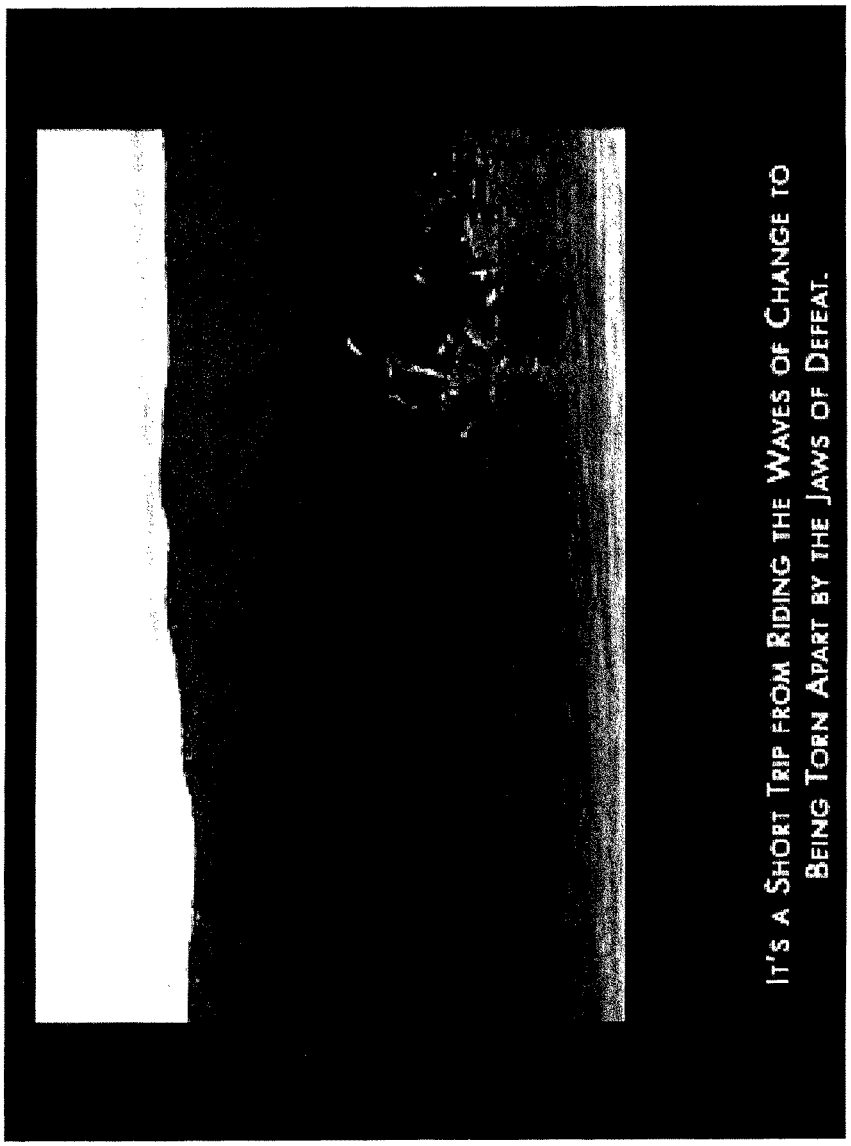
DATE: January 14, 2005

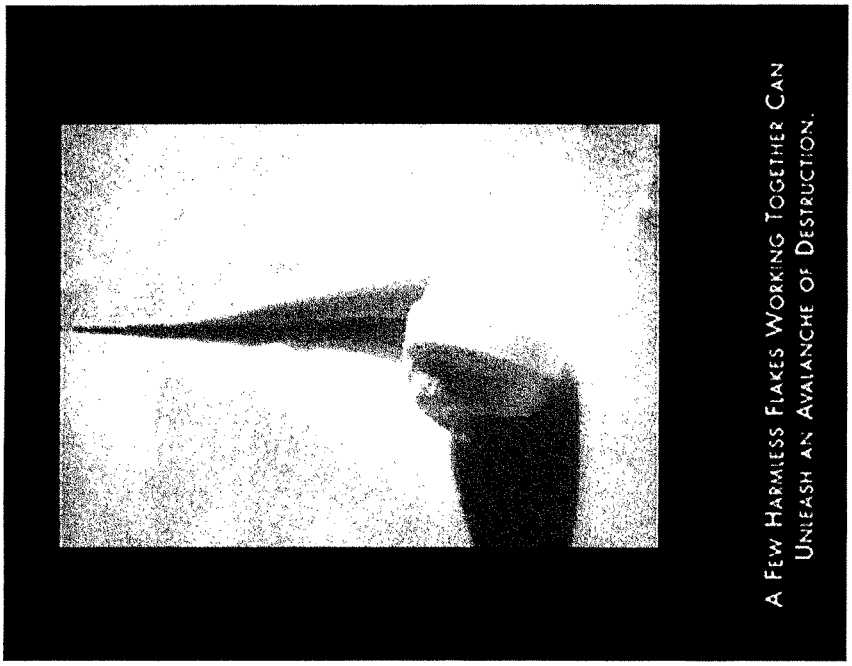
SUBJECT: How to Refer to Statutory Provisions

When you are working on legislation, it often is necessary to refer to a specific provision of a statute. In order to help you do so, this outline explains how to refer to the various provisions. It will help you be more precise. It also will allow you to adopt an air of superiority whenever someone else refers to clause two as "two little eye."

Sec. 101. This is a section.
(a) This is a subsection.
(1) This is a paragraph.
(A) This is a subparagraph.
(i) This is a clause. It is referred to as "clause one." For some reason, lower case Roman numerals come before upper case Roman numerals.
(I) This is a subclause. It is referred to as "subclause one."
(aa) This is an item. It is referred to as "item a."

There is no official designation for a provision beyond an item. It's probably a subitem. Anyway, if you get to that level of detail, your draft probably is too complex.


It's a Short Trip from Riding the Waves of Change to
Being Torn Apart by the Jaws of Defeat.


A Few Harmless Flakes Working Together Can
Unleash an Avalanche of Destruction.

Indiana University
Robert H. McKinney School of Law

Events

Friday, March 6, 2015

IU McKinney School of Law's Eighth Annual Environment, Energy & Natural Resources Symposium
The Air Up There: Developments and Opportunities for Clean Air, Coal, Energy, and Climate

CLE: 6.5 HOURS

Speaker: Janet McCabe, Air Official at US Environmental Protection Agency, Washington, DC
Time: 10:00 am - 6:00 pm
Location: Wynne Courtroom and Atrium, Inlow Hall, 530 W. New York Street, Indianapolis, IN
Contact: enlaw@iu.edu

"Too many Americans continue to breathe dirty air. And political paralysis has plagued further progress against air pollution. We have to break this logjam by applying more than just Federal leverage. We must take advantage of the innovation, energy, and ingenuity of every American."
- President George H. W. Bush

"We've got to pause and ask ourselves: How much clean air do we need?"
- Lee Iacocca

IU Robert H. McKinney School of Law's **Eighth Annual Spring Environmental Symposium** will focus on the legal challenges and opportunities in the management of air quality – including an exploration of proposed new rules regarding greenhouse gas emissions from coal-fired power plants, energy industry responses to regulatory changes, and opportunities for renewable energy in Indiana.

Our Keynote, **Janet McCabe**, is the top Air Official at US Environmental Protection Agency in Washington, DC, and she will be joined by experts and industry leaders from the private sector, government, and public interest organizations.

Other experts and officials from state and federal government and from the private sector will join panels to discuss:

- Proposed **Greenhouse Gas Rules** – Clean Air Act Draft **111(d)** Regulations
- **Renewable Energy & Air**: The Market and Legal Policy Response to the move from Fossil Fuels
- The **Private Sector Response** to Clean Air Regulatory Changes

We will also have legal **ethics panels** on climate change and environmental justice as well as an expert introduction to the science of climate change.

Admission:

- $75 Attorney w/CLE (6.5 hours, including 1.0 ethics, pending approval)
- $25 General Admission
- Free (w/ID) for students, teachers & non-profit employees

Registration:

» **Online Registration for Outside Attendees**

- $75 Attorney w/ 6.5 CLE Credit hours (pending approval)
- $25 General Admission

» **Online Registration for High School/College (IU, McKinney and Other) Students, Faculty, Staff and Non-Profit Employees**

Agenda:

9:30am - Noon	Registration
10:00am-10:15am	**Welcome & Introductions**
10:15am-10:45am	**Setting the Stage** - The Air Up There: Science, Policy, and Legal Ethics Challenges • **Eric Dannenmaier**, Professor of Law, IU Robert H. McKinney School of Law, Indianapolis, IN
10:45am-11:30am	Panel One - **Climate Change – A Science Primer for Law and Policy Leaders** • **Dr. Gabriel Filippelli**, Professor, IUPUI Department of Earth Sciences
11:30am-12:00pm	**LUNCH**
12:00pm-1:00pm	**KEYNOTE - National Clean Air Regulatory Priorities** • **Janet McCabe**, Acting Assistant Administrator for Air and Radiation, US EPA, Washington, DC
1:15pm-2:15pm	Panel Two - **Proposed Greenhouse Gas Rules – Clean Air Act Draft 111(d) Regulations** • **Jodi Perras**, Indiana Representative for Sierra Club's Beyond Coal Campaign, Sierra Club • **Mark Maassel**, President Indiana Energy Association [invited] • **Bob Martineau**, Commissioner, Environmental Counsel of the States [invited], Commissioner, Environmental Counsel of the States [invited]
2:30pm-3:30pm	Panel Three - **Renewable Energy & Air: The Market and Legal Policy Response to the move from Fossil Fuels** • **Nick Melloh**, President, Johnson Melloh Solutions • **Dr. M. Razi Nalim**, Ph.D., P.E., CSO, Aerodyn Combustion, LLC • **Dr. Peter J. Schubert**, Ph.D., P.E. Principal, Biomass Unit Ops, LLC • **Angela Weber**, Commissioner, Indiana Utilities Regulatory Commission
3:30-4:00pm	Special Presentation – **Legal Ethics in the Air: What is a Lawyer's Duty to Environmental Justice Dr. Carlton Waterhouse**, Professor, IU Robert H. McKinney School of Law – Indianapolis, IN
4:15pm-5:15pm	Panel Four - **The Private Sector Response to Clean Air Regulatory Changes** • **Edward L. "Skipp" Kropp**, Of Counsel, Steptoe & Johnson, PLLC • **Michael Allen**, Associate General Counsel, Citizens Energy Group • **Kelly Carmichael**, Managing Director, Environmental Safety & Sustainability, NiSource • **Andrew Wheeler**, Principal, FaegreBD Consulting
5:15pm-6:00pm	Final Plenary - **Prospects for Air's Future: How Can and Should the Law Adapt** • **Eric Dannenmaier**, Professor of Law, IU Robert H. McKinney School of Law, Indianapolis, IN Panelists from throughout the day will be invited to respond and comment
6:00pm	**RECEPTION** - All Invited

Parking:

Parking is available for a nominal fee at the campus Gateway Garage, located on the corner of Michigan and California Streets (Address is 525 Blackford Street).

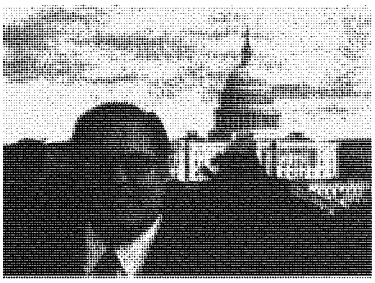
Parking is also available for a nominal fee at the Natatorium Garage two blocks west of the law school.

Special Accommodations:

Individuals with disabilities who need special assistance should call (317) 274-8036 no later than one week prior to the event. Special arrangements can be made to accommodate most needs.

Share |

« Event List



FAEGRE BAKER DANIELS

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Preparing for the Change in Administration
- Western Caucus 2016

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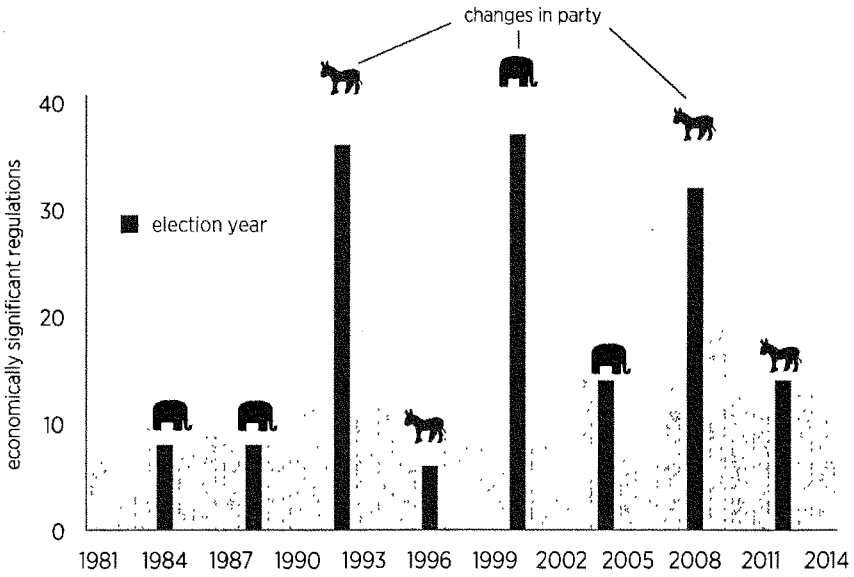
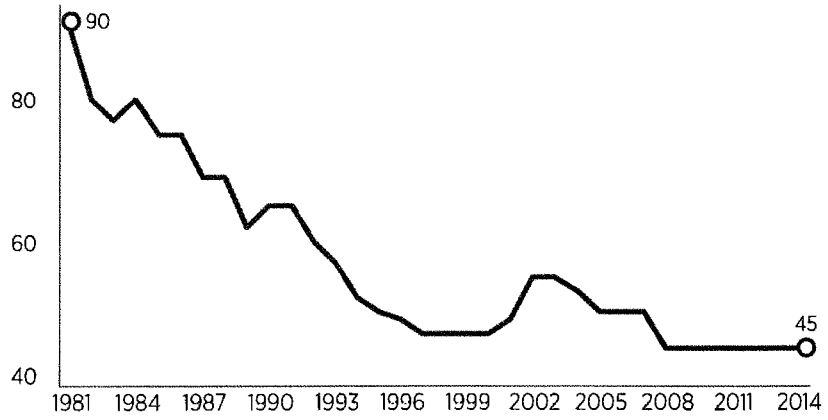
Midnight Regulations and the Decrease of OIRA Staff

Every four years, the number of new general regulations surges during the "midnight" period between the presidential election day and Inauguration Day. This surge is seen when an incumbent president is reelected; however, it is considerably higher when there is a change in party.



OIRA Full-Time Employees



read more ( )

MERCATUS CENTER
George Mason University

Data notes: Secondary chart does not cross horizontal axis at 0.
Sources: OIRA's online "review counts" database;
Appendix to the Budget of the United States for FY 1981–2014.
Produced by Sherzod Abdukadirov and Rizqi Rachmat, January 2016.

Congressional Review Act

- Congress is given 60 legislative days[1] to disapprove.
- Agencies (promulgating a covered rule) must submit a report to each House of Congress and to the Comptroller General.
  - copy of the rule
  - concise general statement describing the rule
  - the proposed effective date of the rule
- Resolution of Disapproval introduced in the Senate
- Resolution is referred to Committee of jurisdiction
- After 20 days it can be discharged by written petition of 30 Members and placed on Senate Calendar
- Debate is limited to 10 hours with no amendments, requires simple majority to pass.
- A resolution passed by one body of Congress cannot be referred to Committee in the other body.

1. There is an extended time frame for rules submitted in the final 60 days of a congressional session. These rules can be disapproved within 75 legislative days of when the next session of Congress convenes.

EPA Issues New Pollution Rule for Diesel Trucks, Buses

By Brian Hansen

WASHINGTON, DC, December 21, 2000 (ENS) - In a bold move that drew accolades from environmental groups and objections from the trucking industry, the outgoing Clinton/Gore administration today unveiled a new air pollution control rule. It will force drastic reductions in heavy duty truck and bus emissions over the next decade....

...Carol Browner, administrator of the U.S. Environmental Protection Agency, announced the sweeping new standards at a news conference in Washington. Browner said the new diesel rule could not have been enacted without the leadership of President Bill Clinton and Vice President Al Gore, who she said have "fought tirelessly to make clean air a reality."...

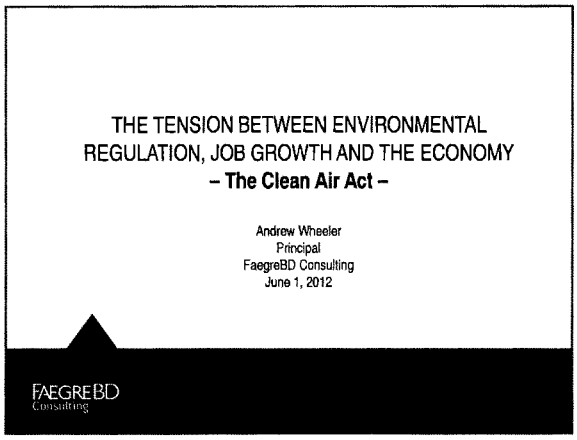
...Others see the new rule quite differently. Senator James Inhofe, a Republican from Oklahoma, has signaled that he and other GOP lawmakers will try to roll back the new diesel rule and other so-called "midnight regulations" that the Clinton administration has enacted in the waning weeks of its final term

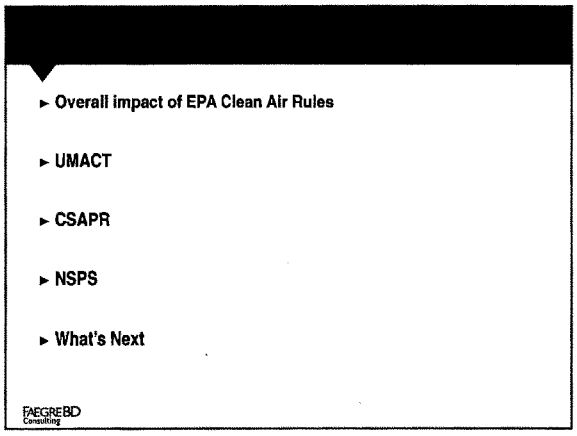
"What is most disturbing is that the Clinton/Gore administration will promulgate these regulations at any cost," Inhofe wrote in a recent op-ed piece published in the "Washington Times" newspaper. "This last minute regulatory push serves two purposes: first, it panders to special interest groups for political gain and second, it preempts regulatory decisions which should properly be made by the next administration."

President-elect George W. Bush and Vice President-elect Dick Cheney will be sworn into office on January 20. Sources tell ENS that Christine Todd Whitman, New Jersey's Republican Governor, is the incoming administration's top choice to head up the Environmental Protection Agency.

Bush has not said whether his administration would support Inhofe's efforts to roll back the EPA's newly enacted diesel rule. Browner, asked about the possibility, said, "I certainly hope that they would not delay or undo this. This is much needed. This is about cleaner air for every person in this country."

"These standards are about providing a level of public health protection, and it would be my strong hope that the next administration will share our commitment to clean air for all Americans," Browner added....


THE TENSION BETWEEN ENVIRONMENTAL
REGULATION, JOB GROWTH AND THE ECONOMY
– The Clean Air Act –
Andrew Wheeler
Principal
FaegreBD Consulting
June 1, 2012
FAEGREBD
Consulting

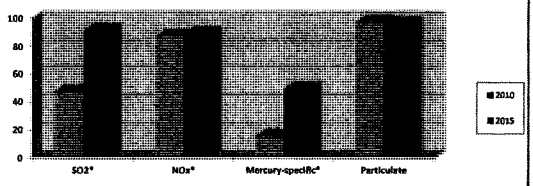

► Overall impact of EPA Clean Air Rules
► UMACT
► CSAPR
► NSPS
► What's Next
FAEGREBD
Consulting

- Employment losses total 2.15 million job-years by 2020. Counting job gains, net employment losses total 1.65 million job-years.
- Annual employment losses average 239,000 jobs. Counting job gains, net employment losses average 183,000 jobs per year.
- Job losses outweigh job gains by three to one.
- Cumulative GDP loss of $190 billion by 2020.
- The average U.S. family loses $270 per year in disposable income, a total of $1,750 by 2020.

▷ Analysis by National Economic Research Associates (NERA), October 2011

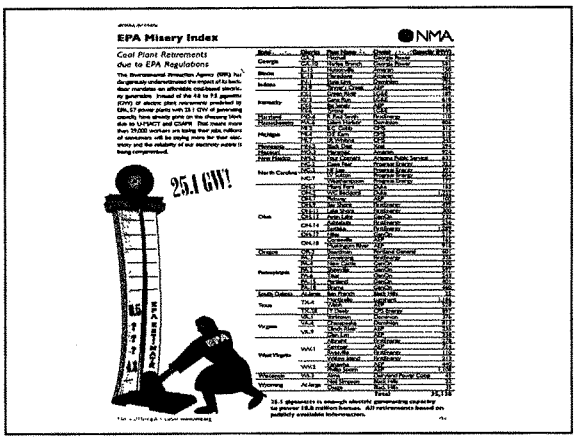
FAEGREBD Consulting

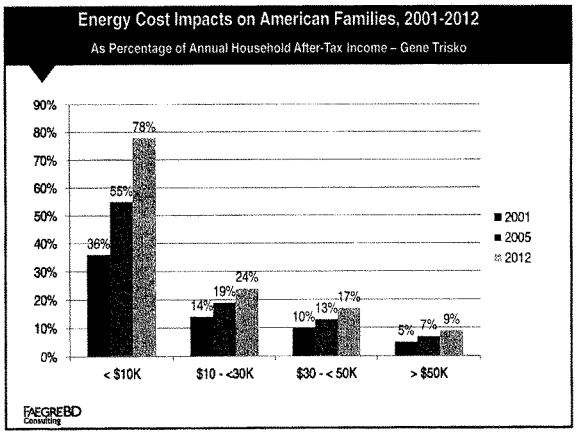
Percentage of Coal Units with Advanced Controls, 2010 and 2015



***The combination of SO_2 scrubbers and selective catalytic reduction controls for NO_x also reduces mercury, eliminating the need for mercury-specific controls at many power plants.**

Source: NERA analysis of U.S. EPA, "IPM Analysis of the Final Mercury and Air Toxics Standards (MATS)." http://www.epa.gov/airmarkets/progress/epa-ipm/toxics.html


EPA Misery Index
NMA
Coal Plant Retirements due to EPA Regulations
25.1 GW!
EPA


Energy Cost Impacts on American Families, 2001-2012
As Percentage of Annual Household After-Tax Income – Gene Trisko
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
78%
55%
36%
24%
19%
14%
17%
13%
10%
9%
7%
5%
< $10K
$10 - <30K
$30 - < 50K
> $50K
2001
2005
2012
FAEGREBD Consulting

- EPA claims "up to $2 Trillion in annual economic benefits by 2020" but..
  - EPA uses "willingness to pay' questionnaires asking people how much they would consider paying for less sick days or less risk has no bearing on the economy or the impact on real jobs.
  - The EPA's macroeconomic analysis actually shows the cumulative impact of their regulations on the GDP to be a range between $110 billion **loss** to just a $5 billion gain by 2020.
  - The same analysis showed that the overall impact to the GDP in 2010 by the previous EPA Clean Air regulations was a loss of $32 billion to $79 billion.

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- The EPA's Utility MACT regulation is supposed to control HAPs but...
  - The monetized benefits of controlling HAPs amount to only 0.0004% of the benefits of the proposal, the rest are from PM which is already controlled by existing regulations.
  - Utility MACT would have a "negligible impact on mercury exposure" because most mercury exposure in our country comes from non-US sources. Mercury emissions have been cut in half over the past 30 years.
  - The other HAPs in the proposal would change the background cancer risk from .33 as it is currently to 0.330001

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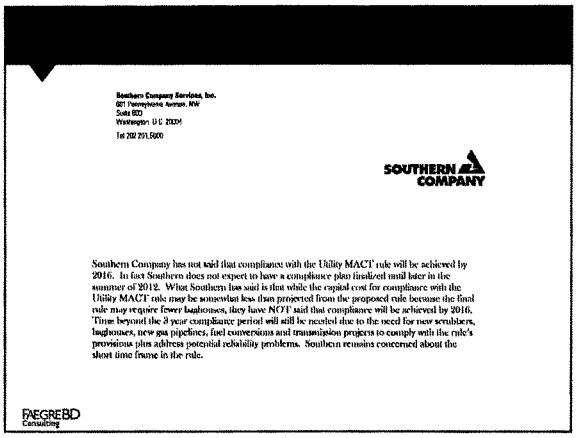

Southern Company Services, Inc.
601 Pennsylvania Avenue, NW
Suite 620
Washington, D.C. 20004
Tel 202.207.5600

SOUTHERN COMPANY

Southern Company has not said that compliance with the Utility MACT rule will be achieved by 2016. In fact Southern does not expect to have a compliance plan finalized until later in the summer of 2012. What Southern has said is that while the capital cost for compliance with the Utility MACT rule may be somewhat less than projected from the proposed rule because the final rule may require fewer baghouses, they have NOT said that compliance will be achieved by 2016. Time beyond the 3 year compliance period will still be needed due to the need for new scrubbers, baghouses, new gas pipelines, fuel conversions and transmission projects to comply with the rule's provisions plus address potential reliability problems. Southern remains concerned about the short time frame in the rule.

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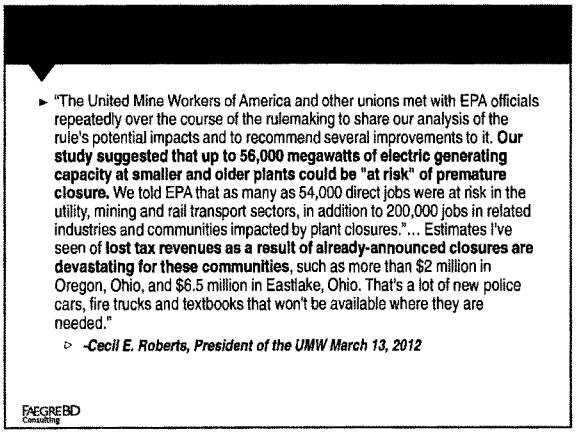

- "The United Mine Workers of America and other unions met with EPA officials repeatedly over the course of the rulemaking to share our analysis of the rule's potential impacts and to recommend several improvements to it. **Our study suggested that up to 56,000 megawatts of electric generating capacity at smaller and older plants could be "at risk" of premature closure.** We told EPA that as many as 54,000 direct jobs were at risk in the utility, mining and rail transport sectors, in addition to 200,000 jobs in related industries and communities impacted by plant closures."... Estimates I've seen of **lost tax revenues as a result of already-announced closures are devastating for these communities**, such as more than $2 million in Oregon, Ohio, and $6.5 million in Eastlake, Ohio. That's a lot of new police cars, fire trucks and textbooks that won't be available where they are needed."
  - ***-Cecil E. Roberts, President of the UMW March 13, 2012***

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- This is the most expensive power sector EPA regulation in history and all of the costs will get passed onto us, the consumer – yet Congress has failed to act. And, this is only one of several new costly EPA utility regulations. **Unless this regulation is changed, it will have a severe impact on manufacturing competitiveness and jobs.** Even without this new regulation, electricity costs have been rising at an alarming rate. According to the EIA, U.S. industrial electricity costs have risen 4.5 percent per year since 2000. Despite lower natural gas costs for gas-fired power generation, industrial electricity prices rose in 2011. Even a 1 cent/kWh increase in the cost of electricity imposes additional costs of approximately $9 billion per year on manufacturing facilities...If the Utility MACT rule goes into effect as currently finalized, billions of dollars of investment will be required in upgrades to existing electricity production facilities, new generation facilities and transmission upgrades. **In 2015 alone, EPA estimates that the rule will cost consumers $9.6 billion annually (in 2007 dollars).** Others in the electric power industry have estimated that costs will be much higher."
  - **- Industrial Energy Consumers of America, February 16, 2012**

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- CSAPR's Timeline is unrealistic.
  - Although CATR proposed a January 2014 implementation date, CSAPR only allowed a 5 month implementation window which would result in unnecessary electric generating unit retirements.
- CSAPR is inflexible and attacks states rights.
  - EPA is initially enforcing the new rule through Federal Implementation Plans, which are less flexible than state-specific State Implementation Plans and contrary to the implementation of most Clean Air Act rules.
- The final version of CSAPR was significantly different than the proposed rule.
  - The final rule added Texas to the annual SO_2 and NO_x programs and Iowa, Missouri, and Wisconsin were added to the ozone-season NO_x program. The states did not have an opportunity to comment on these substantial changes.
  - The final version also included much stricter emission reduction requirements. EPA significantly lowered NO_x emission levels in the base case (without CSAPR) from approximately 3 million tons in the proposal to 2.1 million tons in the final. Additionally, the SO_2 reduction mandates in CSAPR are 20 percent by 2012 and 50 percent by 2014, far more strict than the proposal, 5 percent and 20 percent, respectively.
- EPA's air quality modeling was flawed.
  - EPA's air quality modeling did not take into consideration the emission reductions achieved under the CAIR framework established in 2005. From 2005 to 2009, SO_2 emissions fossil-fuel power plants declined 44 percent and NO_x declined by 45 percent.

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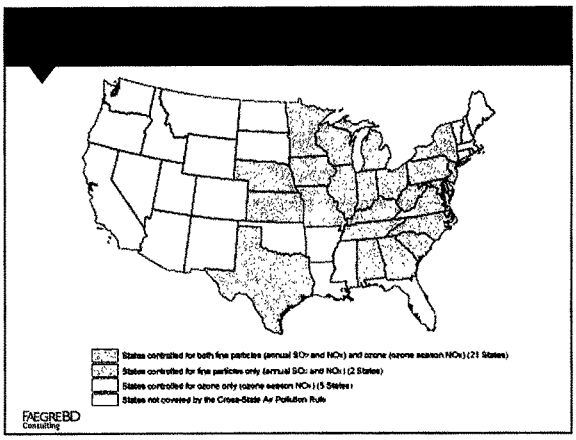
States controlled for both fine particles (annual SO2 and NOx) and ozone (ozone season NOx) (21 States)
States controlled for fine particles only (annual SO2 and NOx) (2 States)
States controlled for ozone only (ozone season NOx) (5 States)
States not covered by the Cross-State Air Pollution Rule
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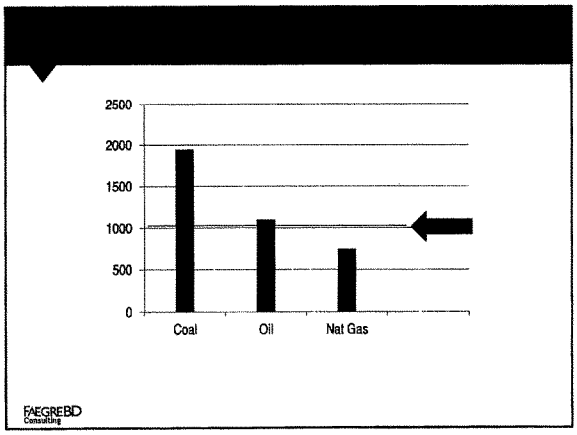
Consulting


2500
2000
1500
1000
500
0
Coal
Oil
Nat Gas
FAEGREBD
Consulting

"He was as lame as a duck. Not the metaphorical lame duck, either, but a real duck that was actually lame, maybe from stepping on a land mine or something."

- From a collection of the best high school similes and metaphors.

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The Waxman-Markey American Clean Energy and Security Act (ACES): Cap-and-Trade

a presentation on the draft bill's cap-and-trade title under discussion by the House Energy and Commerce Committee

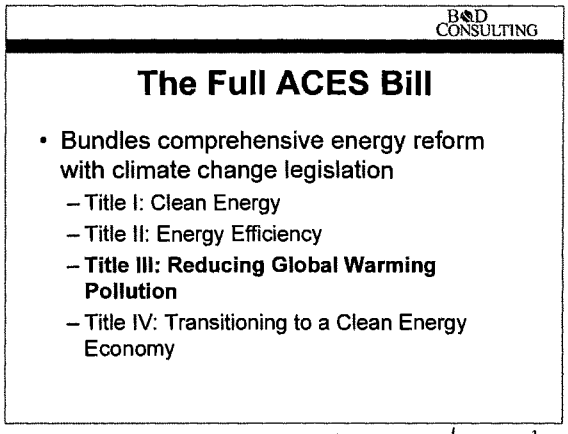
Andrew Wheeler and Andy Ehrlich
Energy and Climate Change practice group
B&D Consulting

B&D CONSULTING

Who We Are

- *B&D Consulting*:A national advisory and advocacy firm headquartered in Washington, D.C.
- *Andrew Wheeler:* Former Staff Director and Chief Counsel of the Senate Environment & Public Works Committee
  - Led Senate cap-and-trade debate in 2003, 2005 and 2008

- *Andy Ehrlich*:En ergy & Climate Change practice group leader, former Chief of Staff in the leadership of the House of Representatives
  - Successfully advocated on numerous aspects of last years Lieberman-Warner Climate Security Act



The RES is getting almost as much attention as the climate piece.

While Title 3 focuses on Climate, there are climate related provisions sprinkled throughout.

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Greenhouse Gases Covered

- The cap covers seven of the primary industrial greenhouse gases plus room to expand:
  - Carbon Dioxide
  - Methane
  - Nitrous Oxide
  - Sulfur Hexafluoride
  - Hydrofluorocarbons
  - Perfluorocarbons
  - **Nitrogen trifluoride**
  - Any other anthropogenic gas designated as a GHG by the Administrator

used in plasma etching of silicon wafers

Used predominantly in the high volume production of liquid crystal displays and silicon-based thin film solar cells.

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Coverage of the Cap

- The draft's covered entities are responsible for 85% of U.S. global warming emissions.
  - Entities that emit less than 25,000 tons per year of CO_2 equivalent are not covered by this program.
  - Entities emitting over 10,000 tons of CO_2 equivalent must report to a GHG registry

•Inslee is working with Mike Doyle to include more provision to prevent job leakage by giving free permits to domestic energy-intensive manufacturers

for 10K to 25K EPA is to develop performance standards which may include registering

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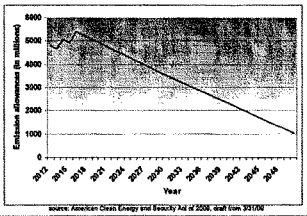
Declining Cap

- The 2012 cap is set at 4% below the 2005 emissions level.
- The 2020 cap is 20% below the 2005 emissions level.
- The 2030 cap is 45% below the 2005 emissions level.
- The 2050 cap is 83% below the 2005 emissions level

[redacted]



Source: American Clean Energy and Security Act of 2009, draft from 3/31/09

This is more stringent than LW
It follows Obama Proposal
of 83% by 2050
but not mid term goal
2020 is 14% below 2005

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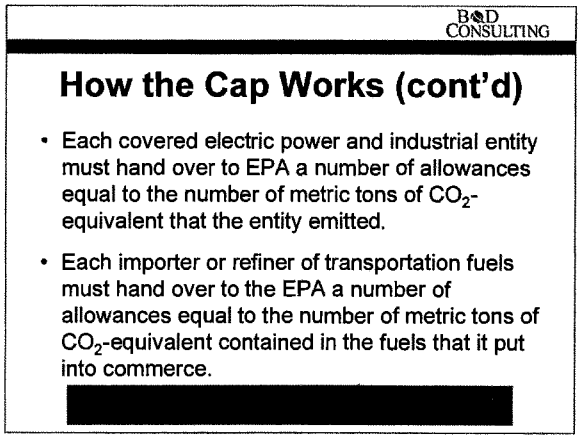
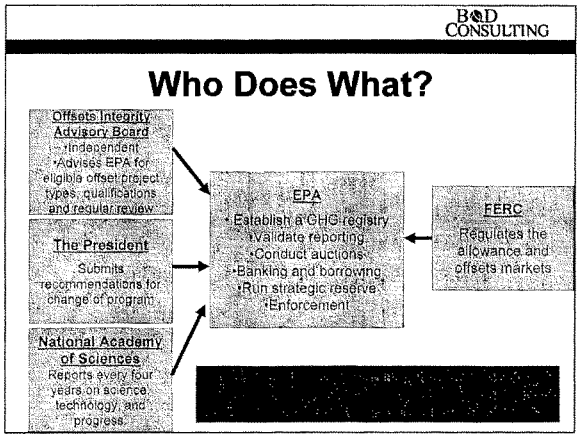
How the Cap Works

- Each year's cap is expressed as a total number of greenhouse gas emissions allowances.
- Each emission allowance authorizes the emission of one metric ton of CO_2-equivalent in one year.

Greenhouse gas (1 metric ton)	Carbon dioxide equivalent (metric tons)
Carbon dioxide	1
Methane	25
Nitrous oxide	298
HFC-23	14,800
HFC-125	3,500
HFC-134a	1,430
HFC-143a	4,470
HFC-152a	124
HFC-227ea	3,220
HFC-236fa	9,810
HFC-4310mee	1,540
CF4	7,390
C2F6	12,200
C4F10	8,860
C6F14	9,300
SF6	22,800
NF3	17,200



date can be changed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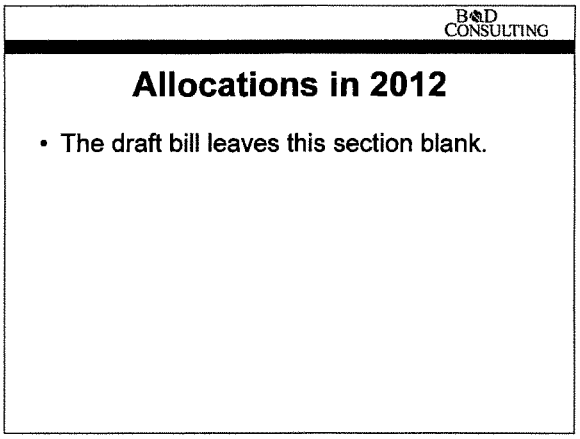
Who Does What?
Offsets Integrity Advisory Board
•Independent
•Advises EPA for eligible offset project types, qualifications and regular review
The President
Submits recommendations for change of program
National Academy of Sciences
Reports every four years on science, technology, and progress
EPA
•Establish a GHG registry
•Validate reporting
•Conduct auctions
•Banking and borrowing
•Run strategic reserve
•Enforcement
FERC
Regulates the allowance and offsets markets



Draft proposal is expected to be released April 24.

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Auction Revenues: Where Do They Go?

- The draft bill leaves this section blank.

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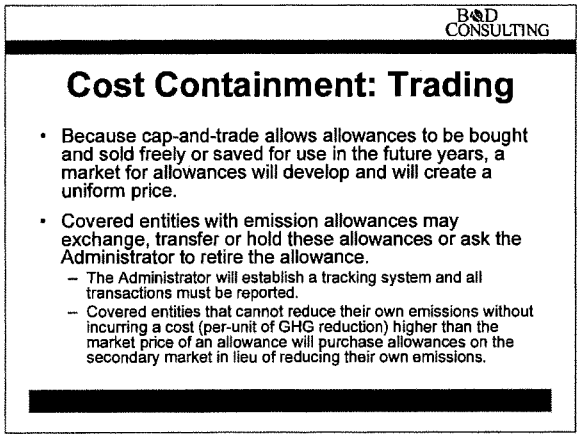
Cost Containment

- The draft has a number of cost containment measures:
  - Trading
  - Offsets
  - Banking
  - Borrowing
  - Strategic Reserve
  - Carbon Market Assurance and Oversight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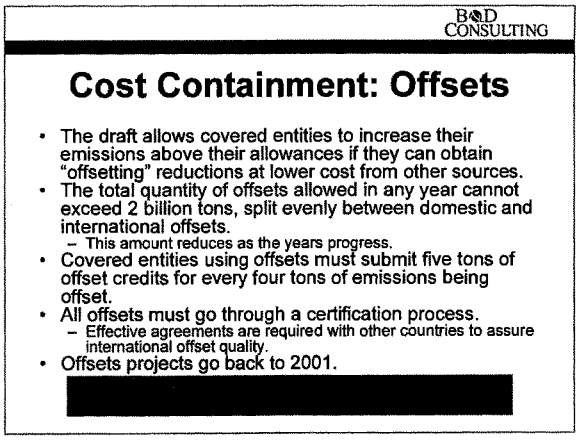
Cost Containment: Trading
• Because cap-and-trade allows allowances to be bought and sold freely or saved for use in the future years, a market for allowances will develop and will create a uniform price.
• Covered entities with emission allowances may exchange, transfer or hold these allowances or ask the Administrator to retire the allowance.
– The Administrator will establish a tracking system and all transactions must be reported.
– Covered entities that cannot reduce their own emissions without incurring a cost (per-unit of GHG reduction) higher than the market price of an allowance will purchase allowances on the secondary market in lieu of reducing their own emissions.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Cost Containment: Offsets
• The draft allows covered entities to increase their emissions above their allowances if they can obtain "offsetting" reductions at lower cost from other sources.
• The total quantity of offsets allowed in any year cannot exceed 2 billion tons, split evenly between domestic and international offsets.
– This amount reduces as the years progress.
• Covered entities using offsets must submit five tons of offset credits for every four tons of emissions being offset.
• All offsets must go through a certification process.
– Effective agreements are required with other countries to assure international offset quality.
• Offsets projects go back to 2001.

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Cost Containment: Banking

- A covered entity may use an emission allowance to meet the compliance obligation requirements for the vintage year of the allowance, or in any subsequent calendar year.
  - Allows unlimited banking.

[redacted]

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Cost Containment: Borrowing

- Two types of borrowing:
  - Borrowing without interest 1 year in advance
  - Borrowing with interest between 1 to 5 years in advance
    - Interest is calculated using the formula of 0.08 times the number of years between the calendar year in which the allowance is being used to satisfy a compliance obligation and the vintage year of the allowance.
- Borrowing is limited to 15% of compliance obligation.

[redacted]

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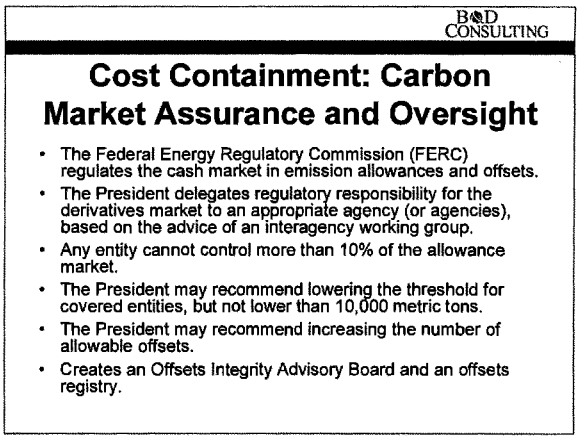
Cost Containment: Strategic Reserve

- Once each quarter, the Administrator shall auction off allowances from the Strategic Reserve to covered entities.
  - The Administrator sets the minimum strategic reserve auction price.
- Filling the reserve is done by saving:
  - 1% from 2012-2019
  - 2% from 2020-2029
  - 3% from 2030-2050
  - Unsold allowances
- Proceeds are used to purchase additional allowances to replenish the reserve supply.
- Compliance obligations may only constitute 10% from the Strategic Reserve.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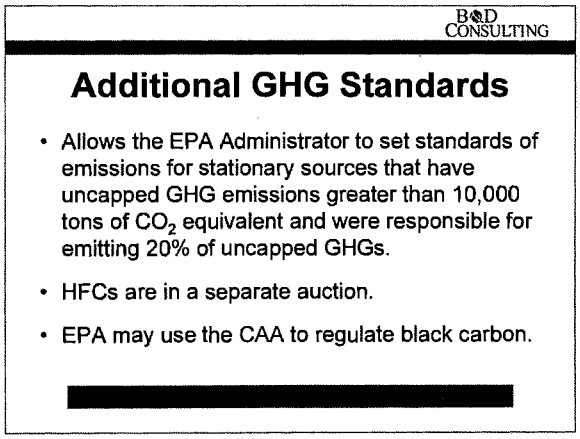
Cost Containment: Carbon Market Assurance and Oversight
• The Federal Energy Regulatory Commission (FERC) regulates the cash market in emission allowances and offsets.
• The President delegates regulatory responsibility for the derivatives market to an appropriate agency (or agencies), based on the advice of an interagency working group.
• Any entity cannot control more than 10% of the allowance market.
• The President may recommend lowering the threshold for covered entities, but not lower than 10,000 metric tons.
• The President may recommend increasing the number of allowable offsets.
• Creates an Offsets Integrity Advisory Board and an offsets registry.



HFC language follows closely to the LW and its various problems.

– Bi part leg into this week to identify sources + emissions reductions for Black Carbon

Cuppa, Dribble, Boxer, Kerry

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Clean Air Act Preemption

- §831 – Criteria Pollutants
  - Provides that GHGs may not be listed as criteria air pollutants on the basis of their effects on climate change.
- §832 – Hazardous Air Pollutants
  - Provides that GHGs may not be listed as hazardous air pollutants on the basis of their effects on climate change.
- §833 – New Source Review
  - Provides that New Source Review does not apply to GHG emissions.
- §834 – Title V Permits
  - Provides that GHGs won't be considered when determining whether a stationary source is required to operate pursuant to a permit under Title V of the Clean Air Act.

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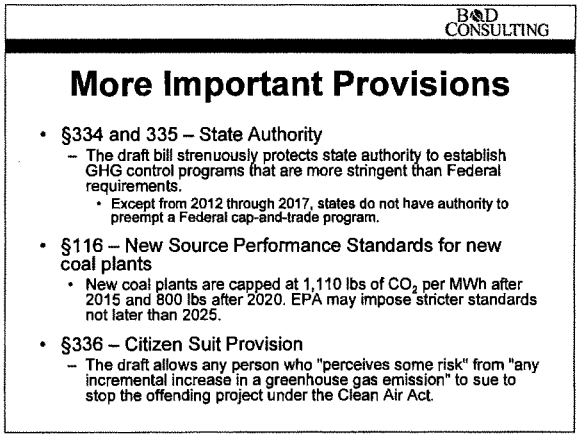
Other Provisions

- *Supplemental Emissions Reductions.* Emissions are reduced further through international agreements to slow tropical deforestation (which accounts for a fifth of global carbon emissions), funded by auctioning a fraction of the emissions allowances. Criteria are included to set declining rates of deforestation as the baseline for supplemental emission reductions.
  - By 2020, the goal is to achieve supplemental annual emission reductions equal to 10 percent of U.S. 2005 emission levels.
- *Scientific Review.* The National Academy of Sciences is tasked to review the targets periodically in light of the best available science, and the President is to recommend program changes to Congress.

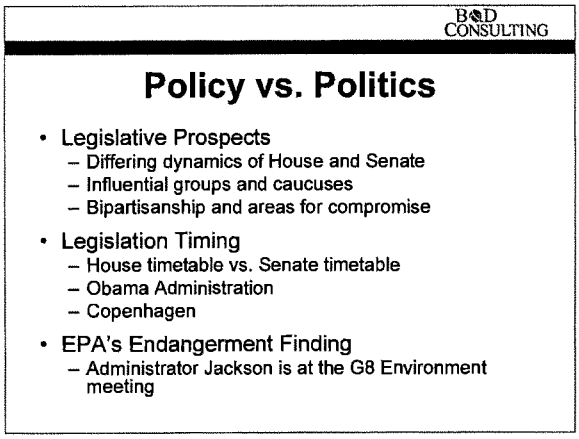


Key Court Signals High Standing Bar For Activists' Climate Suits

Wednesday, April 22, 2009

http://www.insideepa.com/secure/docnum.asp?docnum=4222009_standing&f=epa_2001.ask

The U.S. Court of Appeals for the District of Columbia Circuit -- the appellate court that hears most regulatory challenges -- appears to have set a high bar for environmentalists and other citizens to sue the government over actions that worsen global warming, hindering their efforts to bring climate suits under a host of environmental laws. In its April 17 ruling in *Center For Biological Diversity [CBD] v. U.S. Department of Interior [DOI]*, the court ruled that the Supreme Court's landmark decision in *Massachusetts v. EPA* did not grant citizens standing to sue on the merits of their climate claims. The appellate court only granted plaintiffs standing to sue on climate matters when the government has violated a procedural requirement.



Democratic lawmakers have touted an EPA analysis released Tuesday that expects carbon permits to be sold for between $13 and $17 per ton of carbon dioxide emitted. It does not, however, detail whether business would have to buy all or some of the allowances. "How were you able to do that analysis while the bill has no allocation-cost scheme in it?" Texas Rep. Joe L. Barton, ranking Republican of the House Energy and Commerce Committee, asked Mrs. Jackson.

"We had to make assumptions," Mrs. Jackson said. Mrs. Jackson did not say whether the analysis included a determination of how many allowances would be sold, only saying that analysts assumed 40 percent of auction proceeds would be returned to consumers.

When she was pressed later by Rep. Steve Scalise, Louisiana Republican, she repeated the president's preference for selling all of the carbon permits. Mr. Obama spent Earth Day in Iowa touting a wind turbine manufacturing plant and the green jobs he hopes to create through investments in renewable energy projects, but said that a cap on carbon emissions is necessary to push the nation away from fossil fuels.

Barton Eyes Air Act 'Performance Standard' As Cap-And-Trade Alternative

Wednesday, April 22, 2009

http://www.insideepa.com/secure/docnum.asp?docnum=4222009_barton

House Energy & Commerce Committee Republicans are drafting alternative legislation to Democrats' cap-and-trade plan that would impose a Clean Air Act "performance standard" on climate change pollutants that at least initially would be focused on new power plants, according to ranking member Rep. Joe Barton (R-TX). Speaking to reporters April 22, Barton said that while he does not believe carbon dioxide is a pollutant "there are others that do [and] we are looking at a regulatory standard based on performance." Barton's comments come as the committee was holding three days of hearings on a cap-and-trade bill in advance of an energy and environment subcommittee mark-up possibly next week.

B&D CONSULTING

Questions?

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202.312.7435

Andrew Wheeler
andrew.wheeler@bakerd.com
202.312.7424

Senator BARRASSO. Well, I want to thank both of you very much for your testimony. Throughout the hearing and with questions for the record, Committee members will have an opportunity to learn more about your commitment to public service and your commitment to service to our nation. I would ask that throughout the hearing you please respond to the questions today during the hearing, as well as written ones for the record.

I have to ask the following questions that we ask of all nominees on behalf of the Committee.

Do you agree, if confirmed, to appear before this Committee or designated members of this Committee and other appropriate committees of the Congress, and provide information subject to appropriate and necessary security protections with respect to your responsibilities?

Ms. WHITE. Yes.

Mr. WHEELER. Yes.

Senator BARRASSO. And do you agree to ensure that testimony, briefings, documents, and electronic and other forms of information are provided to this Committee and its staff, and other appropriate committees, in a timely manner?

Ms. WHITE. Yes.

Mr. WHEELER. Yes, I will.

Senator BARRASSO. And do you know of any matters which you may or may not have disclosed that might place you in a conflict of interest if you are confirmed?

Ms. WHITE. No.

Mr. WHEELER. No, I do not.

Senator BARRASSO. Well, with that, Mr. Wheeler and Ms. White—let me start with Mr. Wheeler, but it is the same question then to Ms. Hartnett White. Could you talk about what accomplishments in your career you are most proud of?

Mr. WHEELER. Wow. I would say I have had a lot of major accomplishments in my career, and I can point to some large bills here in the Committee; the highway bills that I worked on, the WRDA bill, my time at EPA. But I would have to say I have been in this town almost 30 years, and I would like to think that I have kept my personal integrity the entire time, and it is working also with the people that I have worked with on a day to day basis.

I know—when I walked up here from the back of the room—I see several former staff people that have worked with me over the years, and it is those friendships that I have developed and the day to day work that I have done, and I have kept my integrity, and I have kept my principles intact the entire time.

Senator BARRASSO. Ms. White.

Ms. WHITE. I think the professional experience that I would be most proud of was the magnitude of reduction of ozone producing emissions in the Houston-Galveston area. Remember, that is the seat of the largest petrochemical complex in the world, with a climate highly inductive to ozone formation. And we did all kinds of innovative things. Talk about a process that involved coordination of multiple agencies at the Federal and State and local level.

In fact, I said if we are right in all these measures that have been the source of the ozone plan, we will attain. Most people wouldn't have thought of it. We attained 2010, 2011. Of course,

EPA has since strengthened the standard. We are close to, not quite there, but even more reductions have been made. If that can be done in Texas, that can be replicated in the world.

And I think one of the key things was the most robust science, science particular to the ozone chemistry in the Houston-Galveston area. And I think it is exciting, were I confirmed, to have a job where that kind of achievement can be replicated across the country.

Senator BARRASSO. Let me follow up on that with both of you, because you have both chosen careers in environmental policy, so I ask why do you want to serve as the Deputy Administrator of the EPA, member and Chair of the CEQ in terms of continuing the work that you have done?

Mr. Wheeler, if you want to start.

Mr. WHEELER. Certainly. I really look at the career that I have had so far to date, and the timing of this position, as everything that I have done so far has led up to this at this point, starting as a career employee at the Agency, with my experience here.

I really think I have some of the skills that would be useful to Administrator Pruitt and President Trump at the EPA. With Administrator Pruitt wanting to return to the basic programs of the EPA, I think I can be of help to him. I think I can be of help to President Trump, and I think I can be of help to the employees at EPA as we move forward in this new direction for the Agency.

Senator BARRASSO. Ms. White.

Ms. WHITE. I will try to articulate three reasons. Because my career has been so broad, it has allowed me to gain a lot of very useful, practical expertise with all environmental media; not just air quality, but water, waste, nuclear waste, in fact, as well across the many Federal environmental laws, and have had the challenge of making a very, very large bureaucracy function efficiently. I think to be able to apply what I have learned would be a great honor.

The second is I am a great champion of getting rid of red tape. That is not saying anything, but this appears to be a time with the last two highway bills which this Committee approved, and the President's interest and executive orders and permit timeframe reduction and all of that, that this is a unique opportunity to have a bipartisan, supported by the President, major effort across the agencies to reform much of the NEPA process.

Senator BARRASSO. Well, thank you very much.

I reserve the remainder of my time.

Senator Carper.

Senator CARPER. Thanks, Mr. Chairman.

Again, welcome. A warm welcome to both of you two today.

Ms. White, I was, frankly, surprised to hear the comments that you just shared with us with respect to ozone. In a number of articles and interviews, you have questioned whether ozone is even a harmful air pollutant. We heard a 2016—last year—radio interview for a program called What's Up on the radio, and Ms. White, apparently you said that ozone isn't harmful to human health unless, and I quote you, "you put your mouth over the tailpipe of a car for 8 hours every day."

You also called on Congress to remove EPA's funding for implementing the ozone air quality standards—this was last year—and

said that the standard should be 85 parts per billion. That is a good deal higher than the 75 parts per billion standard set by President Bush in 2008, and even higher than the 80 parts per billion standard set in 1997.

So I just thought it was interesting, the comments that you made here today.

I would just ask of you, Mr. Wheeler, the EPA's current Web page says, with respect to ozone, ozone in the air we breathe can harm our health, especially on hot, sunny days when ozone can reach unhealthy levels. Even relatively low levels of ozone can cause health effects. And the Web page goes on to describe the increased risk of asthma, lung infection, other cardiopulmonary diseases that ozone exposure can cause.

In your introduction, we learned that you have a combined biology major in college, spent a majority of your career working on clean air issues, and I know that from personal experience in working with you and Governor Voinovich. But what do you think about the adverse health impacts that are associated with the EPA? Do you agree with what is on that Web page that I just quoted?

Mr. WHEELER. I am not familiar with the specific Web page that you have just quoted, but from what you said, I would agree with the health effects that you listed, yes.

Senator CARPER. All right.

Ms. White, in 2015 and in 2016, in several speeches and interviews and articles in The Federalist and in Focus Today, you compared the views of people who believe that carbon pollution is causing climate change to those of pagans, ideologues, and communists. After Pope Francis published his 2015 Environmental Encyclical, you wrote two articles for The Federalist that said that the solutions that Pope Francis was calling for would lead to poverty, socialism, and even concentration camps.

And I would ask Mr. Wheeler, do you concur in those views?

Mr. WHEELER. As a Presbyterian, I am not going to criticize the Pope.

Senator CARPER. That is not our style.

Mr. WHEELER. You are asking me if I agree with—I am sorry—the views?

Senator CARPER. The characterization. Again, the articles that I quoted. Ms. White compared the views of people who believed that carbon pollution is causing climate change to those of pagans, ideologues, and communists, and said that the Encyclical that Pope Francis wrote would lead to poverty, socialism, and concentration camps.

Are those views that you also embrace?

Mr. WHEELER. I would not put it that way; no, sir.

Senator CARPER. All right.

Today, this week, representatives I think from every country in the world are gathered in Bonn, Germany, discussing how we can address climate change together. The leaders of every country in the world, except for the current President of the United States, accept climate science and are committed to do something about it.

Ms. White, do you really believe that the views of all those countries' leaders are properly compared to those of pagans, ideologues, and communists?

Ms. WHITE. No, I do not, Senator, and I think some of those words and phrases are taken out of context. I was, in that article, also quoting either the then-current or now recently stepped down head of the U.N. climate program, Cristina Figueras, who made a comment that a global agreement on climate change would provide the first example to destroy the economic model of the industrial revolution.

Senator CARPER. Well, I hold in my hand your quotes, your comments verbatim, and I think they speak for themselves. It is good that you are here and saying these things today. I am also glad that we have these words that you said repeatedly in the past.

My time has expired.

Senator BARRASSO. Thank you, Senator Carper.

Senator Rounds.

Senator ROUNDS. Thank you, Mr. Chairman.

Let me just begin. I would like to begin with Ms. Hartnett White.

Do you believe that the CEQ should play a role in administering the Renewable Fuel Standard, the RFS?

Ms. WHITE. No, I don't. I think the current arrangement under law that it is the primary authority of EPA to administer and implement the Renewable Fuel Standard program.

Senator ROUNDS. Can you share a little bit with regard to the Renewable Fuel Standard, which, truly, in the upper Midwest, has provided tremendous economic opportunity to Midwestern farmers? The use of corn, we can grow corn like you can't believe. As a matter of fact, the number of bushels per acre has continued to increase as good science has been utilized and as farming practices have continued to improve at a rapid pace. The American farmer has proven time and time again that they can produce and outproduce anybody else in the world. Investments have been made in the corn ethanol industry, and I want to make certain that this industry continues to thrive.

Can you tell me your view of the economic benefits of the RFS and what it has provided to the Midwestern corn farmers?

Ms. WHITE. Yes, I would, and I would like to begin by thanking Senator Ernst—I don't believe she is here right now—for sending me some current data on a number of the points you just made, sir. I second the President. I am supportive of all of the above of energy sources; all have special purposes and fill important niches.

As you know, the President recently clarified his support for the Renewable Fuel Standard program, and I solidly support his support. CEQ has no direct regulatory authority over the Renewable Fuel Standard program, and I, of course, will support the letter of the law.

What I like to say about the U.S. agriculture, never underestimate the productivity and innovative capacity of U.S. agriculture.

Senator ROUNDS. Let me go one step farther, then, to clarify this. You have criticized the RFS in the past and the impact that you believe that it would have on the global food supply.

Ms. WHITE. Right.

Senator ROUNDS. Can you elaborate on these statements and your belief today with regard to the RFS and any impact it would have on the global food supply?

Ms. WHITE. I would be happy to. I, in the early years of the program, made some particularly critical questions about whether ethanol would challenge the global food supply. Later, when I wrote a book, published 2 years ago, I erred by not assuring that I had current data, and the data that has been shared with me by Senator Ernst and others now, what a great victory; and I congratulate the corn industry.

But the amount of increased productivity, how that has increased the supply of corn, that it appears now, on the basis of data now, there isn't any kind of inherent attention. There is enough on the surfeit that it has been so productive, and I salute the industry.

And as a child of rural America, I painfully observed over much of my lifetime the decline of once vibrant small towns and people who would so like to stay there, but there just is not the employment. And an industry like ethanol has really contributed to giving new life to rural communities and keeping families together and all those things.

Senator ROUNDS. Very good.

Let me ask this also of both of you; and I will begin with Mr. Wheeler, but I want both of you to answer this. In the prior Administration there were several instances in which regulations were promulgated based on what I believe to be questionable science or without asking the science advisory boards for their input. It increasingly seemed like politics were replacing the science in the regulatory process.

I would like to know your views on sound science and on the role that it plays in the Federal regulatory process, and I am going to end with this, as well. It goes beyond just your view of sound science, but being able to release the information upon which environmental policies are being based so that we can gain confidence in those decisions.

And I think—as Ranking Member Carper has indicated—I am a firm believer that when requests from a member of the U.S. Senate are made, if they are not responded to, that does not provide confidence that the decisions have been made appropriately. I don't care whether it is a Republican or a Democrat Administration. That type of communication has to be respected. And I would like your thoughts on both of those, please.

Mr. WHEELER. First, I am not a scientist, but I would certainly listen to the career scientists at the Agency and the outside science advisory boards to the Agency on what is the best available science at the time for any regulatory decisions. And I also agree with you and believe that all that should be out in the public for everybody to see, because I think when we make informed decisions, and we explain to the public why we are making the decisions, that is paramount to what we do at the Agency.

Senator ROUNDS. Ms. Hartnett White.

Ms. WHITE. I think it is key to have access to that data. That is the bedrock data from which all kinds of other programs and analyses occur.

Senator ROUNDS. The second part of my question was what about communications between members of the U.S. Senate and your offices; what is the belief? Do you believe that those requests should be responded to?

Mr. WHEELER. Absolutely. I have a history on that with the Committee that would take me a while, but I worked with Senator Carper in 2001 to make sure that he had the Clear Skies data that he was looking for, and I worked with Senator Jeffords' staff in 2003 to try to make sure that they had the information that they were requesting from the EPA.

Senator ROUNDS. Ms. Hartnett White.

Ms. WHITE. And I agree, yes, I think that is essential to making the full Federal Government work.

Senator ROUNDS. Thank you.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Rounds.

Senator CARPER. Chairman, can I ask unanimous consent for the record that the six times that Ms. White has called for the repeal of the Renewable Fuel Standard in the past decade, as recently as last year, be made a part of the record?

Senator BARRASSO. Without objection.

[The referenced information follows:]

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Austin News

Governor's Ethanol Request Sparks More Debate
8/8/2008

Newsroom

There's mixed reaction to the Environmental Protection Agency's denial of Governor Rick Perry's request to cut the federal ethanol mandate.

Officials with the Texas Farm Bureau applaud the E-P-A's decision. Mike Barnett with the Bureau says farmers have never been on the same page with the governor. I think we'd disagreed with the governor's request all along. We thought that high oil prices were behind the high cost of everything, and you know, we still continue to believe that."

The Texas Public Policy Foundation's Kathleen Harnett White says she doesn't see it that way. She says most ethanol proponents would like to attribute the increase in food prices to fuel alone. She "their economic analysis is just plain off."

To bridge the gap between the two camps, White says there should be "No subsidies, no import tariffs, no mandates. If grain-based fuels or bio-fuels are going to have a role in our energy supply, let them compete in the marketplace...and let consumers choose."

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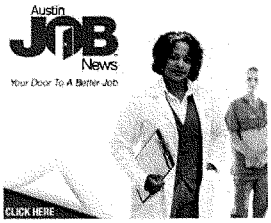

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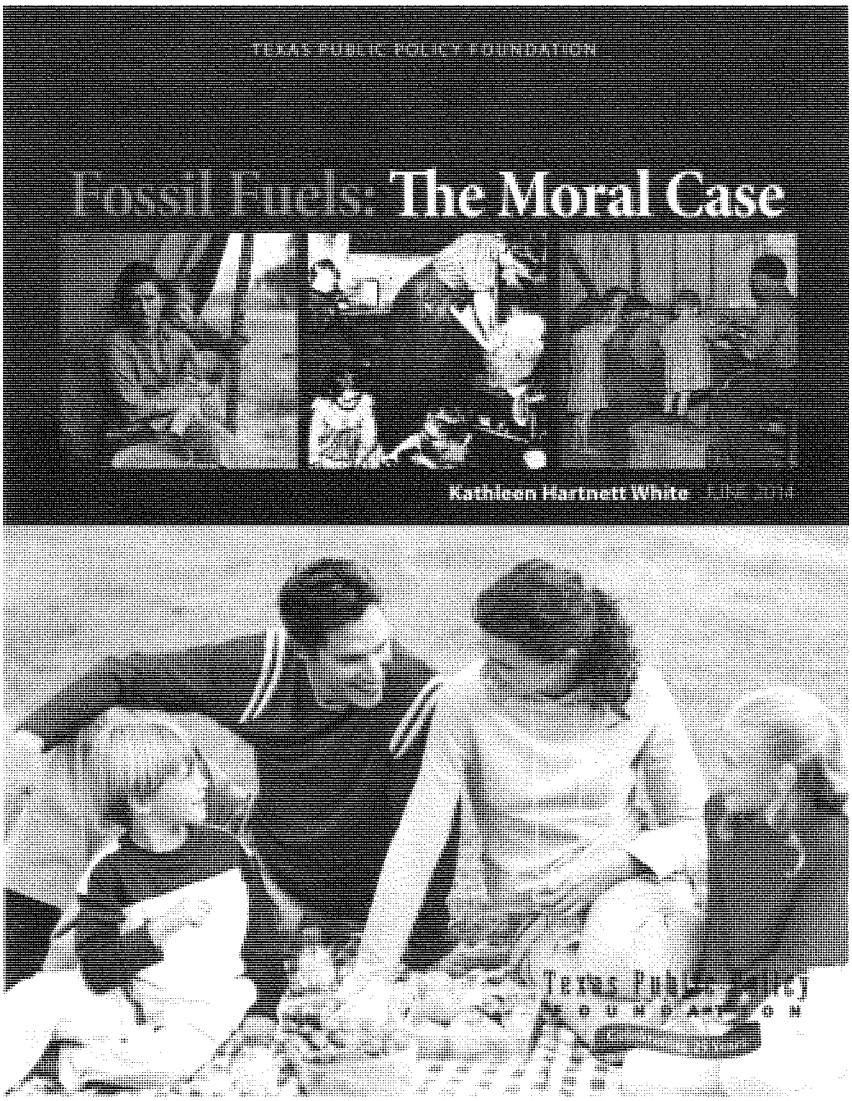
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Fossil Fuels: The Moral Case
Kathleen Hartnett White
TEXAS PUBLIC POLICY FOUNDATION

June 2014

Texas Public Policy Foundation
by Kathleen Hartnett White

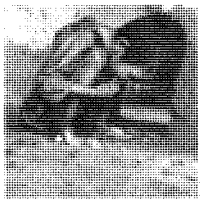


Table of Contents

Preface 3
A Story 4
Introduction: Mankind's Fossil-Fueled Energy Breakthrough 4
Energy Fundamentals: A Question of the Sun with a Dash of Physics 6
The Human Energy Equation 7
Energy in the Pre-Industrial World 8
Mankind's Release from the Malthusian Trap 12
Productivity Unleashed 14
"A Farewell to Alms" 15
Fossil Fuels and the Modern Agricultural Revolution 18
The Versatility of Fossil Fuels: Synthetic Materials 20
Environmental Benefits of Fossil Fuels 20
Human Benefits of Fossil Fuels 23
Conclusion 29
Appendix 32
Endnotes 33

Fossil Fuels: The Moral Case

by Kathleen Hartnett White

Preface

Current policies to supplant fossil fuels with inferior energy sources need to incorporate a deeper understanding of the transformative role of energy in human society lest they jettison the wellsprings of mankind's greatest advance.

The thesis of this paper is that fossil fuels, as a necessary condition of the Industrial Revolution, made modern living standards possible and vastly improved living conditions across the world. Humanity's use of fossil fuels has released whole populations from abject poverty. Throughout human history, elites, of course, have enjoyed comfortable wealth. No more than 200 years ago, however, the lives of the bulk of humanity were "poor, nasty, brutish and short," in the words memorably used by Thomas Hobbes.[1]

This paper aims to articulate and explain some startling, but rarely acknowledged, facts about the role of energy in human history. Energy is so intimately connected to life itself that it is almost equivalent to physical life. Virtually everything needed to sustain the life of a human individual—food, heat, clothing, shelter—depends upon access to and conversion of energy. Modern, prosperous nations now access a seemingly limitless supply of energy. This cornucopia, however, is a very recent advance in mankind's history. Fossil fuels, methodically harnessed for the first time in the English Industrial Revolution, beginning in the 18th century and taking off in the 19th century, have been a necessary condition of prosperous societies and of fundamental improvements in human well-being.

Adequate treatment of this topic is a daunting task for anyone. The unprecedented stakes in today's contentious energy policy debates about carbon, however, make it a morally necessary topic. As a former final decision-maker in a large environmental regulatory agency, I urge current officials and concerned citizens to reflect on energy policies within a broad but fundamental context: human history and the physics of material lives.

My research was initially inspired by a comprehensively researched monograph by Indur Goklany titled "Humanity Unbound."[2] His paper took me to a dozen books and twice as many academic papers. With gratitude, I acknowledge the books listed below as the most enlightening, persuasive guides on the topic. And I highly recommend them for more thorough analysis than allowed by the confines of this paper. May those policymakers entrusted with the authority to make binding decisions about energy consider these books as "a look before an unreflective leap" that could unravel mankind's greatest achievement—the potential enjoyment of long, comfortable, healthy lives without the gnawing hunger of subsistence poverty.

The Improving State of the World, Indur Goklany.
Energy and the English Revolution, E.A. Wrigley.
Farewell to Alms, Gregory Clark.
The Rational Optimist, Matt Ridley.
The Great Divergence, Kenneth Pomeranz.
The Bottomless Well, Peter W. Huber and Mark P. Mills.
Knowledge and Power, George Gilder.
Energy and Society, Fred Cottrel.
Energy Transitions, Vaclav Smil.

A Story

In his book, *The Rational Optimist*, Matt Ridley tells a stirring story about the phenomenal improvements in human living standards achieved over only the last two centuries of mankind's long history.

> Imagine that it is 1800, somewhere in Western Europe or eastern North America. The family is gathering around the hearth in the simple timber-framed house. ... The baby boy is being comforted by one of his sisters ... His elder sister is feeding the horse in the stable. Outside there is no noise of traffic, there are no drug dealers and neither dioxins nor radioactive fall-out have been found in the cow's milk. ...
>
> Though this is one of the better-off families in the village, father's Scripture reading is interrupted by a bronchitic cough that presages the pneumonia that will kill him at 53—not helped by the wood smoke of the fire. ... The baby will die of the smallpox that is now causing him to cry; his sister will soon be the chattel of a drunken husband. ... Toothache tortures the mother. ... The stew is grey and gristly yet meat is a rare change from gruel; there is no fruit or salad at this season. ... Candles cost too much, so firelight is all there is to see by. Nobody in the family has ever seen a play, painted a picture or heard a piano. School is a few years of dull Latin taught by a bigoted martinet at the vicarage. Father visited the city once, but the travel cost him a week's wages and the others have never travelled more than 15 miles from home. Father's jacket cost him a month's wages but is now infested with lice. The children sleep two to a bed on straw mattresses on the floor.
>
> Since 1800, the population of the world has more than doubled and real incomes have risen more than nine times. Taking a shorter perspective, in 2005, compared to 1955, the average human being on Planet Earth earned nearly three times as much money (corrected for inflation), ate one-third more calories of food, buried one-third as many of her children and could expect to live one-third longer. She was less likely to die as a result of war, murder, childbirth, accidents, tornadoes, flooding, famine, whooping cough, tuberculosis, malaria, diphtheria, typhus, typhoid, measles, small pox, scurvy, or polio. She was less likely, at any given age, to get cancer, heart disease, or stroke. She was more likely to be literate and to have finished school. She was more likely to own a telephone, a flush-toilet, a refrigerator, and a bicycle. All this during a half century when the world population more than doubled, so that far from being rationed by population pressure, the goods and services available to the people of the world have expanded. *It is, by any standard, an astonishing human achievement.*[3] (Emphasis added.)

Introduction: Mankind's Fossil-Fueled Energy Breakthrough

Sorely missing from current policy debates about carbon-rich energy is recognition of the inestimable *human* benefits of fossil fuels. Before any use of the newly minted metric called the social cost of carbon (SCC), consider the profound societal benefits of which fossil fuel are a necessary condition. Too few recall that the relatively recent Industrial Revolution of the 18th and 19th centuries—dependent on fossil fuels—was one of the two greatest advances in human society since humans lived in caves and hunted for food. The other turning point was the Neolithic agricultural revolution when human groups began cultivating crops and domesticating animals.[4]

This paper highlights the role of energy in the English Industrial Revolution to focus on the role of energy in the unprecedented economic growth spawned by the Industrial Revolution. Questions of what caused the revolution or why it occurred where and when it did are beyond the scope of this analysis.

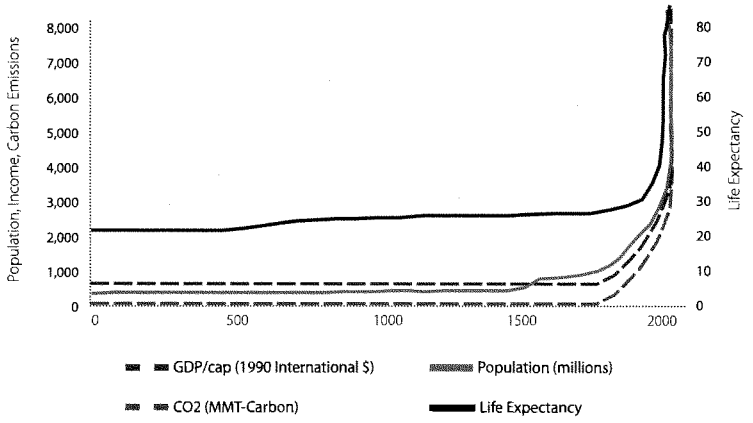
Of course, many inter-related factors led to the Industrial Revolution and the prodigious economic growth in its wake. England's democratic legal institutions which protected private property rights and contractual transactions were and remain paramount, as does capital accumulation. Fossil fuel energy, however, was a necessary condition of industrialization's beginning and perhaps even more so, of its continued growth which has freed billions of human beings

from poverty.[5] The breakthrough known as the Industrial Revolution took off and continued when England methodically tapped the energy in fossil fuels.

Harnessing the vast store of concentrated energy in fossil fuels allowed mankind, for the first time, to escape the natural world's energy limits—intractable constraints that had kept human lives of all but the most privileged in subsistence poverty.[6] Before the Industrial Revolution, all societies were dependent on the limited flow of solar energy captured in living plants for subsistence needs such as food, fuel, and shelter. Physical living conditions differed across societies and eras, but there was no sustained upward trend.

The fixed supply of land on which to raise food and harvest timber was regularly diminished by natural disasters and political upheaval, or overstretched by increasing population. As historian E.A. Wrigley documents: "The energy flow was insufficient to underwrite the increased output on the scale associated with an 'industrial revolution.' Only by gaining access to a vast *store* rather than a limited *flow* of energy could this problem be solved."[7] In England, coal first provided this vast store of concentrated energy. Natural gas derived from coal soon followed. Crude oil's first commercial use began in the mid 19th century.[8]

Figure 1: Global Progress, 1 A.D. - 2009 A.D.



Sources: Indur Goklany, *Humanity Unbound*, p. 3. Updated from Indur Goklany, "Have Increases in Population, Affluence and Technology Worsened Human and Environmental Well-being?" *Electronic Journal of Sustainable Development* 1. no. 3 (2009); based on Angus Maddison, *Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD*, University of Groningen, 2010; World Bank, *World Development Indicators, 2011*; T.A. Boden, G. Marland, and R.J. Andrews, *Global, Regional, and National Fossil-Fuel CO_2 Emissions.*

Notes: Data are sporadic until 1960. This figure assumes that trends between adjacent data points are linear.*

*Angus Maddison (1926-2010) was a British economist and a prominent world scholar on quantitative macroeconomic history including the measurement and analysis of economic growth and development. He did most of his research and writing at the University of Groningen. The historical data compiled by Maddison on income per capita, population, lifespan and other demographic factors is widely used across the world including by the Organization for Economic Co-operation and Development (OECD), Harvard Center for International Affairs, and World Bank for which he was a consultant. Maddison's data is the basis for most of the historical claims and "startling facts" in this paper. The data bases he developed are regarded as one of the most important sources for the analysis of long term economic growth and are widely used across the world. His data used in this paper is also available in his "The World Economy: Historical Statistics" and "Contours of the World Economy 1-2030 AD: Essays in Macroeconomic History" among his long list of publications on this topic.

Use of the energy in fossil fuels unleashed economic productivity on a scale previously unimaginable. When innovative minds developed a steam engine which could convert the stored heat energy in coal into mechanical energy, the economic limits under which all human societies had formerly existed were blown apart. A life of back-breaking drudgery was no longer the inescapable condition of the overwhelming majority of mankind. **Figure 1** (previous page) depicts the dramatic upward trend.

Life expectancy had changed little throughout all human history until the Industrial Revolution; it thereafter tripled. Income per capita has since increased 11-fold. Not coincidentally, man-made emissions of carbon dioxide have risen three-fold since the beginning of the Industrial Revolution. Fossil-fuel powered mechanization revolutionized economic productivity, increased incomes, population, and life expectancy across all classes.

Matt Ridley, author of *The Rational Optimist*, captures the magnitude of the breakthrough: "By 1870, the burning of coal in Britain was generating as many calories as would have been expended by 850 million labourers. It was as if each worker had 20 servants at his beck and call. The capacity of the country's steam engines alone was equivalent to six million horses. ... That is how much energy had been harnessed to the application of the division of labor. That is how impossible the task of Britain's 19th century miracle would have been without fossil fuels."[9]

Fossil fuel use and the consequent anthropogenic emissions of carbon dioxide (CO_2) also have greatly expanded the global food supply. Fertilizer derived from natural gas has increased agricultural productivity by 40-60 percent.[10] Fossil fuel-based fertilizers have saved vast natural ecosystems from conversion to cropland. Although combustion of fossil fuels releases pollutants, those emissions can be dramatically reduced far quicker through technological controls than can the reversion of cropland to natural ecosystems be achieved. Rather than ravaging the natural world as environmentalists assume, fossil fuels have allowed industrial civilizations to shrink the human footprint. And the increased atmospheric concentration of man-made CO_2 has enhanced plant growth and thus the world's food supply.

Synthetic fibers derived from fossil fuels now account for 60 percent of all fibers.[11] Basic materials such as plastic, vinyl, and fiberglass constitute the raw material in thousands of products in daily use. The prosperity supported by abundant fossil fuel energy allows investment in effective technologies to eliminate harmful pollution.

Renewable energy still provides only a sliver of energy supply. In spite of the billions of dollars in subsidies, retail prices for renewables are still far higher than prices for fossil fuels.[12] In European countries which rushed too quickly to embrace renewable energy, families regress to burning wood for heat and cooking because electricity is unaffordable. German officials warn that soaring energy costs risk "dramatic deindustrialization."[13]

At any cost, renewable energy from wind, solar, and biomass remains diffuse, unreliable, and parasitic, in that those intermittent sources rely on fossil fuels for back-up. And while nuclear fission provides energy comparable or superior to fossil fuels, it cannot provide the versatile benefits mentioned above. Additionally, the public remains resistant to broad deployment of nuclear generation.

Energy-dense, abundant, versatile, reliable, portable, and affordable, fossil fuels provide over 80 percent of the world's energy because they are superior to the current alternatives. Until energy sources fully comparable or superior to fossil fuels are securely available, policies to reduce emissions of CO_2 should proceed with caution lest they prematurely exhaust the well-springs of mankind's greatest advance.

Energy Fundamentals: A Question of the Sun with a Dash of Physics

High energy use is the *sine qua non* of life in modern, prosperous societies. And it is only the population born after World War II that has reaped the full energy bounty now assumed in U.S. lifestyles. Abundant energy is so imbedded in every moment of our personal and working lives that its presence, action, and value go unnoticed. Far beyond the energy contained in the overflowing food in our grocery stores, consider the abundant energy in cooling, heating, transportation, appliances, clothing, medical devices, materials, and our omnipresent electronic devices. Bundles of concentrated energy are interwoven in almost every action we take and every physical object we use.

Compared to the limited discretionary time enjoyed by our ancestors, the time we have left after feeding, clothing, sheltering, and financially supporting our families reflects the amount of work done—not by human muscle—but by stored energy. A single example of the profound benefits of energy: Imagine life without the indoor and outdoor illumination we enjoy 24 hours a day. More than two billion of the world's population still has no access to electricity.

Energy: Definition and Metrics

The term "energy" is commonly used, but with varied meanings, as elusive to the physicist as to the man on the street. The most common definition is "the capacity to do work."[14] In physics, "work" is defined as force multiplied by the distance through which it acts. The English word "energy" derives from the Greek words "er" meaning "at" or "in" and "ergon" meaning "work." "Power" in physics is defined as energy in motion or more precisely, the rate at which work is done.[15]

Europe measures energy in joules or newton-meters. In the U.S., work and energy are measured in units of foot-pounds. Unlike most other countries, the standard measure of energy most broadly used in the U.S. remains the British thermal unit (Btu). A Btu represents the amount of thermal energy (heat) necessary to raise the temperature of one pound of water by one degree Fahrenheit. Btus, foot-pounds, joules, and calories are all convertible to one another. Watts, a measure of electric energy, is defined as one joule per second.

The most telling measures are energy density and power density. Energy density is a measure of the amount of energy per unit of weight or volume. "Power density refers to the energy flow that can be harnessed from a given unit of volume, area, or mass."[16] Measurement of the power density of energy sources in watts per square meter (W/m2) reveals the comparative weakness of energy derived from so-called renewable sources such as wind, solar, plants or wood. The power density of wind is about 1.2 W/m2, whereas a natural gas well producing only 60,000 cubic feet of gas per day has a power density of 28 W/m2.[17]

The most familiar measure of energy is the calorie, which measures the amount of heat energy in food. For example, one loaf of bread contains roughly 1,400 calories or 5,714 Btus. As a measure of energy understood as "the capacity to do work," one person would have to eat 22 loaves of bread to complete the same work as a car engine burning one gallon of gasoline, which contains 126,000 Btus.[18]

The Human Energy Equation

A truth so basic that it is widely overlooked is that human life and all material production rely on the consumption of heat or mechanical energy. Photosynthesis, made possible by the sun, is the source of this energy. The American Heritage Dictionary briefly explains the process:

> Almost all life on earth depends on food made by organisms that can perform photosynthesis, such as green plants, algae and certain bacteria. These organisms make carbohydrates from carbon dioxide and water using light energy from the sun ... Almost all of the oxygen in the earth's atmosphere was produced as waste by photosynthetic organisms....[19]

A lucky planet, the earth is the only planet in our solar system with enough atmospheric oxygen to support human and animal life.

On the most fundamental physical level, life depends on food energy, without which human, animal, and plant life all cease. The sun provides 99.98 percent of the energy of the world's climate.[20] The source of life-sustaining energy on this planet is the radiant energy of the sun. Through the chemical process of photosynthesis, plants convert a minute portion of the massive amount of radiant energy that the sun daily showers on the earth. The amount of radiant—or light—energy continuously flowing from the sun may average the energy equivalent of 20 million calories a day per acre surface of the earth. Through photosynthesis, plants convert to organic matter (carbohydrates) perhaps only 0.18 percent of the solar energy.[21]

Thus, the human body depends upon daily consumption of what was originally solar energy stored in food to sustain life. A masterful chemical reactor, the human body turns the solar energy stored in plants (as a result of photosynthesis), as well as the meats from animals nourished by plants, into chemical, heat, and mechanical forms of energy necessary for bodily function and locomotion. Even at complete

rest or in a comatose state, the human body depends on a minimal consumption of energy to sustain bodily function known as "the basic metabolic rate."

The same solar energy captured in human food, in a vastly more concentrated form, is stored in fossil fuels. Coal, crude oil, and natural gas are composed of the residue of once-living plants and animals, highly concentrated through geological compression for millions of years. Peat is a younger fossil fuel compressed over thousands of years.

Fossil fuels can be characterized as a form of "ancient nature" because they originate from living nature—the products of recent photosynthesis. Not unlike the combustion of fossil fuel in a car, the human body chemically "burns" the energy in food—the gift of solar energy captured through photosynthesis in living plants. The growing plants viewed out the window and in our own bodies may become fossil fuels 300 million years from now.

Energy in the Pre-Industrial World

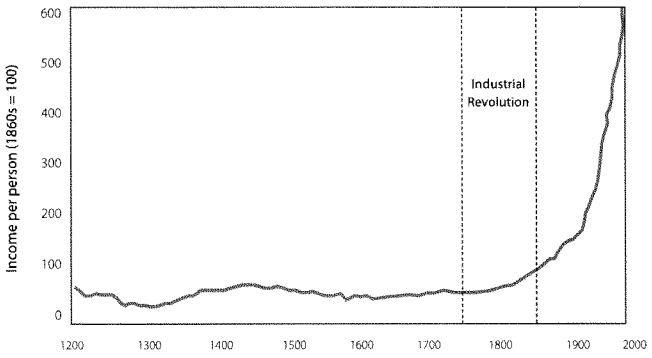
Prior to actively harnessing the energy stored in fossil fuels little more than 200 years ago, human societies depended on the limited and variable supply of energy annually captured in recent plant growth. Fuel was almost entirely derived from trees and woody plants. Food, clothing, shelter, and materials still depended on plant growth and animals dependent on plant growth that humans cannot digest.* Unavoidably subject to nature's destructive whims such as drought, flood, and pestilence or to human foibles such as war, human subsistence was a precarious and often lost gambit particularly for children and the infirm. Thirty percent of children died before reaching 15 years of age.[22]

In England, real income per person was relatively static from 1200 until around 1850 when income rose sharply and steadily as shown in Clark's graph in **Figure 2.**

Mankind's Energy History

Obviously, the length of mankind's history is imprecise and is based on wide ranging definitions of "human." Yet, for all but the last 200-250 years of that history, mankind lived under physical strictures comparable to animals. Humanity made its first energy advance around 8000 B.C., when human groups began to cultivate crops and raise livestock instead of hunting and gathering what unassisted nature might provide.[23] This Neolithic agricultural revolution augmented the supply of food and materials needed for human survival, but the gains were marginal and fleeting—inad-

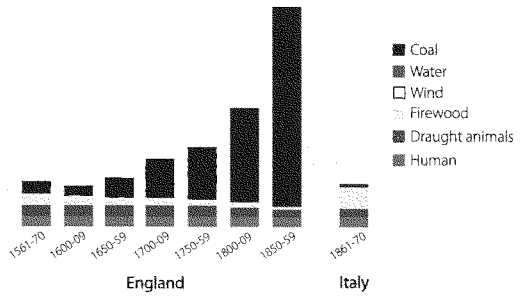
Figure 2: Real Income Per Person in England (1200-2000)



Source: Gregory Clark, *A Farewell to Alms*, p. 195.

*The large classes of mammals known as ungulates are herbivores that can convert grasses—indigestible to humans—into meat tissue.

Figure 3: Energy Consumption in England and Wales (1561-70) Compared with Italy (1861-70)



Source: E.A. Wrigley, *Energy and the English Industrial Revolution*, p. 95.

equate to support a continuously increasing population while improving living standards for the bulk of that population.

Before England methodically tapped into coal, plant photosynthesis remained the dominant source of all energy as it had been for the hunter gatherers thousands of years earlier. Wind and water mills, although plentiful, did not significantly augment the energy supply.[24]

Until the onset of the Industrial Revolution, human and animal muscle supplied mechanical power, and combustion of woody plants supplied almost all heat energy. At various times and in various societies, coal, natural gas, or crude oil was used when it was readily accessible near, or through outcrops on, the surface of the earth.[25] The Netherlands made highly productive use of peat—a relatively much younger fossil fuel and with far less energy density. And then peat became scarce.

As the Industrial Revolution neared, fossil fuel use began to increase. In the latter decades of the 17th century, England increased use of coal for heat energy but wood, draught animals and human muscle still provided the majority of energy consumed. By the middle of the 18th century coal had become the predominant source for energy consumed in England.[26] Fossil fuel use, however, was never converted to mechanical energy on a large scale until the Industrial Revolution in the 18th and 19th centuries. (**Figure 3**).

Natural gas (mostly derived from coal) also was put to commercial use in the early stages of industrialization in England.* The commercial use of natural gas is relatively recent although natural gas seeping from the ground had been recognized in ancient Greece and Rome. Around 1785, England began to use the natural gas produced from coal to light houses and streets. In 1816, Baltimore, Maryland became the first city to light its streets with manufactured natural gas. Robert Bunsen's invention of the Bunsen burner in 1885 opened many opportunities for this versatile fossil fuel.

Although Herodotus described oil pits near Babylon and Marco Polo described oil being collected near the Persian city of Baku in the 13th century, the first sustained commercial applications of petroleum did not occur until the mid-

*A full treatment of the productive roles played by natural gas and petroleum in the Industrial Revolution is beyond the scope of this paper. Suffice it to say that coal in England led the early portion of the energy breakthrough, but diverse uses of natural gas and petroleum also supported the phenomenal economic growth and energy benefits of the later 19th and 20th centuries.

19th century in the United States—also the period when the internal combustion engine was invented. Petroleum is an extraordinarily versatile energy source. When refined, crude oil can be separated into different parts called fractions. From those fractions come propane, butane, multiple petrochemicals, gasoline, kerosene, diesel, jet fuel, home heating oil, ship fuel, lubricating oils, and asphalt. Perhaps 6,000 different products in daily use derive from petrochemicals.[27]

Wrigley explains the energy factor implicitly recognized by the classical economists but not so named: "As long as supplies of both mechanical and heat energy were conditioned by the annual quantum of insolation and the efficiency of plant photosynthesis in capturing incoming solar radiation, it was idle to expect a radical improvement in the material conditions of the bulk of mankind."[28]* Wrigley also points out that the importance of coal in the Industrial Revolution was not that it caused a breakthrough at any one point in time, but that coal enabled increased productivity to continue.

"The quantity of energy needed," Wrigley concludes "to underwrite the scale of material production reached in England by the middle decades of the 19th century would have been far beyond attainment in an organic economy and, in the absence of coal, this would have prevented growth on a comparable scale."[29] In other words, the many technological changes occurring during the 18th century in England are conceivable without coal but the sustained and rapid growth of the economy in the 19th century would have been impossible without coal. In this sense, coal was a necessary condition of the Industrial Revolution viewed in its sweep through three centuries.

According to historian Gregory Clark: "The basic outline of world economic history is surprisingly simple. Indeed it can be summarized in one diagram … Before 1800, income per person—the food, clothing, heat, light, and housing available per head—varied across societies and epochs. But there was no upward trend. A simple but powerful mechanism … [known as] the Malthusian Trap, ensured that short-term gains in income through technological advances were inevitably lost through population growth."[30]

Clark paints a startling picture: "The average person in the world of 1800 was no better off than the average person in 100,000 B.C. … Before 1800 there was no fundamental distinction between the economies of humans and those of other animal and plant species."[31] Clark's dramatic statement may seem an offensive oversimplification of global economic history, but recall that it only refers to the physical parameters of human life. In this context income means the amount of food, clothing, shelter, and materials available to the average person. Of course the wealthy elites in many societies enjoyed a higher standard of living, but the overwhelming majority of people did not.

Certain societies over various periods in human history made significant gains in income per capita, technological innovation, commerce, and population as well as the arts and letters. Two fascinating examples include the great trading cultures of Italian city states between the 9th and 15th centuries and the ancient Phoenician city states between 1200 and 900 B.C. Yet, these societies ultimately waned and did not achieve sustained economic growth on the scale of the English Industrial Revolution which benefited the bulk of population. Both the Italian and Phoenician city states relied on slave labor to perform much of the work that mechanization in the Industrial Revolution spared workers.

Since the historical breakthrough known as the Industrial Revolution, man's ability to harness the energy of fossil fuels has secured unprecedented improvements in health, wealth, and living standards. Current policies to supplant the fossil fuels undervalue the magnitude of human improvement made possible by fossil fuels and overvalue current alternatives to fossil fuels. As Matt Ridley's story of energy shows, although mankind developed new sources and uses for energy, the gains were marginal until fossil fuels were tapped to provide mechanical energy.

The Malthusian Trap

The "Malthusian Trap" encapsulates the theory articulated by the Rev. Thomas Malthus in his "Essay on the Principles of Population" published in 1798.[32] Ironically, Malthus wrote this essay in the early stages of the English Industrial Revolution—a revolution in economic growth that his

* The term "insolation" broadly refers to the amount of solar radiation received by the earth. Specifically, the term refers to the rate of delivery of solar radiant energy per unit of a horizontal surface.

theory precluded. At the core of his theory is the assumption that mankind's only portal to energy is circumscribed by the fixed extent of tillable land and timber. "Elevated as man is above all other animals by his intellectual faculties," Malthus wrote, "it is not to be supposed that the physical laws to which he is subjected should be essentially different from those which are observed to prevail in other parts of animated nature."[33] How soon after he wrote that statement did inventive humans develop technologies to transcend what previously appeared to be the physical world's intractable limits!

According to Malthus, when good harvests increased the food supply, income per capita would temporarily rise, only to be brought back down by increases in population. When drought or pestilence ravaged the supply of food and heat energy, famine would "cruelly" check growth. Incomes would decline; malnutrition would inevitably decrease fertility or shorten lifespan, and the population would decrease. In a Malthusian world, mankind is trapped by the same natural laws that apply to animal populations.

According to Malthus, birth rate must match death rate. If it does not, nature inevitably will check growth by reducing the standard of living. As he argued, population expands geometrically (e.g. 1, 2, 4, 16, 32, 64, 128, etc.) while food supply can only increase arithmetically acre by acre on an assumed fixed area of land (e.g. 1, 2, 3, 4, 5, 6, etc.). "The power of population is indefinitely greater than the power of the earth to produce subsistence for man."[34]

In other words, increasing human numbers will inevitably outstrip the maximum productivity of a fixed extent of land. The huge gains in agricultural productivity later made possible by fossil fuel-based fertilizer, transportation and refrigeration were understandably unfathomable to Thomas Malthus.

Although Malthus did not explain the "trap" in terms of energy, he was accurately describing the energy limits for societies before humans methodically tapped the vast store of concentrated energy found in fossil fuels. As such, human society, like animal societies, was still subject to the intractable constraints of mercurial nature and thus to a limited and variable supply of food and heat energy. As educated and culturally refined were the elites of 17th and 18th century England and other European countries, their lives remained governed by an extremely limited flow of energy captured in recent photosynthesis in plants.

The energy breakthrough that literally fueled the productivity for which the Industrial Revolution is known, of course, did not occur at a certain time, decade or even century. England and other countries, particularly in Europe had been using coal for heat energy from the late 16th century onward. But the energy contributed by coal dwarfed energy delivered by human muscle, draught animals, and firewood combined by 1800 onward. (See Appendix I for breakdown of energy consumption by source from 1560-1860).

Stretching the Energy Limits

Human living standards, especially in European countries, had made incremental gains in some areas centuries before the Industrial Revolution. Improved agricultural methods applied to larger areas of land increased food supply and thus supported increasing population. More roads, canals, and ships were built which facilitated greater commerce and trade. Development of the printing press enhanced the accumulation and transmission of knowledge, and spurred inventive technologies. Universities were established. The arts flourished but were inaccessible to the bulk of the population.

Critically, legal institutions which upheld the rule of law, private property rights, contractual transactions, competitive free markets, and the inalienable rights of each individual took form before 1800—the most common date for the beginning of the Industrial Revolution.

Select European countries, especially England, achieved some gains in agricultural productivity and thus a growth in population well before the Industrial Revolution. But the rate of population growth did not take off until 1850 as shown in **Table 1** below.

In 1750, England had one of the longest life expectancies at 35 years. Global average life expectancy, however, only rose from 24 to 25 years from 1000 to 1750—the period in which the world population tripled to 760 million. Income did not rise as rapidly as population. Global average income increased to $640 by 1750, only 0.05 percent higher than in 1000 A.D. In contrast, average income in England increased annually at a rate of 0.36 percent during the 18th century according to Angus Maddison's *Statistics on World Population*. In food supply, population, lifespan, and a vast store of energy, England had progressed farther than any other country except the Netherlands and was primed to lead the Industrial Revolution.[35]

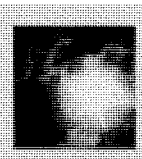
Mankind's Release from the Malthusian Trap

Historian E.A. Wrigley's "Energy and the English Industrial Revolution" documents the necessary role of fossil fuels in mankind's second-most momentous advance. "Around 1800, in northwestern Europe and North America, man's long sojourn in the Malthusian world ended… Between 1770 and 1860… the English population tripled. Yet, real incomes, instead of plummeting, rose… A new era dawned."[36]

Table 1: Population Totals of Selected European Countries 1600-2000 and Related Growth Rates

	England	The Netherlands	France	Germany	Sweden	Italy	Spain
1600	4.2	1.5	19.6			13.5	6.7
1650	5.3	1.9	20.3			11.7	7.0
1700	5.2	1.9	22.6	16.0	1.4	13.6	7.4
1750	5.9	1.9	24.6	17.0	1.8	15.8	8.6
1800	8.7	2.1	29.3	24.5	2.4	18.3	10.6
1850	16.7	3.1	36.3	35.4	3.5	24.7	14.8
2000	49.0	15.9	58.9	82.2	8.9	57.8	39.5
Percentage annual growth rate							
1600-50	0.49	0.47	0.07			-0.29	0.08
1650-1700	-0.04	0.00	0.21			0.30	0.11
1700-50	0.25	0.00	0.17	0.12	0.55	0.30	0.30
1750-1800	0.77	0.20	0.35	0.73	0.56	0.29	0.42
1800-50	1.32	0.78	0.43	0.76	0.79	0.60	0.67
1850-2000	0.72	1.10	0.32	0.56	0.62	0.56	0.66
Relative size of national populations England = 100							
1600	100	37	471			325	161
1650	100	36	382			220	132
1700	100	36	434	307	26	261	142
1750	100	32	416	287	30	267	145
1800	100	24	338	283	27	211	122
1850	100	19	217	212	21	148	88
2000	100	32	120	168	18	118	81

Source: E.A. Wrigley, *Energy and the English Industrial Revolution*, p. 155.



The Simple Story of Energy According to Matt Ridley

"The story of energy is simple. Once upon a time all work was done by people for themselves using their own muscles. Then there came a time when some people got other people [like slaves] to do the work for them, and the result was pyramids and leisure for a few, drudgery and exhaustion for the many. Then there was a gradual progression from one source of energy to another, human to animal to water to wind to fossil fuel. In each case, the amount of work one man could do for another was amplified by the animal or machine. The Roman Empire was built largely on human muscle power in the shape of slaves... The European early Middle Ages were the age of the ox... With the invention of the horse collar, oxen then gave way to horses, which can plough nearly twice the speed of an ox, thus doubling the productivity of a man...

"In turn oxen and horses were soon being replaced by inanimate power. The watermill ... became so common ... that by the time of the Domesday Book (1086), there was one for every 50 people in southern England ... The windmill appeared first in the 12th century and spread rapidly ... But it was peat, rather than wind, that gave the Dutch the power to become the world's workshop in the 1600s...

"Hay, water and wind are ways of drawing upon the sun's energy: the sun powers plants, rain and wind. Timber is a way of drawing on a store of the sun's energy laid down in previous decades—on solar capital, as it were. Peat is an older store of the sunlight—solar capital laid down over millennia. And coal, whose high energy content enabled the British to overtake the Dutch, is still older sunlight, mostly captured around 300 million years before. 'The secret of the industrial revolution was shifting from current solar power to stored solar power,' [Emphasis added]

Source: Matt Ridley, *Rational Optimist* pp. 214-218.

Neo-Malthusian Perspectives

Although the Industrial Revolution and the sustained growth it spawned disproved Malthus' predictions, Malthusian perspectives remain appealing to the pessimists among us. In spite of the continual growth in global population, food supply, energy resources, and income per capita, pessimists continue to predict resource depletion, world famine, increased poverty and now apocalyptic global warming. Modern Neo-Malthusians such as Paul Ehrlich and Lester Brown persist in their claim that the world's population will overcome food supply and natural resources.[37] The many predictions of mass starvation and "peak oil," voiced by Ehrlich and his ilk, have repeatedly failed to occur in spite of increased consumption by a growing world population. As economist Julian Simon and others have shown, human creativity is the ultimate resource capable of continually expanding the bounds of the master resource called energy.[38]

Fossil Fuels: A Necessary Condition of the Industrial Revolution

Wrigley and others persuasively regard fossil fuels as a necessary condition of the Industrial Revolution. How could the Industrial Revolution, which began in England around 1800, spread to three continents? How could it now be growing in China and India, and still improving human-well-being throughout the developing world? All this without the kind of energy held in fossil fuels? Coal, however, cannot be construed as a "sufficient condition" or a cause of the English Industrial Revolution. Historians still debate the multiple, reinforcing, and inter-related factors that led to the Industrial Revolution. Other factors include greater literacy, accumulation of knowledge, inventive technologies, efficiency gains, and legal institutions that protect property rights and contractual transactions that promote capital accumulation.

Yet, without access to the vast store of dense and versatile energy in fossil fuels, the economic growth and human well-being rising since the early 1800s likely could not have occurred. If mankind's first major advance was the Neolithic Agricultural Revolution, then the second major advance known as the Industrial Revolution was at root an energy revolution for heat and mechanical energy. "[T]apping into the new energy source changed the production horizon in a fundamental fashion that had happened only once previously in human history, at the time of the Neolithic food revolution."[39]

Throughout human history, various societies developed technologies to enhance the supply of the energy provided by nature. But the progress was halting or temporary. All too often it regressed. The Neolithic food revolution made wealth and high culture possible for the elite, but grinding poverty remained the common lot of mankind.

Productivity Unleashed

"The Industrial Revolution is unique in world history," writes historian Gregory Clark, "owing to the sudden appearance of a more rapid rate of efficiency advance than had been witnessed over sustained period by any earlier economy."[40]

Thomas Malthus, whatever the defects of his analysis, was one of the three men credited with articulating the structure of classical economics, the other two being Adam Smith and David Ricardo. The lives of these men coincided with the early decades of the Industrial Revolution although they were unaware of the game-changing nature of the economic breakthrough going on around them. Malthus, Ricardo, and Smith agreed that an Industrial Revolution which could indefinitely sustain increasing population and income per capita was physically and economically impossible.[41]

The Puzzle of the Industrial Revolution: Sustained Growth

Most economists remain puzzled that the economic growth started by the Industrial Revolution has never stopped. In his recent book *Knowledge and Power*, George Gilder reflects on the perplexing magnitude of the growth. "The central scandal of traditional economics," he writes, "has long been its inability to explain the scale of per capita economic growth over the last several centuries. It is no small thing. The seven-fold rise in world population since 1800 should have attenuated growth per capita. Yet the conventional gauges of per capita income soared some 17-fold, meaning a 119-fold absolute increase in output in 212 years."[42]

Although economists struggle to explain the continually expanding growth, the events of this energy and industrial revolution are widely recognized. The hallmark of the revolution was, as Clark states above, a rapid and radical expansion of the productive powers of an economy. Efficiency is here understood as the ratio between the cost per unit of input and the cost per unit of output. Efficient and profitable enterprises produce more output per unit of input and thus can generate profit. The magic of fossil fuels is that their input can exponentially increase output, and thus overall efficiency.

Prodigious Gains in Productive Efficiency

Consider textiles. According to Clark and Wrigley, the textile industry accounted for over 50 percent of the increased productivity, and thus growth, in England during the entire 19th century. "Efficiency in converting raw cotton to cloth increased 14-fold from the 1760s to the 1860s, a growth rate of 2.4 percent per year, faster than productivity growth in most modern economies."[43] In 1760, transforming a pound of cotton into woven cloth took approximately 18 man-hours. By 1860, the same work was completed in 1.5 man-hours.[44] Similar rate of gains were achieved across many industries.

England first used coal to overcome the island's chronically limited supply of heat energy available from wood. During the 18th century, coal was increasingly used in homes and handicraft industries. Coal was also used to mine more coal, providing heat energy for the crude pumps used to extract the coal. "And once it had become clear that coal could provide heat energy on a scale and at a price which had no previous precedent, it was not surprising that attention turned to parallel problem with mechanical energy."[45]

The Core of the Industrial Revolution: Mechanical Energy

The steam engine, which translated heat energy into mechanical energy, unleashed the seemingly unlimited productivity and inventiveness for which the Industrial Revolution is known. Thomas Newcomen's first steam engine converted only 1 percent of the heat energy from burning

coal. James Watt's later engine—the symbol of the English Industrial Revolution—converted 10 percent of the heat energy and was much faster.[46] Not long after the development of Watt's steam engines, inventors translated the vertical movement of the pistons into rotary motion.

This advance made possible the application of fossil fuels to a huge range of devices and machines that increased manufacturing productivity by leaps and bounds and reduced hard labor. The steam engine and derivative devices mechanized production that previously was the hard labor of human or animal muscle. With mechanization, productive efficiency soared, and so did energy efficiency.[47]

Unprecedented Growth

In contrast with Malthus, Ricardo, and Smith, some English economists fully grasped the energy equation in England's industrialization. William Jevons, whose life spanned the gathering speed of the English Industrial Revolution in the mid-19th century, correctly assessed the magnitude of the energy revolution taking place around him—mankind's liberation from the Malthusian trap. Jevons writes in *The Coal Question*: "With coal almost any feat is possible or easy; without it we are thrown back into the laborious poverty of earlier times."[48] As England used more and more coal, Jevons was concerned that eventual depletion of England's coal supply would drive up the price of coal and thus arrest the phenomenal growth. Coal, however, did not become scarce or more expensive. Indeed, using coal-fired energy begat more energy, productivity, and income.

Every other boom in human history eventually hit a wall and then declined because resources dwindled—whether timber, cropland, pasture, labor, water, or peat. These resources, unlike coal, are renewable and so replenish themselves but at a pace far too slow to meet ongoing demand. Coal in the English Industrial Revolution was a different story. As England used more and more coal, it actually became more abundant and cheaper. Although not in principle renewable (save for another 300 million years of geological compression) fossil fuels remain abundant enough to sustain economic growth for at least centuries until fully comparable or superior energy sources are genuinely available at scale.

More output from less input remains the inherent dynamic of economic growth from fossil fuels. Modern societies get increasingly more work out of each ton of fossil fuel. According to recent EIA data, the carbon intensity of the U.S. economy has been declining since 1949.[49] (*See Figure 5*) The U.S. now uses 50 percent less energy per unit of GDP than it did in 1950.[50]

Less than 250 years ago, England was the first country to transcend what had been universal constraints on accessible energy and thus universal constraints on economic growth. Rapid growth no longer meant an inevitable regression. Mankind's Malthusian shackles were torn apart.

"A Farewell to Alms"

The greatest gift of the energy breakthrough, on which the Industrial Revolution still relies, is the release of entire populations from abject poverty. Unlike any previous economic boom, the poorest—not the already wealthy—were the greatest beneficiaries. "The plain fact is that the mechanization of production in the Industrial Revolution raised incomes across all classes," remarks Matt Ridley.[51]

Princeton historian Gregory Clark titled his global economic history, *A Farewell to Alms*—a word-play on Ernest Hemingway's *A Farewell to Arms*. Both titles evoke the primal hope of mankind for a world without poverty or war. At the beginning of his history of the Industrial Revolution, Clark underlines his theme in startling terms:

> The Industrial Revolution, a mere 200 years ago, changed forever the possibilities for material consumption. Incomes per person began to undergo sustained growth in a favored group of countries. ... Moreover the biggest beneficiary of the Industrial Revolution has so far been the unskilled."[52*]

Indur Goklany in **Table 2** shows the barely measurable increase in global income per capita (as well as life expectancy) from 1 A.D. until 1750 A.D., around the dawn of the Industrial Revolution. Note that the dramatic increase from 1750-2009 is strongly correlated with what is the first sizeable increase in man-made emissions of CO_2 in human history.

* Although Clark's claims may seem overwrought, note that his point is about the physical parameters or material conditions of life for the majority of people. His empirical data derives from the macroeconomic historical data significantly compiled by the late Angus Maddison.

Table 2: Average Annual Rate of Increase for Various Time Periods

	1 A.D. -1000 A.D. %	1000 A.D. - 1750 A.D. %	1750 A.D. - 2009 A.D. %
Life Expectancy	0.01	0.00	0.41
Income	0.00	0.05	0.98
Population	0.02	0.14	0.88
Carbon Dioxide Emissions			3.23

Source: Indur Goklany, *Humanity Unbound*, p. 6.

Clark's figures for England in Figure 2 (page 8) show what he characterizes as "the unprecedented, inexorable, all-pervading rise in incomes per person since 1800. The lifestyle of the average person in modern economies was not unknown in earlier economies: it is that of the rich in ancient Egypt or ancient Rome. What is different is that now paupers live like princes and princes live like emperors."[53] As Goklany summarizes these numbers: "Never in human history had indicators of human well-being advanced so rapidly."[54]

Industrialization of the more pervasively agrarian United States took off a little later than the English Industrial Revolution. Raw materials and foodstuffs from the U.S. significantly supplemented the needs of England's industries and growing population. Without these "ghost acres," many historians question whether England's comprehensive industrialization would have been as successful. The U.S. story, however, is quite the same as England's: dramatic rises in life expectancy, population, GDP per capita and CO_2 emissions.[55]

Greatest Gains to the Poor

Income per capita calculated as an average may be highly misleading. But the most distinctive feature of the economic boom fueled by the Industrial Revolution is that the income gains accrued more to the poorest and the average worker than to the wealthy. The average English income headed upward around 1800. By 1850, it was 50 percent above the level in 1750 in spite of the fact that the population tripled. As Matt Ridley notes: "The rise was steepest for unskilled workers ... The share of national income captured by labour rose ... Real wages rose faster than real output throughout the 19th century, meaning that the benefit of cheaper goods was being garnered by the workers as consumers, not by bosses and landlords."[56]

The most distinctive feature of the economic boom fueled by the Industrial Revolution is that the income gains accrued more to the poorest and the average worker than to the wealthy.

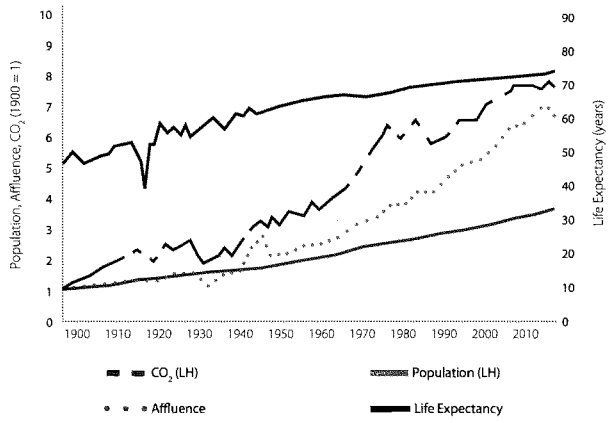
As the abundant heat and mechanical energy supplied by coal increased productivity, the supply of goods increased while the price declined. The winter jacket mentioned in Ridley's vignette at the beginning of this paper, which cost a month's wages, may have cost only a week's wages by 1850. As productivity increased, factory workers were better able to afford to buy the products they helped produce. A middle class emerged.

Satanic Mills?

The prevalent views of living conditions of workers during the first century of England's Industrial Revolution are grim. Perhaps the most memorable is Blake's poem lamenting the "dark Satanic Mills."[57] Karl Marx, Charles Dickens, and other writers decried the pollution, filth, and general squalor in the new factories and urban apartments. Later writers, however, point out that worse poverty, disease, pollution, and child labor certainly existed in England before the Industrial Revolution. Rural poverty may have been worse than urban poverty.

Matt Ridley says, "In Gregory King's survey of the British population in 1688, 1.2 million laborers lived on four pounds/year and 1.3 million 'cottagers'—peasants—lived on two pounds/year. That is to say, half the entire nation lived in abject poverty; without charity they would starve.

Figure 4: U.S. Carbon Dioxide Emissions, Population, GDP, and Life Expectancy (1900-2009)



Source: Indur Goklany, *Humanity Unbound*, p. 8.

During the Industrial Revolution, there was plenty of poverty but not nearly as much as this nor nearly as severe."[58] The violent protests of the 19th century textile workers—known as the Luddites—against the labor-saving machines were short-lived. Although factory workers in early stages of the Industrial Revolution may have worked, by modern standards, in dangerous and dirty work places, they lived lives better than their tenant farming ancestors, which is why they flocked to the factories from the farms.[59]

The poverty of early industrial England may be so memorable because it was the first time politicians and writers expressed concern. The prosperity that industrial growth made possible indeed increased and institutionalized compassion. In 1807, the British Parliament at last passed William Wilberforce's legislation to abolish the slave trade. About the same time, the world's largest factory complex opened in Manchester, powered by coal and illuminated through steam and gas lights.

The Great Divergence

The farewell to alms, however, has not spread to all countries. "Material consumption, in some countries, mainly in sub-Saharan Africa, is now well below the pre-industrial norm. ... Just as the Industrial Revolution reduced income inequalities *within* societies, it has increased them *between* societies," as Clark notes. The historical factors leading to this "Great Divergence" are analyzed in a book by that name written by Kenneth Pomeranz. The gap in incomes between tbe poorest and richest countries is now of the order of 50:1."[60]

In the developing world, foreign aid and increased access to basic modern medicine have increased population without engendering a foundation for the legal institutions, capital accumulation, or affordable energy on which modern economic growth rests. By conditioning financing for energy infrastructure in developing countries on use of renewable energy, the U.S., the European Union, the International Monetary Fund, and World Bank immorally consign these populations to energy poverty.

Fossil Fuels and the Modern Agricultural Revolution

Fossil fuels are extraordinarily versatile energy sources. The most revealing example is the role that natural gas has played in increasing the food supply for a growing world population.

Paul Ehrlich's Dire Predictions Were So Wrong

Since 1800, agricultural productivity has increased by as much as the rest of the economy. The doom-saying predictions of Malthus, and in recent times of Paul Ehrlich and Lester Brown, of mass starvation by the end of the 20th century have not occurred. Thomas Malthus made his prediction of impending famine in 1798. Global population then doubled by 1923 and doubled again by 1973 without fulfilling Malthus' prediction. The most well-known neo-Malthusian, Paul Ehrlich, in his 1968 best-selling book *The Population Bomb*, said "India couldn't possibly feed two hundred million more people by 1980," and, further, that "Hundreds of millions of people will starve to death in spite of any crash programs."[61] Ehrlich's predictions did not materialize.

In 1974, India became a net exporter of wheat.[62] In the 1960s, India produced about two tons of rice per hectare, a quantity that tripled by the mid-1990s. And the price of rice fell from about $550 per ton in the 1970s to about $200 per ton in 2001. India is now a major rice producer and exported almost 4.5 million tons in 2006.

Of course, millions of people in developing countries—and most harshly in sub-Saharan Africa—remain undernourished or malnourished. The international Food and Agricultural Organization (FAO) estimates that over 870 million human beings are chronically undernourished.[63] Food supply per person, however, has increased as the world's population increased. Also known as the Green Revolution, the Agricultural Revolution of the 20th century could not have occurred without abundant, affordable fossil fuels.[64] Indeed, the modern agricultural upsurge can be considered a later chapter of the energy revolution on which the 19th century Industrial Revolution relied.

Natural Gas Derived Fertilizer and Fossil Fuel Inputs

The dramatic increase in agricultural yield began in the 1920s with the commercial development of fertilizer made from synthesized nitrogen. "This energy intensive process fixes nitrogen from the air by reacting it under very intensive pressure with hydrogen (obtained from natural gas), generally over an iron catalyst."[65]

Abundant, affordable fossil fuels are essential to the productivity of 20th century agriculture. The fertilizers, pesticides, machinery, refrigeration, and efficient transport responsible for expanding and distributing food supply all rely on fossil fuels. And the elevated atmospheric concentrations of CO_2, resulting from the use of fossil fuels, have significantly increased plant productivity and drought resistance.

Colossal Agricultural Productivity through Fossil Fuels

Fossil fuels, indeed, have made the planet greener. Global warming alarmists refuse to acknowledge these fundamental facts about CO_2. In stunningly exaggerated rhetoric, U.S. Secretary of State John Kerry recently characterized man-made emissions of CO_2 as "perhaps even ... the world's most fearsome of weapons of mass destruction."[66] In shrinking man's footprint on the natural world and at the same time increasing the world's food supply, man's use of fossil fuels provides benefits of profound and far-reaching value.

The numbers are staggering but totally ignored by President Barack Obama and his most senior policymakers. Without fossil fuels, the amount of land needed to grow crops to meet current global food demand would have to increase hy 150 percent.[67] From 1961-2007, the world population doubled from 3.1 billion to 6.7 billion, but food supply per person increased by 27 percent. The amount of cultivated cropland, however, increased by only 11 percent.[68] "In effect, in 2007, the global food and agricultural system delivered, on average, two-and-a-half times as much food per acre of cropland as in 1961."[69]

Fertilizers derived from natural gas have vastly improved agricultural yield. The *Agronomy Journal* reports: "The average percentage of yield attributable to [natural gas-derived] fertilizer generally ranged from 40-60 percent in the USA and England and tended to be much higher in the tropics."[70] A study in Nature Geosciences found in 2008 that this same type of fertilizer so increased the productivity of cropland that it fed 48 percent of the world's population.[71]

Pesticides are another energy-intensive input to high-yield farming. Agronomist E.C. Oerke estimates 50-77 percent of wheat, rice, corn, potatoes, and soybeans would have been lost over 2001-2003 without the use of pesticides. Pesticides, according to Dr. Oerke, reduce the loss to 26-40 percent.[72]

Constant movement of cereal grains, fresh produce, dairy products and meats across countries and across continents also extends the food supply and provides the rich diversity of fresh foods available 365 days of the year in affluent countries like the U.S. More importantly, transport by air and road allows rapid movement of foodstuffs from areas of surplus to areas of scarcity and famine. Affordable fossil fuels make this transportation system possible.

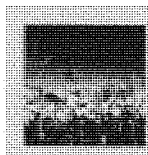
Refrigeration, packaging, and containers reduce food waste that can otherwise eliminate around one-third of food supply.[73] Whether providing fuel for cooling and freezing or raw material for packaging, fossil fuels reduce loss of the food supply.

Increased Atmospheric Concentrations of CO2 Increases Agricultural Yield

Carbon dioxide has been recognized as a plant food for more than two centuries and was first so recognized by the Swiss chemist Nicolas T. de Saussure.[74] This should come as no surprise when the process of photosynthesis is understood. CO_2 is the chemical compound used by plants to construct their tissues—the food source of animals and humans. The EPA may call CO_2 a dirty pollutant, but it remains the "gas of life" for living plants and likewise for humans, who depend upon plant growth for food.

Human use of fossil fuels has increased the atmospheric concentration of CO_2 from approximately 280 parts per million (ppm) at the beginning of the Industrial Revolution to approximately 393 ppm in 2013. According to hundreds of studies, this increased concentration of CO_2 has enhanced plant productivity, growth, moisture retention and resistance to pests. "For a 300 ppm increase in the air's CO_2 content … herbaceous plant biomass is typically enhanced by 25 to 55 percent."[75]

A workshop on Anticipated Plant Responses to Global Carbon Dioxide Enrichment at Duke University in 1977 included a bibliography of 590 studies concerning CO_2 effects on plants.[76] The CO_2 benefits reported in this research included: increases in plant photosynthesis, less water loss, greater leaf area, increase in plant branch and fruit. Another conference in 1992 concluded that a doubling of the atmospheric level of CO_2 would increase photosynthesis in plants by 50 percent.[77]



Ethanol: The Folly of Food as Fuel

The wealthy elite of the world may not have a keen interest in the global supply of basic cereal grains such as rice, corn, and wheat, but these are the basic foodstuff of the majority of the human beings with whom we share life. Work in one of the poorest countries of the world is a vivid reminder of what a life of constant hunger would be like. Using a vitally needed global food grain, such as corn, for the transportation fuel known as ethanol literally takes food from the mouths of hungry millions.

The ethanol policies of the United States, which transform a basic food into an optional fuel, have led to food riots in several countries over the last few years and have been widely condemned by international institutions devoted to eliminating hunger. How blitheringly fast the human condition has changed in affluent countries. Both the current U.S. Surgeon General and First Lady Michelle Obama consider obesity the greatest public health threat in this country. And obesity is more prevalent in lower than in higher income groups. How rapidly the poor in the United States' greatest health threat has changed from too little food to too much food!

Sources: Marco Lagi, Karla Z. Bertrand and Yaneer Bar-Yam, "The Food Crises and Political Instability in North Africa and the Middle East," New England Complex Systems Institute (Aug. 2011); Kim, D. & Leigh, J. P. (2010), "Estimating the effects of wages on obesity," Journal of Occupational and Environmental Medicine, 52(3): 495-500.

Although fertilizer, pesticides, irrigation and new plant varieties spurred the 20th century's Agricultural Revolution, significant credit may be attributed to the addition of man-made CO_2 to the atmosphere. This dramatic benefit is ignored in recent methodologies developed to estimate the social cost—meaning the social harm—of carbon. Surely, the value of increasing food supply on the same amount of land is of high societal value.

The Versatility of Fossil Fuels: Synthetic Materials

Versatility is one of the distinctive advantages of oil, coal, and natural gas. The use of these minerals as the combustion fuel for transportation, industrial process, and electricity absorbs a huge volume of energy. Yet this is the tip of the iceberg. Supplanting fossil fuels with nuclear power or with renewable fuels like wind and solar is an imaginable (if currently impracticable) energy alternative. But with what materials would modern societies replace fossil fuels in the thousands and thousands of products of constant use in homes, business, industry, and medicine? Plastics, synthetic fibers, chemicals, pharmaceuticals, road and construction materials, steel, and a host of other materials are derived from fossil fuels.

Plastic, Asphalt, and So Much More

From petroleum or crude oil, when refined and separated, gasoline, kerosene, asphalt, chemical feed stocks, and pharmaceuticals can be made. The last two categories of uses cover almost all consumer products. Everything "plastic" derives from petroleum or natural gas. Consider a list of over 400 common products derived from petroleum by-products.[78] A miscellaneous selection from this list includes: scotch tape, shotgun shells, soccer balls, guitar strings, pacifiers, aspirin, rubbing alcohol, artificial limbs, fabric softener, hair color, lipstick, shaving cream, electric tape, and Plexiglas. Coal is a vital source of carbon in more than 70 percent of steel production today.

Textiles

The majority of all textiles and clothing are now made of synthetic fibers derived from fossil fuels. Synthetic alternatives to natural materials are the primary reason for the mind-boggling abundance of consumer goods. Clothing and household furnishings—the most personal consumer goods—are a compelling example. Until the late 1800s, all clothing and textiles were made from natural materials such as plant fiber (cotton), wool from sheep, goats, or wild animals, animal skins, and silk from worms. Synthetic fibers derived from fossil fuels currently account for 60 percent of global fibers.[79]

Polyester is the raw material for 80 percent of synthetic fibers, while vinyl, nylon, and acrylic account for 18 percent of synthetics.[80] All these fibers, derived from petroleum, have reduced the cost of clothing across the world and improved the warmth and affordability of winter clothing. For specific uses such as insulation, water repellency, and lighter weight material, synthetic fibers are stronger than natural materials.

Environmental Benefits of Fossil Fuels

Global warming alarmists are misleading the public about CO_2 emissions. Whether emitted from the human use of fossil fuels or as a natural (and necessary) gas in the atmosphere surrounding the earth, carbon dioxide has none of the attributes of a pollutant. The Environmental Protection Agency (EPA)'s increasing characterization of man-made CO_2 as "dirty carbon pollution" is absurd.

CO_2 Differs from Genuine Pollutants

In contrast to the genuine pollutants enumerated in the Clean Air Act, current CO_2 levels in the ambient atmosphere have no direct effects on human health. A remarkable number of highly educated people even who question the IPCC science behind anthropogenic global warming alarmism (GWA), nonetheless, regard "carbon" or CO_2 as a dirty harmful pollutant. They evidently conflate genuine pollutants such as sulfur dioxide, nitrogen oxides, and benzene and mercury, etc., emitted in uncontrolled combustion of fossil fuels with CO_2.

In December 2009, EPA issued an "Endangerment Finding" regarding greenhouse gases.[81] The Endangerment Finding concluded that CO_2 (and five other greenhouse gases) endanger human health and welfare, and are thus subject to regulation as "pollutants" under the Clean Air Act. In reaching this conclusion, the EPA relied on modeled predictions of warmer temperatures decades in the future. Yet both the EPA and President Obama assert that "dirty carbon pollution" is harming human health right now, as a lethal inhalant could. This assertion is flatly wrong.

Consider that the federal Occupational Safety and Health Administration (OSHA) sets a health effect level for CO_2 concentrations in an enclosed space at 5,000 ppm.[82] Current atmospheric concentrations of CO_2 are slightly less than 400 ppm—12.5 times lower.

Fossil Fuel Use Shrinks Human Footprint on Natural World

Fossil fuel use has substantially reduced the human footprint on the earth's glorious natural ecosystems and the animal and plant species which draw life from those natural systems. Human use of land for food, fuel, and materials always has been the greatest encroachment on our natural world. As a form of highly concentrated solar energy stored underground, fossil fuels have checked human interference with the biodiversity of the natural world.

This powerful benefit of fossil fuels has been entirely dismissed by organized environmentalism during the last four decades.* Policies to replace fossil fuel based electric generation with wind and solar generation necessitate significant land modification, habitat destruction, and harm to protected wildlife species.

Since the late 1960s, the environmental left has vilified fossil fuels for their potentially harmful—but eminently reversible—impacts on air and water quality. As noted earlier, global cropland would have to increase by 150 percent without fossil fuel input.[83] "This means that to maintain the current level of food production, at least another 2.3 billion hectares of habitat would have had to be converted to cropland. This is equivalent to the total land area of the United States, Canada, and India combined."[84] Agriculture now has converted 1.5 billion hectares of the surface of the earth to cropland. Without the productivity achieved through natural gas derived fertilizer, pesticides, and other modern agricultural machinery dependent on fossil fuels, the amount of land devoted to cropland would be as much as 3.8 billion hectares.[85]

Replacing animal power with fossil fuel driven mechanical power also confers environmental benefit. Almost 30 percent of the U.S. crop harvest in 1910 was devoted to feeding 27.5 million horses used for animal power on the farm and for transportation.[86] Although U.S. food demand has grown with population over the last 100 years, the number of acres of American land devoted to agricultural crops has not increased since 1910. Had animal power not been replaced by fossil fuel-based power, the amount of cropland necessary to feed a population more than three times larger than that of 1910 would give environmental purists grave indigestion.

Renewables Increase Human Footprint on Natural World

Current wind and solar installations use much more land than coal, natural gas, or nuclear power plants. In spite of rapid development over the last five years, possible only through billions spent in federal subsidies, solar installations generate a mere two-tenths of 1 percent (0.2%) of electric power.[87] For solar to meet total U.S. electric demand, 10,000 square miles of land would have to be given over to solar panels.[88]

Consider the Ivanpah installation—the world's largest solar generating station, located in the Mojave Desert of southern California. This recently opened 377 megawatt (MW) facility occupies 3,500 acres. Wind farms also create a far larger human footprint than fossil fuel or nuclear fired power plants. Wind requires a land area roughly 2,000 times larger than a nuclear plant comparable in generating capacity.

Moreover, fossil fuels have been particularly kind to trees—the original source of almost all heat energy. The amount of timber needed to replace the volume of coal used by England in 1850 would have covered 150 percent of "England's green and pleasant land" (again to evoke William Blake).[89] Today's carbon emissions per unit of economic output are modest when compared to those of pre-industrial societies.

Remarkable Environmental Improvement

If not controlled, of course, the combustion of fossil fuels releases potentially harmful pollutants. Over the last 30 years, innovative emission control technologies have achieved enormous reductions of those pollutants. Although the EPA rarely acknowledges this environmental success, data on the Agency's own website documents the remarkable environmental improvement. (See Table 3, next page).

* A rare exception has been Indur Goklany, who deserves praise for the attention he has brought to these issues.

Emissions from cars and trucks, now the predominant source of particulate matter and precursor emissions for ozone, have been reduced over 90 percent at the same time vehicle miles traveled have almost doubled.[90] Emissions of lead have declined by 97 percent.[91] Additionally, the EPA's Toxic Release Inventory documents a 65 percent reduction since 1988. New power plants emit 90 percent less sulfur dioxide than plants built in the 1940s.[92] The adverse environmental impacts associated with fossil fuels can be reversed and have already been arrested. Reversing the ecological loss occasioned by conversion of natural ecosystems to cropland is typically far more difficult.

Fossil fuel use, ironically, expedited development of the technologies which have so dramatically abated the pollution associated with fossil fuel use. The emission control technologies typically utilize considerable energy to operate. If energy was not abundant and affordable, use of these technologies would be limited. Additionally, the ever-increasing efficiency made possible by fossil fuel-generated prosperity has allowed businesses and consumers to absorb the steep cost of comprehensive environmental controls now used in prosperous countries.

Environmental Improvements: A Luxury for the Developing World

Environmental quality remains an unaffordable luxury for much of the developing world. The most polluted cities in the world, according to the World Bank's list, are in developing countries and not in prosperous countries consuming huge volumes of fossil fuels.[93] In the World Health Organization's list of 89 of the world's cities most polluted by sulfur dioxide (SO_2), consider that Guiyang, China—the first city on the list—has SO_2 levels 45 times higher than Los Angeles—the last city on the list. Environmental protection has taken a back seat to rapid economic development in countries like China, where release from severe poverty has understandably been the first priority.

China and India have begun to abate their air and water pollution. But to claim that China is launching significant initiatives to cap carbon, as President Obama asserts, is misleading. China's environmental priority is to cut genuine pollution that actually impairs human health from high ambient concentrations of contaminants such as smog and soot. China is not shuttering coal-fired power plants as is occurring in the U.S. due to EPA regulation.

Matt Ridley reminds us that two billion people in the world have never seen an electric switch.[94] Policies now implemented by the World Bank, the International Monetary Fund, and by the U.S. government, to prohibit financing of affordable fossil fuel-fired electric generation in developing countries, cruelly delay and deny the world's poorest families light, heat, and cooling. The greatest environmental killers are contaminated water and uncontrolled sewage. Clean water and safe waste disposal require treatment systems that depend upon abundant electric power.

Table 3: Air Quality Improvement 1980-2010

	Ambient 1980-2008	Ambient 1980-2010	Emissions 1980-2008	Emissions 1980-2010
Carbon Monoxide (CO)	-79%	-82%	-58%	-71%
Ozone (O3)	-25%	-28%	-49%	NCD
Lead (Pb)	-92%	-90%	-96%	-97%
Nitrogen Dioxide (NO2)	-46%	-52%	-40%	-52%
Particulates (PM10)*	-31%	-38%	-46%	-983%
Fine Particulates (PM2.5)**	-21%	-27%	-36%	-55%
Sulfur Dioxides (SO2)	-71%	-76%	-56%	-69%

NCD-No Current Data, *1990-2010, **2000-2010

Source: U.S. Environmental Protection Agency, "Air Quality Trends" (Jan. 2012).

U.S. Reduces CO_2 Emissions Without Mandates Through Market Driven Efficiency

Reduced emission of CO_2 is another coincidental result of highly efficient industrial processes. Still dependent on fossil fuels for 80 percent of energy consumed, the U.S. is actually reducing emissions of CO_2 more than are many countries which have imposed carbon reduction mandates. On October 2013, the EIA announced that energy-related emissions of CO_2 had decreased 3.7 percent in 2012, to the lowest level since 1994.[95]

And if carbon dioxide is considered a "dirty pollutant" instead of the "gas of life," consider the graph below, which depicts the decreasing carbon intensity of the U.S. economy since 1949. As a measure of the amount of CO_2 generated per dollar of economic output, the carbon intensity of the U.S. declined 6.5 percent in 2012.

Energy-rich, steady-state, controllable fossil fuels have made possible the increasing productive efficiency that scarce wood, as well as inherently intermittent wind or solar, cannot.

Human Benefits of Fossil Fuels

This paper has attempted to demonstrate how fossil fuels, first harnessed in the English Industrial Revolution and still supporting economic growth across the world, vastly improved the basic physical conditions of humanity and helped release whole populations from subsistence poverty. Although the developed world has enjoyed higher rates of economic growth, the most impoverished people in the developing world are significantly better off than they were in 1950. According to Goklany, "The poor in the developing world grew their consumption twice as fast as the world as a whole between 1980 and 2000. The Chinese are 10 times as rich ... 28 years longer lived than they were 50 years ago. ... The United Nations estimates that poverty was reduced more in the last 50 years than in the previous 500."[96]

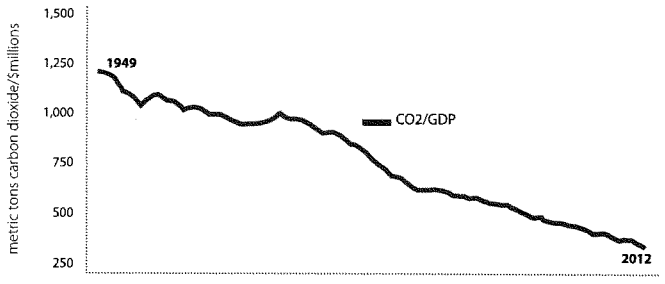
Major Improvement in Basic Indicators of Human Well-Being Across the World

Widely used indicators of living standards show the dramatic increase in life expectancy, income per capita, population, and caloric intake per person since fossil fuel supplanted woody plants as almost the sole source of energy. Figures in earlier sections of this paper chart the scale of improvements in living conditions and well-being.

To review:

- Life expectancy was 20-25 years (largely as a result of high rates of infant and childhood mortality) for most of human history.[97] During the middle of the 18th century, life expectancy in England was 35 years, much higher than in other countries. From that point, the world began to catch up. By 2009, life expectancy around the world was 69 years—and in the U.S., 79 years.

Figure 5: Carbon Intensity of the U.S. Economy, 1949-2012



Source: U.S. Energy Information Administration (Oct. 2013).

- The world's population increased from 760 million people in 1750 to 6.8 billion people in 2009. Over the same period, emissions of CO_2 as a result of fossil fuel increased from 3 million metric tons to 8.4 billion metric tons. In contrast to Malthus' and Ehrlich's predictions of mass starvation, income and nutrition improved.

- From 1961-2007, world population doubled from 3.1 billion to 6.7 billion. But modern agricultural methods using fossil fuel-based fertilizer and other energy-rich inputs achieved 2.5 more food per acre than in 1961. Higher atmospheric levels of CO_2 as a result of fossil fuel likely increased agricultural yield by more than 25 percent.

- Over the last 250 years, global income per capita has risen 11-fold from $640 to $7,300 per year. Scores of studies have shown that the major measures of the quality of human life (nutrition, income, education, lifespan, health, and that ineffable measure known as happiness) grow as income rises.[98]

Prosperity certainly does not guarantee happiness, but eliminating chronic hunger is a good start!

Less Harm from Extreme Weather

And contrary to claims of global warming alarmists from inside and outside federal agencies, the world has become less vulnerable to extreme weather events. "Despite much more complete reporting of such events and associated casualties, aggregate mortality declined by 93 percent since the 1920s," as Goklany's analyses demonstrate.[99] Global death rates from drought—formerly the leading cause of weather-related mortalities—are down 93 percent since the 1920s.[100] Goklany's extensive research on the data refutes claims that man-made climate change is now causing extreme weather with unprecedented deaths and damages.

The now more rapid and effective disaster response depends on fossil fuel-powered equipment and materials. According to Goklany: "In fact, it is inconceivable that successful and timely disaster management effort can be mounted today without diesel generators; petroleum-powered helicopters, trucks, earth-moving equipment ... [and] heavy duty tents made of lightweight petroleum-derived synthetic fibers."[101]

Light

One of the greatest gifts of fossil fuels is perhaps the most assumed condition of modern life: lighting. Outdoor and indoor illumination is constantly available at our finger tips. George Gilder calls the fall in the cost of lighting "one of the most astonishing increases in wealth in the history of mankind, a million-fold increase in the abundance and affordability of light itself ..."[102] In 1800, six hours of work at the average wage bought one hour of light from a tallow candle. In 2009, one-half second of work paid for an hour of illumination from a light bulb. This means the cost of light decreased to one-tenth of 1 percent the cost in England around 1800.[103]

Consider the extent to which this single factor—lighting—has contributed to education, medical procedures, safety, and ease. Yet, cheap, limitless lighting at the flip of a switch is a relatively recent and surprisingly fragile addition to living conditions.

Time

Another ineffable benefit of the abundant, affordable energy secured by fossil fuels is the gift of time. Our cars, computers, countless household appliances and machines do work that we otherwise would have to do ourselves. Not only is human muscle spared the physical exertion and drudgery. Greater freedom from compulsory work also allows individuals to choose how to spend more of their time.

Before mankind harnessed efficient fossil fuel-based energy, the bulk of all previous human populations lived in poverty. People spent nearly all their time striving to meet subsistence needs. Thanks to the energy and economic revolution starring coal, oil, and natural gas, humans have far more discretionary time. Whether that time is devoted to edifying pursuits such as education, artistic expression or charitable activities, or recreation and rest, the expansion of human freedom is a most profound benefit of the seemingly limitless supply of energy generated by fossil fuels.

The additional time has especially contributed to the wellbeing of women, whose child rearing and domestic proclivities, in the past, readily consumed all their time. "A woman's work," according to the old maxim, "is never done." Labor-saving conveniences have done more than

create for women the blessing of leisure; they have allowed many women to combine professional pursuits and family responsibilities. The elderly and the disabled also have benefitted from energy-intensive technologies that give them greater independence.

No Comparable Alternatives to Fossil Fuels (For Now)

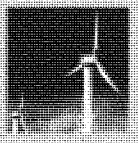
Fossil fuels remain the dominant source of energy in the U.S. and throughout the world because they remain superior to the current alternatives. Many energy policies now championed or in the early stages of implementation, however, envision a rapid transition to renewables as if all energy sources were of equal value and thus readily interchangeable. Whether based on naiveté or fact-free political rhetoric, claims made by the President and his most senior federal officials that renewable energy can supplant fossil fuels within the next decade or two are not supportable.

California intends—officially, at least—to derive 35 percent of its energy from renewable sources by 2020. The state's energy policymakers might wish to chat with a physicist or with the number crunchers at the Department of Energy. Attempts to use the power of government and billions of taxpayer-funded subsidies to force a rapid energy transition from fossil fuels to inherently inferior renewable energy risks inestimable economic damage, societal regression, and human suffering.

Vilified But Still Dominant Because Superior Energy

The animus against fossil fuels and supposed "dirty carbon pollution," however, is widespread. Policies to eliminate fossil fuels obsess the mainstream media and the cultural elite. "Decarbonizing" the world is a core issue among left-of-center policymakers. President Obama refers to oil, coal, and natural gas as the fuels of the past as he extols wind and solar as the power of the future. In his first campaign for the presidency, he promised that "the country that faced down the tyranny of fascism and communism is now called to challenge the tyranny of oil."[104] The EPA is implementing the play book of the Beyond Coal campaign in heavy-handed regulation and is keeping the Sierra Club's playbook for Beyond Natural Gas in the offing.

But, this incendiary rhetoric, now backed with government authority, has not measurably altered consumption of fossil fuels. The Energy Information Administration's (EIA) *Energy Outlook 2014* shows that the source of 82 percent of the 106 quadrillion Btu's annually consumed in the U.S. remains fossil fuel.[105] In their current *Outlook*, the EIA projects that the dominating role of fossil fuels will persist through 2040 with little change except for moderately increased use of natural gas. After aggressive deployment in the last decade, wind and solar energy accounted for less than 2 percent of energy consumption in 2012. Solar-generated electricity, so highly touted by President Obama, provided two-tenths of 1 percent (0.2%) in 2013.[106]



Reliance on Renewables: Energy Regression in Europe

After a rush to supplant fossil and later nuclear fuels with renewable energy in Germany, major media in the country report increasing energy poverty. Electricity is viewed as a luxury good for more and more German households. In 2013, the magazine *Der Spiegel* reported that 300,000-600,000 families were cut off from electricity because residents could not pay electric bills that are three times higher than average bills in the U.S.

On January 21, 2014, Germany's energy minister Sigmar Gabriel told a conference in Berlin that skyrocketing energy costs risk "dramatic deindustrialization" in Germany, one of the world's most highly industrialized countries. Germany now imports not so low-carbon wood pellets made in the U.S. for heating and cooking fuel. For the first time since the Industrial Revolution, energy regression and the human deprivation it causes is a policy choice in the most affluent nations of the world. The policies may not now hurt the affluent but they already hurt middle and low-income families.

Stephen Stone, "Electricity Became a Luxury Good," *Der Spiegel* (4 Sept. 2013); Robert Bryce, "The Real Climate Demand Are the Greens," *The Wall Street Journal* (3 Feb. 2014).

After more than three decades of global warming alarmism and billions showered on renewable energy, fossils fuels remain supreme because they are preferable to consumers. Uranium may be the most energy dense and efficient fuel, but intense public resistance has long prevented widespread use of nuclear generation in the United States. Replacement of the generating capacity of the U.S. fleet of fossil-fuel fired power plants would mean building over a thousand nuclear power plants.

Energy-dense, power-dense, abundant, affordable, controllable, reliable, versatile, portable, scalable and storable: fossil fuels have far more energy advantages than *any other energy source at this point in time*. Human history is a record of endless human innovation, most of which has improved the human condition. Who knows what energy sources and technologies of the future may trump the energy benefits of fossil fuels?

Energy and Power Density

Matt Ridley notes that the secret of the Industrial Revolution was the shift from current solar power to the far more concentrated solar power stored in fossil fuels.[107] Formed by millions of years of compression and heat in the earth, fossil fuels are packed with more energy than woody plants—the product of recent photosynthesis.

Physicists define energy density simply as the quantity of energy that can be contained in a given unit of weight, volume, area or mass. The energy density of dry wood is approximately 17 megajoules per kilogram (MJ/kg). Refined petroleum has a density of 42 MJ/kg, natural gas has a density of 35 MJ/kg, and the energy density of coal is roughly 24 MJ/kg.

The higher density means that less work is involved in extraction, transport, and storage. This opens up unlimited options for conversions. The scores of technological innovations that followed Watt's steam engine powered at first by coal, then also by oil and natural gas, would not have been possible with wood-derived heat energy, no matter how large the supply of timber.

Power density is even more revealing. (See Table 4). The superior power density of fossil fuels exposes the inherent weakness of currently favored renewable energy sources from wind, solar and biomass. Energy sources with lower power density typically utilize too much material or land area to supply power at a competitive price or at the scale necessary to supply a large city or industry 24 hours a day, seven days a week.

If power is defined as the rate at which work is done, power density is defined as the rate of the energy flow that can be generated from a given unit of volume, mass or area. To understand the problem with current renewable policies, power density can be measured in Watts per square meter (Wm2).

Table 4 shows that the power density of a marginal oil or natural gas well is over 20 times higher than wind. Wind and solar require expensive inputs such as large expanse of land and long transmission lines. A good example is the Competitive Renewable Energy Zones (CREZ) in Texas. This project involves construction of the world's longest system of transmission lines dedicated to renewable energy. This recently completed project built over 3500 miles of transmission lines to connect the wind farms in the far western portion of the state to the population centers along Interstate 35, a distance at some points of more than 600 miles. The total cost is around $7 billion and will be socialized across all ratepayers under Texas law.[108]

Inputs of this magnitude, coupled with the inherent intermittency of wind and solar, may undermine the viability of huge renewable solar installations recently completed or under construction thanks to huge grants and loan guarantees from the federal government.[109]

Abundance

Less than 10 years ago, rising oil and natural gas prices, a result of soaring demand from developing giants like China and India coupled with political unrest in the Middle East, spread concern about declining global reserves. Yet within a few short years, the U.S. and global outlook reversed from increasing scarcity to rapidly increasing abundance. Developed by private-sector energy entrepreneurs in Texas, innovative technologies known as hydraulic fracturing, horizontal drilling, and seismic imaging have unlocked tbe massive deposits of oil and natural gas in shale rock. Al-

Table 4: Power Density in Watts per square meter (W/m2)

Corn Ethanol	0.08 W/m2
Wind	1.2 W/m2
Solar Photovoltaic	6.7 W/m2
Natural Gas Well	28 W/m2 (if marginal well producing 60,000cf/day)
Oil Well	27 W/m2 (if marginal well 10 barrels per day
Nuclear Power	500W/m2 (2,700 MW)

Source: Robert Bryce, "The Real Problem with Renewables," *Forbes* (11 May 2010).

though U.S. production now dominates increasing supply of oil and natural gas from shale formations, the same geology occurs throughout the world.

In 2007, the U.S. imported almost 60 percent of the petroleum it needed. Higher domestic production has now dramatically reduced imports and increased exports of petroleum products. The EIA reported in February of 2014, U.S. imports of foreign oil declined from 60 percent in 2005 to less than 40 percent in 2012.[110] Crude oil imports fell 9 percent in 2013, while exports of petroleum products rose by 11 percent.[111] Domestic oil production continues to increase so rapidly that the percentage of oil imports is declining faster than EIA can meaningfully estimate.*

Natural gas has experienced a similar explosion in supply. In 2007, conventional wisdom held that natural gas supply in the U.S. would continue to dwindle.[112] Import terminals were planned for construction on all the U.S. coasts. Through fracking, natural gas production has soared.[113] Those import terminals are now being retrofitted for exports of natural gas. And the U.S. has now passed Russia as the world's largest natural gas producer. (China actually has the world's biggest reserves of shale gas but is now in the early stages of production.)

The world's current supply of hydrocarbons from oil and natural gas can meet demand on the basis of current technology for several centuries.

Don't be misled by some of the metrics used to quantify the global or domestic energy supply. The Department of Energy's most recent estimate of "proved reserves" in the U.S. is only 25.2 billion barrels of oil.[114] EIA defines "proven reserves" as known oil resources producible with government consent using current technology and commercial terms.[115] This number includes neither the vast store of oil now produced from shale nor other unconventional resources, access to which is blocked by the government prohibition. When "technically recoverable resources" are added to the proven reserves, the U.S. supply increases to the equivalent of 2.2 trillion barrels. The total exceeds 2.5 trillion when all resources are considered.[116] No one really knows how much oil, natural gas or coal under the earth is producible. The recent shale revolution justifies an extremely optimistic outlook.

The world is also blessed with abundant coal: of which the U.S.—known as the Saudi Arabia of coal—has the largest reserves. The U.S. has 261 billion tons of coal in proved reserves. In the lower 48 states, the U.S. has 486 billion tons of coal in the demonstrated reserve base. This is enough coal to continue current rates of consumption for 485 years.[117]

Affordability

Perhaps the best measure of the affordability of fossil fuels is the vast volumes of energy consumed by all income groups in the U.S. and other prosperous countries. Gasoline prices, though considerably higher than 10 years ago, are tolerable for all but the lowest income households. Overall energy prices are rising in the U.S., in part as a result of the high costs of the EPA's aggressive regulation. In 2012, median income families spent 21 percent of their average after-tax income on energy, a slightly higher portion of income than spent on food.[118]

* The International Energy Agency based in Paris predicts the U.S. will surpass Russia and Saudi Arabia as the world's largest producer of oil by 2015.

Countries which have aggressively supplanted fossil fuels with renewables in the last 10 years or less have incurred steep increase in energy prices. Germany, Spain, Denmark, and Great Britain offer examples. Germany's residential electric rates are three times the average U.S. retail rate. Earlier sections of this paper have drawn attention to the startling rise of energy poverty and the risk of rapid deindustrialization in Germany.

Reliable and Controllable (Dispatchable)

In contrast to renewable energy resources from wind, solar, and biomass, man can control access to and conversion of the energy held in fossil fuels. No machine or person can control when the wind blows or at what velocity. No one can control how much of the radiant heat of the sun will hit the earth on a given day or hour. Annual weather and the growing cycle control the timing and quality of harvest of renewable biomass like corn for ethanol.

The inherent intermittency of wind and solar is a major step backward for electricity-dependent societies. Not only does weather constantly shift from cloudy to clear days. The solar maximum period—needed for photo voltaic (PV) generation—is only from 9am to 3pm.

Wind conditions not only follow seasonal shifts. Wind speeds also can change in an instant. Wind speeds too high or too low preclude generation. The over 12,000 MW of installed wind capacity in Texas generates the most electricity when Texas least needs it. West Texas, where most of the wind farms were built, has little wind during the long, hot summer—the period of peak electric demand for the state.

Wind and solar are what operators of electric grids call non-dispatchable technologies. Since electric load on the grid must be continuously balanced or the grid will go into a tail spin, generating units whose output can be varied to meet fluctuating demand in real time are what provide constant reliability to modern systems of electric generation and transmission. Being non-dispatchable, electric generation from solar and wind technologies can never provide reliability. In contrast, coal and natural gas fired (and to a certain extent, nuclear) electric generation can reliably meet peak demand and can be controlled to follow variations in demand in real time.

The intermittency of wind and solar also makes it wastefully parasitic on generation provided by fossil fuels. Because wind and solar electric output can change in an instant, a back-up generating source is needed. Natural gas-based generation is particularly suited for this role. When a wind or solar facility is actually generating electricity, a natural gas plant, in an operational mode called "spinning reserves," may be idling so that it can rapidly ramp up to give the grid stability. This is one reason for the much higher cost of renewable energy. Mandates that 20 to 50 percent of electricity must be from renewable sources are fraught with peril and pull society backward toward the preindustrial era.

Technology has yet to invent a suitable battery for wind and solar power to store and later use the power generated by wind and sunshine. Effort to do so has been underway for years. But would not recharging such a massive battery consume the lion's share of the electricity generated by solar in the first place?

Table 5: Capacity Factor
(EIA *Energy Outlook 2013*)

Wind	30-37%
Wind Offshore	37%
Solar PV	25%
Solar Thermal	20%
Advanced Coal	85%
Natural Gas	87%
Advanced Nuclear	90%

Source: Robert Bryce, "The Real Problem with Renewables."

Advocates of renewable energy stack the deck. The typical boasts that a certain wind farm will provide electricity for, as an example, 250,000 households are misleading. Those high numbers served are invariably based on the "installed capacity." Installed or nameplate capacity refers to the maximum amount of generation of which the facility is capable of operating continuously over a certain period of time —usually a year. The most important factor about renewable generation is the "capacity factor" understood as the amount of electricity *actually generated* in a year. The difference between installed capacity and capacity factor for wind and solar is glaring.

Capacity factor reveals the far higher costs of renewable electric power and the folly of the massive subsidies accorded these projects. (See Table 5). Consider this simple math applied to the Ivanpah solar thermal facility recently completed in the Mojave Desert.

Ivanpah is the largest thermal solar generating complex in the world. The $2.2 billion cost of Ivanpah was eased with a federal loan guarantee and likely a federal grant for 30 percent of the cost of construction—more than $600 million from U.S. taxpayers. The plants installed capacity of 377 MW shrinks to 75.4 MW of actual generation when the capacity factor for solar thermal (20%) is applied. The claimed 140,000 homes to be powered by Ivanpah shrink to 28,000 homes.[119]

Versatility

Much of this paper has attempted to point out the versatility of fossil fuels. In addition to providing the energy source for transportation and electric generation, fossil fuels have vastly expanded the world's food supply, material goods and services.

Fertilizer derived from energy-dense natural gas stoked the natural photosynthetic process and immensely increased agricultural productivity. The list of products derived from petroleum appears endless. What was once refuse material left after the refining process has become the feedstock for plastic, synthetic fiber and industrial chemicals vital to modern medicine, hundreds of industrial processes and consumer products.

The modern use of energy from the wind and sun is limited to generating electricity. What alternative to fossil fuels could replace 60 percent of all fibers, 48 percent of the world's food supply and all plastics?

Portable and Scalable

Fossil fuels are relatively easy to move around. Over a century, the U.S. has developed an elaborate distribution system for transporting oil, natural gas and coal. Whether through pipelines, transmission lines, rail or truck, these fuels or the power they generate can be moved to where they are in demand. Wind and solar are fixed in one place, typically occupying a large tract of property and usually at a significant distance from demand. Transmission of the electricity generated by renewables usually involves long lines connecting generation at a great distance to end user. This is not only a significant additional cost but also inefficient. Line loss over distance can eliminate 10 percent or more of the original generation.

One of fossil fuels' most beneficial attributes is the capacity to expand and increase to meet demand on a vast scale. Indeed, cost declines and efficiency rises when fossil fuels are deployed on a larger scale. Renewables lack this elasticity and efficiency because of their intermittency. Wind- and solar-generated power has never been used at scale.

The massive solar facility in the Mohave Desert plans to achieve generation on a scale that could power Los Angeles. Time will tell. Simple math and physics, and the experience of Germany, do not bode well for "Big Solar" projects like Ivanpah. Much smaller scale applications of wind and particularly solar, for residential or commercial use, is a more likely niche for renewables.

Conclusion

"Notwithstanding their flaws," Indur Goklany writes, "the fossil fuel-dependent technologies that stretched living nature's productivity and displaced some of its products not only permitted humanity to escape the Malthusian vice but saved nature itself from being overwhelmed by humanity's demands."[120]

This paper has aimed to identify rarely acknowledged but profound historical facts about the role of energy in human history and the extent to which fossil fuel derived energy has improved human well-being across the world. As a necessary condition of the Industrial Revolution, the vast store of concentrated energy in fossil fuels unleashed sustained productivity and economic growth which in turn led to monumental improvements in human living conditions as measured by life expectancy, income per capita, caloric intake, clothing, shelter and fuels. And the greatest beneficiaries of this energy revolution known as the Industrial Revolution were average workers and the most impoverished. Increasing emission of man-made CO_2 is tightly correlated with this monumental achievement.

Yet, senior leaders of the most highly developed nations and the non-governmental organizations (NGO) surrounding the United Nations Environmental Program (UNEP) decry the CO_2 emissions associated with fossil fuels as pollution so dangerous that it will overpower the physical dynamics of earth's climate system. CO_2, the gas that makes life possible on the earth and naturally fertilizes plant growth, is now characterized by U.S. Secretary of State John Kerry as "the most fearsome of weapons of mass destruction."[121] After 40 years of such vilification, fossil fuels still dominate 80-85 percent of the world's energy use because—at this point in time—these fuels are superior on many levels to the current alternatives.

Predictions of catastrophic man-made global warming have gained global political traction over the last 25 years and recently have become shriller as evidence for dangerous warming weakens. The climate science developed through the United Nation's Inter-Governmental Panel on Climate Change (IPCC) concludes that global emissions of CO_2 must be reduced by at least 85 percent "to prevent dangerous interference with the climate system."[122] This policy finding is tantamount to elimination of fossil fuel use without energy alternatives fully comparable or superior to fossil fuels.

Mandates to force an abrupt energy transition from fossil fuels to renewable sources are naïve and fraught with peril for highly industrialized economies. As this paper detailed, energy sources are not necessarily interchangeable. In energy density, abundance, reliability, versatility, and other advantages, fossil fuels are far superior to wind, solar, and biomass.

Evidence of the damage rapidly following a government-forced transition to renewable energy emerges in Germany, one of the most highly industrialized countries in the world. German officials sound the alarms of "dramatic deindustrialization" while the media reports that hundreds of thousands of German homes now are without electricity because the cost is unaffordable.[123] Likewise, Britain—the cradle of the Industrial Revolution—recently announced that one in four households live in energy poverty. The *Daily Mail* warns of the risk of 24,000 deaths of the elderly this winter who cannot afford to heat their homes.[124] That such a regression from modern living standards could occur so rapidly in these highly developed countries is a stunning turn of events that U.S. policymakers would be wise to absorb.

Relying on the vast store of dense, versatile energy in fossil fuels, the economic growth begun in the Industrial Revolution still offers the promise of an end to abject poverty. Policies which could undermine a necessary condition of mankind's greatest energy advance, surely, must rest on the most robust scientific justification. The IPCC science, however, founded on assumptions and speculative models, is increasingly contradicted by empirical evidence and thus remains unsettled. The growing doubt about catastrophic global warming was recently voiced in *The Economist*, formerly a staunch believer in man-made climate change: "If climate scientists were credit rating agencies, climate sensitivity [to increased CO_2] would now be on negative watch."[125]

IPCC science claims of 95 percent certainty that human activity is causing climate calamity are more like the dogmatic claims of ideologues and clerics than scientific conclusions. The IPCC's claim of certainty is made as if a measured statistical confidence level—a metric used throughout the IPCC science. This claim of 95 percent confidence however is pulled from thin air without any statistical analysis. Doctrinaire assertions of certainty have no place within the genuine scientific method. The IPCC science is a hypothesis whose accuracy, like all theories, must be corroborated by the evidence of measured observation.

Increasing evidence about solar activity, natural variability, sea levels, Antarctic sea ice and extreme weather weakens the credibility of the IPCC's key assumption that man-made CO_2 emissions dominate the natural dynamics of the earth's climate. The 16-year lull in warming temperatures indicates that increasing CO_2 may not be dominating the climate to the extent that the IPCC assumes. Research on the natural climatic forces such as the sun is generally marginalized throughout three decades of IPCC science. Although 99.98 percent of the energy in the earth's atmospheric system derives from the sun, solar activity plays almost no role in current climate modeling comprising the core of the IPCC science. This is not the quality of science that could justify supplanting the energy wellsprings of mankind's greatest advance!

Robust, empirical scientific research on the natural forces and natural variability of climate needs to be conducted before the industrialized nations of the world prematurely force an abrupt switch from fossil fuels to inferior energy resources. Research on the role of increased concentrations of man-made CO_2 should also continue but outside the highly politicized IPCC and the United Nations.

This paper has attempted to identify the many profound human benefits made possible by the rich energy stored in this ancient nature known as fossil fuels. Although first harnessed not much more than 200 years ago, the energy riches on which economic growth and contemporary lifestyles now depend were not fully accessible until after World War II. Without ever living in an energy scarce world, the living generations of prosperous countries assume a massive, affordable supply of energy at their fingertips.

Energy policy sits at a crossroads. Will living generations eschew high energy use made possible by fossil fuels to lower a risk of theoretically predicted global warming? Would voters choose an energy regression to less productive, efficient, comfortable, and healthy living standards? Multiple polls say no way! For the wealthy elites who make policy decisions—"the ruling class," it appears to be another story.

The vast human improvements flowing from the Industrial Revolution are still occurring in market driven economies under limited governments which uphold property rights and contractual obligation. Why would societies suppress fossil fuels—a necessary condition of the increasing efficiency inherent in productive economies and continually improved living standards? As Thomas Macaulay commented in the early days of Industrial Revolution, "On what principle is it that, when we see nothing but improvement behind us, we are to expect nothing but deterioration before us."[126]

Matt Ridley says it best. "Non-renewable resources such as coal [natural gas and oil] are sufficiently abundant to allow an expansion of both economic activity and population to the point where they can generate sustainable wealth for all the people of the planet without hitting a Malthusian ceiling, and can then hand the baton to some other form of energy. The blinding brightness of this realization still amazes me: we can build a civilization in which everybody lives like the Sun King, because everybody is served by (and serves) a thousand servants, each of whose service is amplified by extraordinary amounts of inanimate energy."[127] ✯

Appendix

Table 1A: Energy Consumption in England and Wales(1561-70) Compared with Italy (1861-70)

Annual energy consumption per head of population (megajoules)

	Human	Draught Animals	Firewood	Wind	Water	Fossil Fuels	Total
England and Wales 1561-70	4,373	6,210	6,324	59	162	2,039	19,167
Italy 1861-70	3,832	3,053	8,894	46	127	1,206	17,158
Percentage distribution							
England and Wales 1561-70	22.8	32.4	33.0	0.3	0.8	10.6	100.0
Italy 1861-70	22.3	17.8	51.8	0.3	0.7	7.0	100.0

Note: Because of the effects of rounding, the constituent percentages do not always sum to 100 exactly.
Sources: Malanima, *Energy Consumption in Italy*, app. 1, tabs. 2 and 3, pp. 96-101; Warde, *Energy Consumption in England and Wales*, app. 1, tabs. 2 and 3, pp. 123-36.

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Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2008. She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and disposal of waste, TCEQ's staff of 3,000, annual budget of over $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She recently completed her term as an officer and director of the Lower Colorado River Authority. White now sits on the editorial board of the *Journal of Regulatory Science*, the Texas Emission Reduction Advisory Board, and the Texas Water Foundation. Her writing has appeared in numerous publications including *National Review, Investors' Business Daily, Washington Examiner, Forbes, Daily Caller, The Hill*, and major Texas newspapers. She most recently testified before the U.S. Senate Environment and Public Works Committee.

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Guest Commentary: Ethanol follies continue with Domestic and Alternative Fuels Act

Posted by FuelFix.com Date: July 29, 2013

By Kathleen Hartnett White

As the U.S. House Energy and Commerce Committee considers the many fiascos caused by the federal Renewable Fuel Standard, let's hope they deep-six the Domestic and Alternative Fuels Act (H.R.1959), co-sponsored by several conservative stalwarts from the Houston area typically more supportive of market dynamics than government mandates. The bill would add ethanol derived from natural gas under the renewable fuel standard established by the Energy Independence and Security Act of 2007.

A comprehensive congressional review of the renewable fuel mandates is welcome after almost six years of counterproductive consequences. Infamous for transforming corn — a staple among global food commodities — into an inefficient transportation fuel, the law is rooted in multiple miscalculations about the domestic fuel market and the viability of alternative fuels such as still commercially non-existent cellulosic biofuel. Unexpected in 2007, the historic upsurge in domestic oil and natural gas has brought the U.S. within sight of energy dominance in the global market. Corn ethanol deserves no credit for this stunning achievement.

Supporters of putting ethanol from natural gas under the renewable fuel dictate contend this fuel would relieve the pressure on corn, and avoid the escalating costs on refiners forced to comply with the continually expanding dictate. In 2007, Congress mistakenly assumed that gasoline demand, and thus oil imports, would steadily rise. Annual consumption, in fact, has significantly declined as a result of more fuel-efficient engines and slack economic growth.

With an annually increasing ethanol mandate but decreasing demand for gasoline, the renewable fuel mandate for

corn ethanol approaches a "blend wall." This is the point at which there is not enough gasoline in which to blend this year's mandated volume of 13.8 billion gallons of corn ethanol and remain under a 10 percent blending rate. The Environmental Protection Agency approved blends up to 15 percent ethanol but the major automakers will not extend engine warranties above the 10 percent blend. Refiners also resist higher blends to avoid product liability claims for damaged engines.

Ethanol from natural gas will not avoid these pitfalls. When adjusted for energy content, ethanol from corn or natural gas is a less energy-efficient product than petroleum-based gasoline. What percentage of consumers would choose a fuel with over 30 percent less miles per gallon and with perhaps more emissions than conventional gasoline?

To be eligible for the market guaranteed under the renewable fuel standard for ethanol, the fuel must reduce emissions of carbon dioxide by 20 percent compared to a baseline petroleum fuel. Whether ethanol made from natural gas could meet this threshold is questionable. Natural gas has almost twice the energy density of ethanol. And while only 3 percent to 4 percent of the energy content of raw natural gas is lost when converted to compressed natural gas, likely half is lost when natural gas is converted to ethanol.

The EPA supposedly assesses these life-cycle emissions of alternative fuels but gives short shrift to carbon dioxide emissions released in the conversion process. As implemented, environmental impact now takes a back seat to the EPA's self-assigned role as economic master of transportation fuels. Although a federal court admonished EPA that its jurisdiction is environmental and not economic, the agency persists in its new mission "to promote growth in the (renewable) industry." EPA's "market" replaces demand, supply and price with mandates, fines and wishful thinking.

There are so many more valuable uses for natural gas than converting it to an alcohol! Now-abundant domestic natural gas spurs rapid growth in U.S. manufacturing, chemical, fertilizer, and steel industries. Demand for natural gas in electric generation and for compressed natural gas as a transportation fuel has soared — without any federal mandates or subsidies.

It is time to repeal the renewable fuel standard — not to expand or entrench this market distortion. Ethanol can be made from a wide variety of sources. Genuine snake oil, in fact, might be a more thermodynamically efficient source than natural gas or corn.

White is the Distinguished Senior Fellow in Residence and Director for the Armstrong Center for Energy and Environment at the Texas Public Policy Foundation, a non-profit, free-market research institute based in Austin.

THE FOLLY OF FOOD AS FUEL

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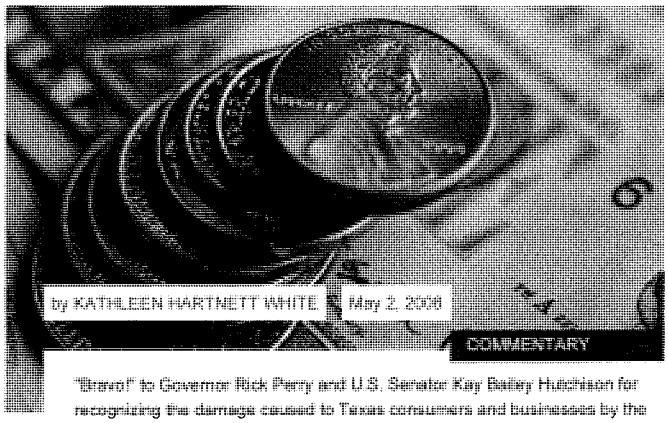

"Bravo!" to Governor Rick Perry and U.S. Senator Kay Bailey Hutchison for recognizing the damage caused to Texas consumers and businesses by the mandatory federal renewable fuel standard for grain-based ethanol.

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A growing mountain of evidence reveals the economic and environmental folly of federal ethanol policy. Gov. Perry's requested 50% waiver and Sen. Hutchison's proposed freeze on the renewable fuel standard (RFS) would alleviate the pressure on corn for fuel.

Texas is only beginning to see the rising food prices that federal ethanol policy could generate. Last year's more than 4% rise in food prices stems from the 2005 Energy Policy Act. New energy law enacted in 2007 significantly enlarged the RFS. Food prices may increase as much as 8% this year. And consider where the largest price increases occurred.

The retail price of eggs increased 29% last year; cereal products, 6.5%; sweetened beverages, 4.5%; beef, 4.4%. All depend on corn-based ingredients or corn feed grains. One-fourth of the 2007 U.S. corn crop was converted to ethanol; the U.S. Department of Agriculture (USDA) projects that 30-35% of this year's crop will become ethanol.

New energy law will force more corn to become fuel. Meeting the 36-billion-gallon RFS mandate in 2022 will require 115% of last year's U.S. corn crop.

Texas is the appropriate state to call for a change in federal ethanol mandates. The indirect costs of ethanol hurt Texans in the grocery store as well as key agricultural sectors of the state economy. All animal agriculture - beef cattle, dairy, swine, and poultry - uses corn-based feed grains.

Four years ago - before the RFS - corn cost $2 per bushel; last year, it was $4. As Gov. Perry's letter to the U.S. Environment Protection Agency highlights, these higher corn prices cost the Texas economy at least $1.17 billion.

A hefty 51-cent-per-gallon tax credit and a 54-cent-per-gallon import tariff also artificially drive the ethanol boom. The tax credit cost the U.S. Treasury $5 billion in 2006; that will rise to $10 billion in 2012.

The U.S. fuel supply may not be able to absorb the mandated volumes of ethanol. Most of the approximately 240 million US vehicles cannot use gasoline with more than a 10% ethanol blend. Perhaps only 6 million are Flexible Fuel Vehicles capable of using 85% ethanol (E85). Only around 1,000 of the 172,000 U.S. gas stations - mostly in the Midwest close to ethanol production - can dispense E85. The Big Three U.S. automakers recently pledged that half of their 2012 vehicles will be flexible-fuel. Yet this amounts to only 2% of total vehicles on the road. It takes decades for a complete fleet turn-over.

Ethanol is an ineffective means of reducing reliance on imported oil. While domestic production of ethanol doubled between 2003 and 2007, imports of oil and refined gasoline increased. A deficit in refining capacity and an approaching surfeit of ethanol production capacity will not increase the security of our gasoline supply or stability of gasoline prices. But what happens to a grain-based fuel supply during the next major drought?

Ethanol has two-thirds the energy value of petroleum-based fuels. A vehicle requires three gallons of ethanol for the mileage of two gallons of gasoline. Would today's consumers choose fuel 30% more expensive than gasoline?

Producing one gallon of ethanol may well take more energy than the end product contains. With fertilizer, water, an energy-intense fermentation process, and transportation necessarily by rail or truck instead of existing pipeline, ethanol production utilizes much more energy than crude oil to reach the pump.

While combustion of ethanol involves less CO2 and particulate emissions than petroleum-based fuels, ethanol causes more NOx emissions - the main ingredient in ozone formation. And ethanol may increase net CO2 emissions. A February 2008 article in Science magazine concludes that the CO2 released from converting forest and grasslands to corn crops could amount to a doubling of CO2 emissions from these lands. Millions of acres long enrolled in the USDA Conservation Reserve Program have now been tilled for corn. Intensive fertilization and irrigation impact water quality and supply.

Perry and Hutchison deserve praise for recommending solutions to the folly of our current federal policy to transform a major foodstuff into a fuel.

Kathleen Hartnett White is Director of the Center for Natural Resources at the Texas Public Policy Foundation, a non-profit, free-market research institute based in Austin, Texas. She served six years as Chairman and Commissioner of the Texas Commission on Environmental Quality.

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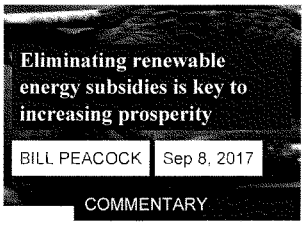

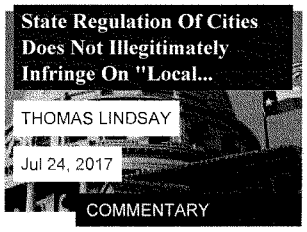

STATEMENT BY KATHLEEN HARTNETT WHITE

DONATE

Mar 12, 2008 | PRESS RELEASE

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"The Governor is correct to call for at least a partial waiver of the federal mandate for grain-based ethanol. Our federal government's policies to subsidize and mandate the ever-expanding supply of ethanol are causing massive distortions in our economy, multi-billion dollar losses to our livestock producers, and severe hardships for Texas families.

"It takes 21 pounds of corn to produce one gallon of ethanol. One person could be fed for an entire year from the corn that we're instead cooking for a single pickup tank of E-85.

"This year, the United States will convert 30 to 35 percent of its corn harvest into ethanol. Federal mandates and subsidies for ethanol production are generating a supply that will be far beyond what the United States is able to use.

"As the Governor noted, global food commodity prices have nearly doubled in the last three years, with corn rising even faster. Those higher prices are just now starting to show up on our grocery shelves, and Texas consumers are in for real pain unless we quickly move more corn back from our fuel supply to our food supply.

"A 50-percent waiver of the ethanol mandate is a good immediate-term step to alleviate the pain from spiraling food inflation. But with each new day bringing stories about double- and triple-digit increases in the price of food staples, domestic food rationing, and Third World food riots, the solution will only come when the U.S. Congress wakes up and reverses its mad rush toward ethanol."

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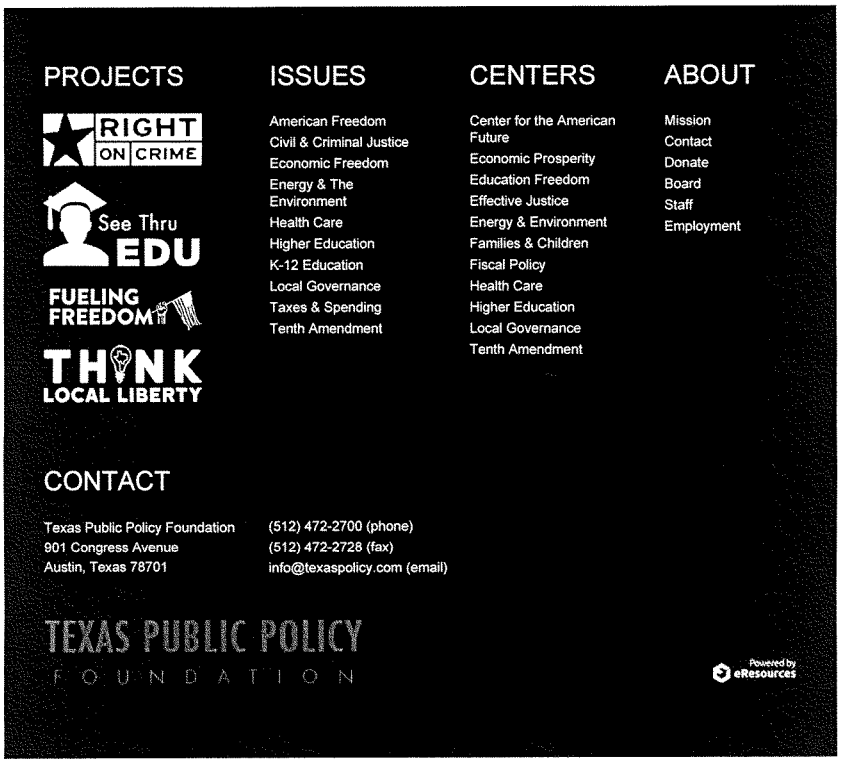
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STATEMENT BY KATHLEEN HARTNETT WHITE

DONATE

Aug 7, 2008 | PRESS RELEASE

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"Today's EPA decision will increase food prices, drive up fuel costs, and reduce fuel efficiency at a time when Americans can least afford any of these.

"The denial of Gov. Rick Perry's waiver request means the massive distortions in our economy will continue. Texas livestock producers will suffer billions of dollars in additional losses, and the financial hardships suffered by Texas families will intensify.

"U.S. food prices rose almost 7 percent in the first half of 2008 because we are converting almost one-third of our corn crop into a motor fuel - one that is far less fuel efficient and the production of which generates far more CO2 than gasoline. Ethanol is creating a global food crisis, with the World Bank and International Monetary Fund attributing three-fourths of the surge in food prices to international biofuel policy.

"Since the EPA will not grant relief, Congress should act quickly to end its destructive food-as-fuel folly."

About the Texas Public Policy Foundation: TPPF is a non-profit, free-market research institute based in Austin, Texas.

About Kathleen Hartnett White: Ms. White is the Director of the Center for Natural Resources at the Texas Public Policy Foundation, and the former Chair of the Texas Commission on Environmental Quality.

- 30 -

Senator BARRASSO. I would also point out that under Ms. White's leadership from 2001 to 2007, the Texas Commission on Environmental Quality issued administrative orders that required payments of more than $47 million in penalties. During that time, the Texas Attorney General's Office obtained civil judicial orders in cases involving TCEQ that required payments of more than $380 million, and I also ask unanimous consent that we insert this into the record. Without objection.

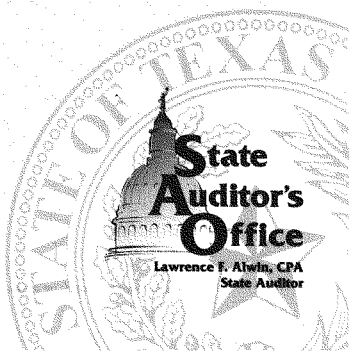
[The referenced information follows:]

An Audit Report on

The Commission on Environmental Quality's Enforcement and Permitting Functions for Selected Programs

December 2003

Report No. 04-016



An Audit Report on

The Commission on Environmental Quality's Enforcement and Permitting Functions for Selected Programs

SAO Report No. 04-016
December 2003

Overall Conclusion

For the air, water quality, and public water supply programs we evaluated, the Commission on Environmental Quality's (Commission) enforcement function does not consistently:

- Issue enforcement orders or settle enforcement cases within its required timeframes. For the cases we tested, late enforcement orders included $299,489 in penalties and yielded economic benefits of $720,253 to the violators.
- Classify supplemental environmental projects (SEPs) according to established criteria or monitor SEPs administered by third parties. The misclassification of the 2002 and 2003 SEPs we tested resulted in a loss of $319,590 to the State.
- Calculate penalties accurately or fully collect delinquent penalties. As of May 2003, the Commission had outstanding delinquent penalties of $571,322.

Commission on Environmental Quality

The Commission on Environmental Quality permits and regulates environmental activities in Texas. The Commission had approximately 3,000 employees, 16 regional offices, and a $365.4 million annual appropriated budget for fiscal year 2003. Most of this budget is funded by program fees. The Commission issues and enforces 101 types of permits. In fiscal year 2002, the Commission collected $276 million in fee revenue, assessed $5.6 million in penalties, and arranged for violators to offset $2.2 million in penalties through supplemental environmental projects.

Sources: General Appropriations Act, 2002 Annual Financial Report, and 2002 Annual Enforcement Report

If unaddressed, these inconsistencies could limit the Commission's ability to collect penalties on a timely basis, hold environmental violators accountable, and deter future instances of noncompliance.

The Commission's permitting function for these programs generally operates in accordance with state statute and agency policy, although we noted some areas for improvement in the availability of information used for permitting. In addition, while the Commission complies with federal law regarding notification about pending air permits, the Commission's current process can reduce the effective public comment period to less than the federally required 30 days.

Finally, we noted that the Commission's recent changes to its penalty policies may reduce their effectiveness as a deterrent to polluters. We also found that current statutes related to air emissions caps and policies for discounted fees could be modified to increase agency revenue by approximately $25 million per year.

State Auditor's Office
Lawrence F. Alwin, CPA
State Auditor

This audit was conducted in accordance with Government Code, Sections 321.0131 and 321.0132.

For more information regarding this report, please contact Julie Ivie, Audit Manager, at (512) 936-9500.

Key Points

The lack of timely enforcement orders and settlement of enforcement cases could allow violations to continue and slows penalty collections.

The Commission does not consistently issue enforcement orders to alleged violators within required timeframes. Forty-five percent of the cases from 2001 to 2003 that we tested had enforcement orders that were not mailed out on time, exceeding the deadline by an average of 76 days. The assessed penalties for these cases totaled $299,489, and the alleged violations yielded economic benefits to the violators estimated at $720,253. In addition, the Commission does not always settle enforcement cases within its established timeframe. The Commission's philosophy is to promote voluntary compliance. The Commission reports that it works with entities to correct violations prior to finalizing the enforcement order and collecting the penalty. However, in accordance with the Commission's philosophy statement, a strong enforcement function is important in protecting the State's human and natural resources. Therefore, these delays in the enforcement process could result in violators' continuing to pollute and cause the State to lose the use of penalty funds.

The Commission does not have an effective process for collecting delinquent penalties.

The Commission's Financial Administration Division lacks an adequate process to collect delinquent administrative penalties. As of May 2003, the outstanding delinquent administrative penalties for air, public drinking water, water quality, and multimedia totaled $571,322.

Misclassifications and inadequate monitoring of supplemental environmental projects reduces environmental benefits owed to the State.

The misclassification of supplemental environmental projects (SEPs) that were started in fiscal year 2002 or 2003 resulted in a loss of $319,590 in environmental benefits. Additionally, while the Commission has an adequate process to monitor the SEPs directly administered by violators or by the Commission, the lack of adequate monitoring for third-party SEPs increases the risk that the associated funds could be used inappropriately, resulting in an overall loss of environmental benefits to the State. SEPs are an option available to violators to offset all or part of a penalty. Based on Commission records, the Commission assessed $67,896,295 in penalties from September 1995 through August 2003. Of this, $15,325,964 (22.6 percent) was offset by SEPs.

The Commission complies with notification requirements for air permits but could better promote public participation for some citizens.

The Commission complies with federal requirements regarding public comment for pending air permit applications. However, the Commission's policy establishing the beginning of the 30-day public comment period for prospective air permits could reduce the amount of time that some members of the public who miss the newspaper notice have to comment.

Poor file management limits the availability of information for public participation and permitting processes.

The Commission is not properly maintaining the files in its central records. Many of the files we requested for testing purposes could not be located. There is a risk that these files may not be readily available for permitting and enforcement processes or for public review.

Data used to monitor compliance with some water quality permits is not accurate.

The Commission does not monitor or review data that a contractor enters and that the Commission uploads to the Environmental Protection Agency's (EPA) Permit Compliance System. We tested four months of 2003 data entry and found that 20 percent of the records contained errors or were not entered into the database. Ninety-seven percent of these errors were attributable to the contractor. The Commission provides this data to the EPA and also uses it to identify entities that have exceeded their discharge limits.

Other Issues for Consideration

Recent changes to penalty calculation policies may not deter violations.

Recent changes to penalty policies may reduce their effectiveness as a deterrent to polluters. Violators often have economic benefits that exceed their penalties, which could reduce their incentive to comply. For 80 fiscal year 2001, 2002, and 2003 cases we tested, the total economic benefit gained by violators during the period of noncompliance was $8,647,005. However, these entities were fined only $1,683,635, which is approximately 19 percent of the economic benefit gained from being out of compliance.

Eliminating the air emissions fee cap could result in increased revenue and decreased emissions.

Current statute (Health and Safety Code, Section 382.0621[d]) precludes the Commission from imposing a fee for certain air emissions over 4,000 tons. As a result, a facility that reports emissions of 4,000 tons of air pollutants pays the same fee as a facility that reports emissions of 85,990 tons, thus not providing an incentive for facilities to limit their emissions once they exceed 4,000 tons. Based on fiscal year 2002 data, we calculated that if the cap were eliminated, the Commission's potential revenue could increase by approximately $25 million per year.

Summary of Management's Response

The Commission generally agrees with our recommendations and has agreed to implement them. However, it does not agree with our conclusions in two areas, supplemental environmental projects and public comment for pending air permit applications.

Summary of Information Technology Review

During our fieldwork, the two information systems we reviewed did not require users to change passwords from their initial passwords, which are assigned by the Central Registry system administrator. The Central Registry contains general data about regulated entities. The Consolidated Compliance and Enforcement Data System (CCEDS) contains data about enforcement actions. Without periodic password changes, there is a greater risk that a password could be compromised and that an unauthorized individual could gain access. Also, the Commission lacks a business continuity plan, which leaves it unprepared for a disaster.

Summary of Objectives, Scope, and Methodology

The primary objectives of this audit were to determine whether the permitting and enforcement functions for selected Commission programs ensure that the Commission (1) issues and enforces permits in accordance with state statutes and Commission policies and (2) collects and accounts for fees appropriately.

Our scope generally included data and processes completed in fiscal year 2002, but in some cases we reviewed data from September 1, 2001, to May 31, 2003, as indicated.

Our methodology consisted of gathering information by interviewing management and staff from the Commission's headquarters and regional offices, observing Commission operations, mapping permitting and enforcement processes, reviewing policies and procedures, testing controls and related documentation, and reviewing data from information technology systems.

Table of Results and Recommendations

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The lack of timely enforcement orders may allow violations to continue and slows penalty collection. (Page 1)

The Enforcement Division should:

- Develop a system of benchmarks for meeting enforcement report deadlines. These deadlines should be closely monitored, and if a deadline is missed, the reason for the delay should be noted within the report.
- Monitor upcoming and overdue cases on a weekly basis and ensure that it issues enforcement orders within the timeframes established in policy.

Delays in settling enforcement cases may affect the timely collection of fines. (Page 3)

The Commission should ensure that enforcement coordinators forward cases to the Litigation Division once settlement negotiations have exceeded 60 days.

Field note destruction policy prevents accountability. (Page 4)

The Commission should revise its policy of destroying field notes and checklists and should retain these records to facilitate the review of inspection reports and data in CCEDS.

Misclassification of SEPs results in a loss of environmental benefits. (Page 6)

The Commission should:

- Expand the SEP categories to clarify in detail what qualifies as a direct environmental benefit, what qualifies as an indirect environmental benefit, and why.
- Develop a classification system to account for projects that consist of both direct and indirect benefit characteristics to accurately apply offset values to SEPs.

Monitoring of third-party SEPs may not ensure that funds are used appropriately. (Page 8)

The Commission should:

- Enter report due dates on SEP tracking sheets to increase visibility and aid in tracking.
- Standardize reporting timeframes.
- Standardize the format for reporting financial information and expenditures to simplify and expedite the review process.
- Incorporate third-party reporting requirement data into a monthly "Pending SEPs for Required Reporting" log in order to generate a single report log that includes respondent and third-party reporting dates.
- Require refunds of SEP monies from third parties that are not complying with their agreements.

Information in the SEP database does not agree with the SEP documentation. (Page 10)

The Commission should:

- Ensure that all pertinent data from the respondent's file is entered into the SEP database.
- Ensure that all data is merged into the SEP tracking sheet to assist in monitoring ongoing SEP projects.
- Enter report due dates on SEP tracking sheets to assist in identifying delinquent reports.
- Revise the current SEP tracking sheet to include the respondent/third-party reporting schedule.

Penalties are not always calculated accurately. (Page 11)

The Commission should:

- Revise its review process to ensure that deferrals are offered in accordance with policies.
- Revise and streamline its penalty policy and penalty calculation worksheet.

The cost of penalty deferrals may outweigh the benefits. (Page 12)

The Commission should determine whether the cost of deferrals is worth the benefit of shortening the settlement time, given that offering a deferral generally does not shorten the settlement time enough for the Commission to meet its deadline.

The Commission does not have an effective process for collecting delinquent penalties. (Page 13)

The Commission should:

- Develop and implement written policies and procedures for the handling of administrative penalties in default. These policies and procedures should include:

Table of Results and Recommendations
denotes entry is related to information technology

- The frequency of sending out delinquency letters.
- The circumstances and timing of warrant holds.
- Guidelines on when to refer delinquent accounts to the Office of Legal Services.

- Request tax identification numbers on permit, license, and registration application forms to facilitate placing default accounts on warrant hold.
- Ensure that CCEDS data is current and complete so that the Commission can send delinquent letters to all delinquent accounts.

Public comment policy could reduce the effective comment period. (Page 15)

The Commission should:

- Ensure that notices and letters contain instructions on how to contact the Commission about the dates of the public comment period so that citizens can find out when the comment period begins and ends.
- Ensure that the Office of the Chief Clerk and other applicable Commission staff are aware of the public comment period dates or know to whom to refer citizens when they have inquiries about public comment periods.

Poor file management limits the availability of information for public participation and permitting. (Page 16)

Central Records should enforce current policies and ensure that it addresses procedures for the creation, maintenance, and inventory of files.

The Commission does not monitor contractor data entry for accuracy. (Page 18)

The Enforcement Division should:

- Implement a process to perform a quality review of data entry provided by contractors.
- Develop additional procedures to ensure that all of the submitted reports are entered into PCS.

Allowing the Commission's compliance-monitoring coordinators to edit permit limits in PCS creates a risk of unauthorized edits. (Page 19)

The Commission should request that the EPA modify the user rights to reflect the job functions of entering permit limits and requirements and of monitoring compliance.

Unauthorized solid waste disposal fee discount reduces the Commission's revenue. (Page 21)

The Commission should reconsider the discount granted to federal facilities. If the Commission decides to continue the discount, it should update its current rules and, if necessary, request statutory authority to officially authorize the discount.

Delays in annual revenue reconciliations may prevent the Commission from reporting accurate data in its Annual Financial Report. (Page 21)

The Financial Administration Division should reconcile amounts recorded in Prophecy against USAS data in a timely manner to ensure that revenue is properly recorded, accounted for, and reported in its AFR.

Outdated MOU could create difficulties in revenue transfers. (Page 22)

The Department of Public Safety and the Commission should update their MOU as required. The revenue directors and staff involved in the collection, transfer, and receipt of funds should meet annually to discuss changes that affect these processes.

The funds transfer process between the Commission and the Department could be improved. (Page 23)

The Department should establish better communication with the Commission in order to address any changes that may affect the process of transferring funds.

In particular, the Department should take steps to:

- Transfer funds using the Commission-requested Program Cost Accounts and fund numbers.
- Transfer interagency transfer voucher sales on a regular basis.
- Reconcile its monthly reports to its accounting system prior to providing them to the Commission.
- Provide the Commission with appropriate documentation so it can independently determine its share of sales by certificate type.

Table of Results and Recommendations denotes entry is related to information technology
The lack of required password changes in the Central Registry and CCEDS puts data security at risk. (Page 25)
The Commission should activate the feature that prompts users to change their initial passwords when they first log in. Periodic changes to passwords should be required for the Central Registry.
The lack of a business continuity plan jeopardizes the Commission's ability to provide services during a disaster. (Page 26)
The Commission should finalize its business continuity plan and have it approved by executive management. The plan should be tested at least annually.

Recent SAO Work		
Number	Product Name	Release Date
03-040	A Review of Fiscal Year 2002 Encumbrances and Payables at Selected Agencies	June 2003
01-020	An Audit Report on the Petroleum Storage Tank Program at the Natural Resource Conservation Commission	February 2001
00-005	An Audit Report on Revenue Processing at Four State Agencies	November 1999
99-019	A Follow-up Audit Report on the Texas Natural Resource Conservation Commission	December 1998
98-070	A Review of the Enforcement Function at the Texas Natural Resource Conservation Commission	August 1998

Other SAO Products		
Number	Product Name	Release Date
03-350	A Legislative Summary Document Regarding Texas Commission on Environmental Quality (formerly the Natural Resource Conservation Commission)	January 2003
01-445	Natural Resource Conservation Commission Legislative Summary Document	March 2001

Contents

Detailed Results

Chapter 1
The Enforcement Process Does Not Consistently Ensure that Violators Are Held Accountable 1

Chapter 2
Misclassification and Inadequate Monitoring of Supplemental Environmental Projects Reduces Environmental Benefits Owed to the State 5

Chapter 3
Inaccurate Penalty Calculations and Slow Collections of Delinquent Accounts May Weaken the Enforcement Process 11

Chapter 4
The Commission Complies with Public Notification Requirements for Air Permits but Could Better Promote Public Participation for Some Citizens 15

Chapter 5
Data Used to Monitor Compliance with Some Water Quality Permits Is Not Accurate 18

Chapter 6
Fee Collection Processes Ensure that the Majority of Fees Are Collected, but Opportunities Exist to Increase Revenue 20

Chapter 7
Weak Password Controls and the Lack of a Business Continuity Plan Could Affect the Integrity of the Commission's Data 25

Chapter 8
Petroleum Storage Tank Rules Put the State at Risk of Overpaying for Leaking Tank Cleanups 27

Chapter 9
Issues for Consideration 28

Appendices

Appendix 1
Objectives, Scope, and Methodology 30

Appendix 2
Management's Response..... 35

Appendix 3
Permitting Timeframe Reduction Project 36

Detailed Results

Chapter 1

The Enforcement Process Does Not Consistently Ensure that Violators Are Held Accountable

The Commission on Environmental Quality's (Commission) enforcement process does not ensure that enforcement orders are issued on a timely basis or that enforcement cases are settled by the established deadlines. In addition, the accuracy of final inspection reports cannot be verified because the Commission does not keep inpsection field notes. For the files we tested, the issuance of enforcement orders took an average of 76 days longer than the established timeframes of 30 days and 120 days (deadlines depend on the priority assigned to the case). The Commission's philosophy is to promote voluntary compliance, and it reports that it works with entities to correct violations prior to finalizing the enforcement order and collecting the penalty (see text box). However, in accordance with the second approach outlined in the Commission's philosophy statement, a strong enforcement function is important in protecting the State's human and natural resources. Therefore, these delays in the enforcement process could result in violators' continuing to pollute and cause the State to lose interest revenue on these penalties.

The Commission on Environmental Quality Mission Statement

"The Texas Commission on Environmental Quality strives to protect our state's human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste."

The Commission's Philosophy Statement includes the following two approaches:

- "Ensure consistent, just, and timely enforcement when environmental laws are violated;
- "Promote and foster voluntary compliance with environmental laws and provide flexibility in achieving environmental goals."

Source: Commission's 2003-2007 Strategic Plan

There is currently no way for enforcement staff or other reviewers to verify the accuracy of final inspection reports or the reliability of data in the Consolidated Compliance and Enforcement Data System (CCEDS). The Commission does not keep the field notes used to write inspection reports and enter the data into CCEDS. The inspection reports are the basis for enforcement actions and penalties, and inaccuracies in these reports could affect the Commission's ability to settle these cases.

Chapter 1-A

The Lack of Timely Enforcement Orders May Allow Violations to Continue and Slows Penalty Collection

The Commission does not consistently review and approve investigation reports or issue enforcement orders to alleged violators within the timeframes established in its policies. A Notice of Violation notifies the business or other regulated entity of the alleged violation. An enforcement order is the notification that a penalty is due. Although the Commission reports that it works with violators to correct issues of noncompliance while the enforcement orders are being finalized, not issuing these orders on time may allow violations to continue and delays the State's receipt of penalty funds, which go into the General Revenue fund. Specifically:

Office of Compliance and Enforcement

The Commission's Office of Compliance and Enforcement oversees enforcement, emergency response, dam safety, monitoring activities, and the operation of 16 regional offices across the state.

- Of the investigation reports that we reviewed for air, public water supply, and

water quality programs, 11 percent were not approved by the required deadlines. There were 31,916 investigations in fiscal year 2002 and 2003. Commission policy requires that investigation reports be approved and entered into CCEDS within 60 days of the last day of the investigation.

Economic Benefit

The Commission calculates a violator's economic benefit during the penalty calculation process. The Commission's policy defines economic benefit as:

Monetary gain derived from a failure to comply with TCEQ rules or regulations. Economic benefit may include any or all of the following: (1) the return a respondent can earn by delaying the capital costs of pollution control equipment; (2) the return a respondent can earn by delaying a one-time expenditure; and (3) the return a respondent can earn by avoiding periodic costs.

Source: Commission's Penalty Policy, September 2002

- Forty-five percent of the fiscal year 2001 to 2003 enforcement orders for the air, public water supply, and water quality programs we tested were not mailed out by the established deadline. The overdue orders exceeded their deadlines by an average of 76 days. The assessed penalties for the overdue cases we tested totaled $299,489, and the alleged violations resulted in economic benefits to the violators estimated at $720,253 (see text box).

The deadline for mailing the initial draft of the "agreed order" depends on the severity of the alleged violations. The most urgent cases, Priority 1 and Priority 5, must be mailed within 30 days of case screening. Priority 2 and Priority 6 cases must be mailed within 60 days of screening, and Priority 3 and Priority 4 cases have a 120-day deadline.

Recommendations

The Enforcement Division should:

- Develop a system of benchmarks for meeting enforcement report deadlines. These deadlines should be closely monitored, and if a deadline is missed, the reason for the delay should be noted within the report.
- Monitor upcoming and overdue cases on a weekly basis and ensure that it issues enforcement orders within the timeframes established in policy.

Management's Response

Staff resources routinely dedicated to this function were used to develop the compliance histories. As a result of these activities, we did not meet the agency's self-imposed deadlines.

Working with violators to correct conditions of non-compliance results in the desired outcome of increased compliance. An additional benefit is that we avoid the costs and time related to the hearings and judicial processes. Many violations are corrected prior to the culmination of settlement negotiations and as a direct result of them.

We agree with the recommendations, and the Enforcement Division Director is responsible for implementation by January 30, 2004.

Chapter 1-B

Delays in Settling Enforcement Cases May Affect the Timely Collection of Fines

The Commission does not settle enforcement cases within its established deadline of 60 days from the mailing of the draft agreed order. For the two most common types of agreed orders, 1660 orders and findings orders (see text box), we found that from September 1, 2001, to May 31, 2003, it took an average of 134 days and 125 days, respectively, to settle cases for which there was no deferral of penalties. For this same time period, 1660 orders with a deferral of all or part of the penalty came closer to meeting the deadline, with an average settlement time of 68 days. The time to settle findings orders with deferrals ranged from 106 days to 1,898 days. Only 14 findings orders with deferrals were settled during the time period our review covered. (See Chapter 3-C for a discussion of the financial impact of penalty deferrals.)

1660 Orders and Findings Orders

A 1660 order contains statements saying that:

- The occurrence of any violation is in dispute and the agreed order does not constitute an admission of guilt.
- The agreed order will not be admissible against the respondent in civil proceedings. (The Attorney General's office is exempt from this requirement.)

A findings order does not contain these statements and may be used against the respondent in civil proceedings. Findings orders are always used in default matters and for orders resulting from administrative hearings.

If a case is not settled within the 60-day timeframe, Commission policy requires that the case be forwarded to the Litigation Division. It takes the Commission an average of 140 days to forward 1660 orders to the Litigation Division and 131 days to forward findings orders.

Delays in reaching settlements with respondents result in the loss of interest revenue (from uncollected penalty dollars) and coordinators' productivity, as they spend more time on each case that they continue to negotiate past the deadline.

Recommendation

The Commission should ensure that enforcement coordinators forward cases to the Litigation Division once settlement negotiations have exceeded 60 days.

Management's Response

Staff resources routinely dedicated to this function were used to develop the compliance histories. As a result of these activities, we did not meet the agency's self-imposed deadlines.

Working with violators to correct conditions of non-compliance results in the desired outcome of increased compliance. An additional benefit is that we avoid the costs and time related to the hearings and judicial processes.

We agree with the recommendations to ensure that enforcement coordinators forward cases to the Litigation Division once settlement negotiations have exceeded 60 days. The Enforcement Division director is responsible for implementing these recommendations by January 30, 2004.

Chapter 1-C

Field Note Destruction Policy Prevents Accountability

Enforcement field notes and checklists are used to write investigation and inspection reports and to enter data into CCEDS. The Commission's policy requires that these notes be destroyed within 60 days of the last day of the investigation. Destroying these notes and checklists prevents the Commission and outside reviewers from verifying the accuracy of inspection reports and the reliability of CCEDS data. The inspection reports are the basis for enforcement actions, and penalties and errors in these reports could affect the Commission's ability to settle cases.

Field Operations Division policy requires that the field notes remain part of the investigation package until the investigation report is finalized and has received a quality control review. In two regions we visited, we noted that field notes were not used to verify the accuracy of the final reports. This creates a risk that if the report is not accurate, the field notes used to write the report would not be available for later review.

Recommendation

The Commission should revise its policy of destroying field notes and checklists and should retain these records to facilitate the review of inspection reports and data in CCEDS.

Management's Response

TCEQ agrees with the recommendation. The Field Operations Division Director is responsible for implementing this recommendation by January 30, 2004.

Chapter 2

Misclassification and Inadequate Monitoring of Supplemental Environmental Projects Reduces Environmental Benefits Owed to the State

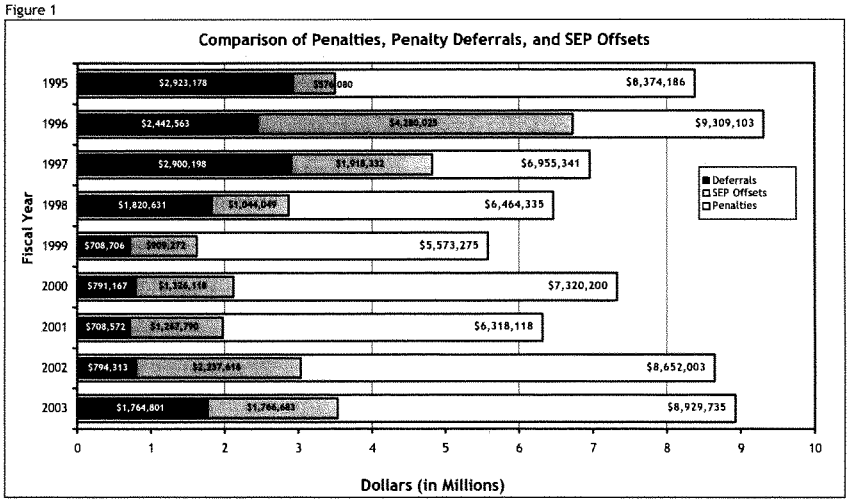
In the sample of supplemental environmental projects (SEPs) that we tested, five were not correctly classified, resulting in a loss of $319,590 in environmental benefits. SEPs are an option available to violators that allows them to offset all or part of a penalty. The amount of offset depends on whether the SEP is classified as having a direct or indirect environmental benefit. Five of the SEPs in our sample that were classified as having a direct benefit did not meet the criteria for this type of benefit. There were 212 SEPs initiated during our review period of September 2001 through April 2003. Of these, 209 were classified as having a direct benefit.

Examples of the programs that did not have a direct environmental benefit include an educational program about water efficiencies for children in grade school and the purchase of equipment, repairs, vehicles, and vehicle maintenance for local fire departments.

The Commission is also not adequately monitoring third-party SEPs to ensure that SEP funds are managed appropriately. Third-party SEPs are administered by non-profit or governmental organizations. Sixty percent of the third-party SEPs we reviewed did not show evidence of appropriate monitoring.

Based on Commission records, the Commission assessed $67,896,295 in penalties from September 1995 through August 2003. Of this, $15,325,964 (22.6 percent) was offset by SEPs (see Figure 1).

Figure 1



Source: Unaudited Commission enforcement reports

Chapter 2-A

Misclassification of SEPs Results in a Loss of Environmental Benefits

Of the 71 SEP cases tested, 5 that were classified as having a direct environmental benefit did not meet the criteria for providing this type of benefit. These misclassifications resulted in a loss of $319,590 in benefits from environmental projects because the rate at which a SEP offsets a penalty varies based on the tax status of the entity and the environmental benefit the SEP provides:

- For a SEP to be classified as having a direct benefit, it must have an immediate environmental effect, such as cleaning up an illegal dump site or purchasing electric lawn mowers with reduced exhaust emissions. Each dollar spent on a SEP with a direct benefit offsets $1 of an assessed penalty.
- An indirect environmental benefit does not have an immediate environmental effect. Indirect SEPs include educational projects or research projects involving environmental enhancement. For indirect SEPs, every $3 spent on the project offsets $1 of an assessed penalty.
- Non-profit entities can have up to 100 percent of their penalties offset by a SEP. For-profit entities are limited to a 50 percent offset.

Examples of the misclassified SEPs include:

- A water usage educational program. This program provides educational information and faucet kits to children in grade schools. The Commission's policy for SEP classifications state that educational programs are not a direct benefit. This program was classified as a 1:1 offset when it should have been 3:1. Four SEPs used this program; they represent $38,010 in SEP funds.

- Purchase of equipment and repairs for local fire departments. The purchases consisted of 20 pagers, an engine replacement for an emergency operations center vehicle, an emergency management vehicle, and other questionable items totaling $16,829. Many of the items are equipment that can be used for standard fire fighting operations and are not directly associated with environmental improvements or protection. The total for this SEP case was $121,785.

Recommendations

The Commission should:

- Expand the SEP categories to clarify in detail what qualifies as a direct environmental benefit, what qualifies as an indirect environmental benefit, and why.

- Develop a classification system to account for projects that consist of both direct and indirect benefit characteristics to accurately apply offset values to SEPs.

Management's Response

TCEQ agrees that implementing the recommendations will improve and clarify the program. This type of policy change is at the discretion of the Commission. The Director of the Litigation Division is responsible for presenting the following changes to the Commission for consideration by August 31, 2004:

- *Expand the SEP categories to clarify in detail what qualifies as a direct environmental benefit, what qualifies as an indirect environmental benefit, and why.*

- *Develop a classification system to account for projects that consist of both direct and indirect benefit characteristics to accurately apply offset values to SEPs.*

While we agree there is an opportunity to improve and clarify the program, we believe each of the SEPs reviewed by the SAO is correctly classified and that each reflects the appropriate offset percentage, according to TCEQ's SEP guidance document.

Auditor's Follow-up Comment

According to both the Commission's Regulatory Guidance (RG-367) document, *Use of Supplemental Environmental Projects*, provided to regulated entities and the SEP Standard Operating Procedures (April 2003), only SEP projects that directly benefit the environment are allowed a 1:1 offset. The SEP Standard Operating Procedures specifically state that environmental education is considered an indirect benefit and requires a 3:1 offset.

The Regulatory Guidance document, in discussing an indirect benefit, uses the example of a research project that seeks to find an alternative way to treat wastewater for reuse. It characterizes this project as indirect because it "may not result in the development of new techniques. Even if it did, there would probably be no way to **guarantee** (emphasis added) that those techniques would be implemented or used by others."

In the case of the Waterwise program, the Commission has no way to guarantee that the students are installing the low-water devices (faucet aerators and low-water showerheads) in their homes. With certain exceptions, all plumbing fixtures sold after January 1, 1992, are required by state law to be low-water devices, so presumably many children are already using low-water devices in their homes.

The Regulatory Guidance document further states that exceptions to the SEP policy may be made only if there is "extraordinary benefit to human health or the environment that outweighs the considerations used in developing this policy." We do not believe that the Waterwise program meets this requirement.

The purchase of pagers, vehicles, and vehicle repairs for a fire department also does not meet the stated criteria for a direct benefit to the environment or for an exception to the SEP policy.

Chapter 2-B

Monitoring of Third-Party SEPs May Not Ensure that Funds Are Used Appropriately

While we found that the Commission has an adequate process for monitoring SEPS administered by the Commission or by violators, it does not adequately monitor SEPs conducted by third parties for compliance with the terms of their agreements. We reviewed the files for 10 third-party SEPs and found that 6 of them were not monitored on a timely basis. For example, one of the third-party SEPs was completed in December 2001, but the Commission did not send a letter requesting the required report until January 2003. Inadequate monitoring of third-party SEPs reduces the assurance that the money entrusted to these organizations is being used in the most efficient manner to provide the greatest environmental benefit.

The SEP coordinator and the SEP attorney are required to monitor SEPs until completion. This includes ensuring that reports are submitted as required, that reports contain the required evidence of completion, and that expenditures relate directly to the approved costs. The 10 third-party SEPs we reviewed offset $540,628 in penalties. The fiscal year 2002 and 2003 third-party SEPs totaled $1,514,964.

Recommendations

The Commission should:

- Enter report due dates on SEP tracking sheets to increase visibility and aid in tracking.
- Standardize reporting timeframes.
- Standardize the format for reporting financial information and expenditures to simplify and expedite the review process.
- Incorporate third-party reporting requirement data into a monthly "Pending SEPs for Required Reporting" log in order to generate a single report log that includes respondent and third-party reporting dates.
- Require refunds of SEP monies from third parties that are not complying with their agreements.

Management's Response

We agree with the SAO's recommendation to implement a standardized reporting form and to create a "Pending SEPs for Required Reporting" log. The Litigation Division Director will complete these actions by September 1, 2004. TCEQ will continue requiring payment of SEP dollars to the General Revenue Fund by third parties who are not complying with their agreements, where appropriate.

While we agree there is an opportunity to improve and clarify the program, we believe that third-party SEPs have been adequately monitored. Specifically, 30% of the files SAO pulled for this issue related to the third-party SEP performed by one entity. This entity has been in continuing discussions with the agency regarding its ability to perform the SEP without funding for administrative costs. The entity recently received authorization from the Legislature to use SEP funds to cover administrative costs. With this development, the entity should be able to perform its projects. If that is not the case, TCEQ is prepared to require the entity to pay any unused portion of the SEP funds to the General Revenue Fund.

Auditor's Follow-up Comment

Regardless of whether the Commission was negotiating with the entity regarding the use of SEP funds, we saw no evidence in any of the files we reviewed that indicated that these negotiations were occurring. Part of monitoring should include making regular updates to files to indicate their current status. Presumably there was communication between the Commission and the entity regarding these negotiations that could have been included in these files but was not. This would have constituted a form of monitoring, as would notes of any verbal discussions. We selected a statistical sample of third-party SEPs, and 30 percent of the sample were projects performed by this entity.

We believe that the lack of monitoring of third-party SEPs creates a risk that funds are not used appropriately. We do not question the Commission's authority or ability to request that funds be returned if they are not used appropriately. However, these SEPs must be monitored in order for the Commission to be able to determine if funds should be repaid. Without effective monitoring, the Commission has no way to ensure that these funds are used appropriately.

Chapter 2-C

Information in the SEP Database Does Not Agree with the SEP Documentation

Forty-one percent of the SEP cases we tested did not have the same information in the SEP database as in the permanent SEP case file. The information contained within the SEP database should accurately reflect the core information contained within the permanent SEP case file. The SEP coordinator uses the SEP database to produce a case tracking sheet to assist in monitoring and tracking. Failure to have an accurate flow of information from the case file to the SEP database reduces the overall effectiveness of using the SEP tracking sheet as a tool to assist in managing and monitoring SEP projects.

Recommendations

The Commission should:

- Ensure that all pertinent data from the respondent's file is entered into the SEP database.
- Ensure that all data is merged into the SEP tracking sheet to assist in monitoring ongoing SEP projects.
- Enter report due dates on SEP tracking sheets to assist in identifying delinquent reports.
- Revise the current SEP tracking sheet to include the respondent/third-party reporting schedule.

Management's Response

TCEQ agrees with the recommendation. The Litigation Division Director will implement measures to ensure that database information and file documentation are consistent by September 1, 2004.

Chapter 3

Inaccurate Penalty Calculations and Slow Collections of Delinquent Accounts May Weaken the Enforcement Process

Reviewing the accuracy of penalty calculations, considering the cost-benefit of penalty deferrals, and improving the process for collecting delinquent administrative penalties could help improve the Commission's process for deterring violators. Specifically, we found that:

- The Commission lacks an adequate review process for its penalty calculations. In four of the cases we tested, the Commission failed to correctly identify and adjust penalties for repeat violators. These four incorrect calculations resulted in a loss of $7,023.

- The Commission offers penalty deferrals to violators as a means of settling cases faster. However, the average time of all case settlements from September 1, 2001, to May 31, 2003, was 103 days, which exceeds the Commission's goal of 60 days. The average time to settle 1660 cases in which a penalty was assessed but in which there were no deferrals was 134 days. Deferrals during this time totaled approximately $2.6 million, which is approximately 32 percent of the $8.1 million in penalties assessed.

- The Financial Administration Division lacks an adequate process for collecting delinquent administrative penalties. For fiscal years 2002 and 2003, the Commission assessed approximately $5.9 million in penalties. As of May 2003, the delinquent administrative penalties totaled $571,322.

Chapter 3-A

Penalties Are Not Always Calculated Accurately

The Commission does not consistently assess penalties in accordance with its policies and standards. The policies are complex, and it is difficult to calculate penalties accurately. Of the 73 fiscal year 2002 and 2003 penalty calculation worksheets we tested, 4 contained inaccuracies:

- In one case, the Commission offered a repeat violator a penalty deferral, which is against the Commission's policies. Unnecessary deferrals affect the collection of General Revenue—when the Commission grants a deferral, the State loses 20 percent of the assessed penalty. This case resulted in a loss of $2,550 to the State's General Revenue fund.

- In two other cases, the Commission did not properly increase penalties for repeat violators. Failing to correctly identify and adjust penalties for repeat violators reduces the penalties' effectiveness as a deterrent to polluters. The State also loses interest revenue on the uncollected dollars. Title 30 of the Texas Administrative Code, Section 60.2, defines an entity as a repeat violator if it commits multiple major violations within a five-year period. If the entity is a repeat violator, the Commission is supposed to increase the penalty by 25 percent. The two cases that lacked penalty enhancements resulted in a loss of $2,136 to the State's General Revenue fund.

- In one case tested, software problems with the penalty calculation worksheet resulted in an incorrect penalty. The assessed penalty was $2,337 less than the penalty subtotal. This error occurred because the automated formulas in the calculation worksheet are not protected, allowing enforcement coordinators to inadvertently change them when using the worksheet.

Recommendations

The Commission should:

- Revise its review process to ensure that deferrals are offered in accordance with policies.
- Revise and streamline its penalty policy and penalty calculation worksheet.

Management's Response

TCEQ agrees to review our process to ensure deferrals are offered in accordance with policies. We also agree to review the penalty policy. However, please note that the statute requires the Commission to consider certain items, and we believe the policy addresses those items. Penalty policy must be flexible to accommodate hardship circumstances, and the Commission is authorized to exercise discretion. Discussion of the Penalty Policy will be the topic of an upcoming work session. Lastly, we will continue to seek a cost-effective solution to the penalty calculation worksheet concern. The Enforcement Division Director is responsible for implementing these recommendations by June 30, 2004.

Chapter 3-B

The Cost of Penalty Deferrals May Outweigh the Benefits

The Commission's practice of deferring penalties for some violators may not be cost-effective. The Commission deferred approximately $2.6 million of the $8.1 million in penalties assessed between September 1, 2001, and May 31, 2003. The average settlement time for cases with deferrals was shorter than those without deferrals. However, the Commission still did not settle cases with deferrals within the established deadline of 60 days.

It took the Commission an average of 68 days to settle 1660 cases with deferrals compared with 134 days for cases in which penalties were assessed but in which there were no deferrals. Settlement of 1660 cases without deferrals ranged from 5 to 2,637 days.

The Commission offers a deferral to any violator that has not committed the same or a similar violation in the past. However, it is possible for violators with lengthy enforcement histories to qualify for the deferral as long as none of the previous violations were for the same or a similar violation.

Recommendation

The Commission should determine whether the cost of deferrals is worth the benefit of shortening the settlement time, given that offering a deferral generally does not shorten the settlement time enough for the Commission to meet its deadline.

Management's Response

TCEQ agrees with this recommendation. The Executive Director will present the issue to the Commission for consideration during an upcoming Commission work session.

Chapter 3-C

The Commission Does Not Have an Effective Process for Collecting Delinquent Penalties

The Financial Administration Division (Division) lacks an adequate process to collect administrative penalties that are delinquent. As of May 2003, the outstanding delinquent administrative penalties for air, public drinking water, water quality, and multimedia totaled $571,322. We tested 15 of 81 delinquent accounts, which accounted for 72 percent of the total delinquent penalties. All 15 accounts were past due by more than 90 days, and the amounts due to the Commission ranged from $5,000 to $92,000. Testing showed that:

- The Commission did not place 5 of the 15 accounts on warrant hold because the Commission did not have the violators' tax identification numbers. The Commission placed seven other accounts on warrant hold one day after we requested this information.

- The Commission mailed letters to delinquent violators only twice during calendar year 2002. In addition, some of the delinquent violators did not receive letters. The Penalty Payment Database, which provides entities' names and addresses, has incomplete and obsolete data that prevents the Commission from ensuring that it mails the letters to all eligible accounts. In fiscal year 2002, the Enforcement Database was the source for the data in the Penalty Payment Database. Now, the Comprehensive Compliance and Enforcement Data System (CCEDS) is the source of this data.

The Division does not have policies and procedures that directly address the handling of administrative penalties that default. As a result, the Division does not collect penalties owed to Commission in a timely manner. When these funds are not collected, the State does not receive money it is owed in interest on these funds. We did not test the process to collect other types of accounts in default.

Recommendations

The Commission should:

- Develop and implement written policies and procedures for the handling of administrative penalties in default. These policies and procedures should include:
  - The frequency of sending out delinquency letters.
  - The circumstances and timing of warrant holds.
  - Guidelines on when to refer delinquent accounts to the Office of Legal Services.
- Request tax identification numbers on permit, license, and registration application forms to facilitate placing default accounts on warrant hold.
- Ensure that CCEDS data is current and complete so that the Commission can send delinquent letters to all delinquent accounts.

Management's Response

TCEQ agrees with the recommendation to implement written policies and procedures for the collection of administrative penalties. The Financial Administration Division Director is responsible for implementing written policies and procedures for collection of administrative penalties by January 30, 2004.

We currently solicit tax identification numbers when regulated entities complete all permit, license and registration applications via the core data form. However, TCEQ does not have authority to require customers' Social Security identification numbers (Social Security numbers are the tax identification numbers for many of our regulated entities) in permit, license, and registration applications. This does not preclude a regulated entity from voluntarily providing this information. TCEQ will explore options for identifying customers for warrant hold other than through the use of Social Security identification numbers.

Lastly, a data quality check has been programmed into CCEDS. This check requires a docket number, respondent name and address before the record can be saved.

Chapter 4

The Commission Complies with Public Notification Requirements for Air Permits but Could Better Promote Public Participation for Some Citizens

The Commission's permitting processes for the air, water, and public water supply permits comply with statute and Commission policy. The 29 air permits and 61 general permits we reviewed had all of the required documents and were processed according to statute and policy. However, while the Commission complies with federal law regarding public notification, the current policies for public participation in the air permitting process could decrease the effective time available for commenting on the issuance of a permit. In addition, poor file management processes decrease the information available to the public and to permit writers.

In April 2002, the Commission embarked on a project intended to reduce the backlog in issuing permits. It developed aggressive time lines for the issuance of permits, and employees worked overtime to reduce the backlog from 1,126 permits in April 2002 to 276 in September 2003. According to the Commission's data as of September 1, 2003, the number of water quality permits exceeding the timeframe goals quadrupled since hitting low numbers in January 2003. We verified the September 2003 backlog against reports from the Commission's various automated systems, but we did not verify the accuracy of the data in these systems. (See Appendix 3 for additional information.)

Chapter 4-A

Public Comment Policy Could Reduce the Effective Comment Period

The Commission's policies for informing the public of pending air permit applications create a risk that citizens will miss the federally required 30-day comment period or have less than 30 days in which to comment.

The public comment period begins when the permit applicant publishes a notice in a local newspaper. Permit applicants have up to 10 days after the date of publication to notify the Commission's Office of the Chief Clerk that the notice was published and that the public comment period has started. During those 10 days, the Office of the Chief Clerk is not always aware that the public comment period has started or of when it is going to end. If citizens miss seeing the newspaper notice and ask the Office of the Chief Clerk for the dates of the comment period, they may not receive the correct information. This, in effect, shortens the time citizens have to comment.

Federal law requires that the permitting authority provide at least 30 days for public comment.

Recommendations

The Commission should:

- Ensure that notices and letters contain instructions on how to contact the Commission about the dates of the public comment period so that citizens can find out when the comment period begins and ends.
- Ensure that the Office of the Chief Clerk and other applicable Commission staff are aware of the public comment period dates or know to whom to refer citizens when they have inquiries about public comment periods.

Management's Response

We agree with the recommendations. The TCEQ currently includes instructions on how to contact the Commission about the public comment process. We will continue this practice, and we will remind staff on how to handle public participation inquires.

Chapter 4-B

Poor File Management Limits the Availability of Information for Public Participation and Permitting

The Commission's Central Records office does not adequately control the files entrusted to it. In testing the enforcement and permitting functions, we observed that some case files were missing while others were incomplete. Commission staff use the files when drafting permits and monitoring entities' compliance; therefore, incomplete information can adversely affect the Commission's functions. Citizens use the files to learn about permit applicants and regulated entities in their communities. Investigation files are also available at regional offices, and these files are generally complete. However, they are not readily available to permit writers working in Austin or to the public seeking information from Central Records.

In addition, the Central Records office's poor file management does not comply with Government Code, Section 441.183, which requires state agencies to establish and maintain a records management program (see text box).

> Per Government Code 441.183, Records Management Programs in State Agencies, agencies shall:
>
> (1) establish and maintain a records management program on a continuing and active basis;
>
> (2) create and maintain records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency designed to furnish information to protect the financial and legal rights of the state and any person affected by the activities of the agency.

The Commission's Internal Audit Department addressed problems with Central Records in a May 2000 audit report.

Our testing of 81 records for compliance with enforcement policies and procedures showed that:

- 68 percent (55 of 81) of the records were missing investigation reports.
- 55 percent (16 of 29) of the records requiring notices of enforcement, notices of

violations, and general compliance letters were missing these documents.

- 76 percent (16 of 21) of the records requiring general correspondence letters were missing these documents.

Additionally, while testing the permitting process we found that:

- 22 percent (8 of 37) of the files we requested could not be located.
- Current policy does not indicate how soon a file must be returned to Central Records for processing and inventory after completion of a permit project.
- Central Records has a significant number of records sitting on shelves waiting to be processed.

Recommendation

Central Records should enforce current policies and ensure that it addresses procedures for the creation, maintenance, and inventory of files.

Management's Response

TCEQ agrees with this SAO recommendation. In May 2003, the TCEQ Records Management Officer requested a facilitated review from the TCEQ Office of Internal Audit. The advisory service was conducted in October 2003 and provides additional recommendations for improved process control which are being implemented by the Central File Room.

Chapter 5

Data Used to Monitor Compliance with Some Water Quality Permits Is Not Accurate

The Commission does not monitor or review data that a contractor enters and that the Commission uploads to the Environmental Protection Agency's (EPA) Permit Compliance System (PCS). The data comes from water discharge reports submitted by regulated entities. In addition to providing this information to the EPA, the Commission uses it to identify entities that report that they exceeded their limits. We tested data for January and April 2003 and found several errors, most of which were attributable to the contractor.

In addition, the Commission's compliance-monitoring coordinators have the ability to modify permit limits in PCS. Although we did not find any incidences where this occurred, there is a risk that compliance-monitoring coordinators could increase permit limits to prevent a regulated entity from violating its permit.

Chapter 5-A

The Commission Does Not Monitor Contractor Data Entry for Accuracy

A contractor enters the majority of the water quality self-reported data (see text box) for facilities classified as "minor." The Commission's Water Quality Monitoring Team does not review the results of the contractor's data entry for accuracy. Testing of the data entered in the system identified a 7 percent error rate. In addition, 13 percent of the reports we tested had not been entered. Ninety-seven percent of these errors and omissions were attributable to the contractor. Inaccurate or incomplete data entry will prevent the Water Quality Monitoring Team from effectively monitoring water quality permits and identifying deviations from the approved permit limits.

Self-Reported Data

The Commission collects 105 different types of self-reported data. Entities submit this data to the Commission as part of their permitting or enforcement requirements. Self-reported data is used for monitoring and analysis and can be used for enforcement actions.

The Enforcement Division generates a monitoring report twice a week that identifies data that has been entered but not uploaded into PCS. A quarterly monitoring report identifies entities that reported exceeding their permit limits. However, neither monitoring report will identify information that is incorrectly entered in PCS if the entity has not reported exceeding its permit limit.

Recommendations

The Enforcement Division should:

- Implement a process to perform a quality review of data entry provided by contractors.
- Develop additional procedures to ensure that all of the submitted reports are entered into PCS.

Management's Response

TCEQ does quality assure all monitoring data prior to initiating an enforcement action or issuing an NOV.

We agree with the recommendations. The Enforcement Division Director is responsible for implementing these recommendations by June 30, 2004.

Chapter 5-B

Allowing the Commission's Compliance-Monitoring Coordinators to Edit Permit Limits in PCS Creates a Risk of Unauthorized Edits

The compliance-monitoring coordinators can change the permit limits in PCS. The coordinators review the self-reported data received from water quality entities monthly. They are responsible for identifying violations and processing notices of violations. The Commission's Permitting Division is responsible for entering permit limits and reporting requirements in PCS.

The two functions of entering permit limits and requirements and of monitoring compliance are properly segregated within the Commission. However, the database access rights should be aligned with the functions to reduce the risk of unauthorized edits to PCS.

Recommendation

The Commission should request that the EPA modify the user rights to reflect the job functions of entering permit limits and requirements and of monitoring compliance.

Management's Response

We agree with the recommendation and will forward the SAO issue to the EPA for consideration.

Chapter 6

Fee Collection Processes Ensure that the Majority of Fees Are Collected, but Opportunities Exist to Increase Revenue

In general, the Commission's assessment, billing, and fee collection process for the consolidated water quality, solid waste disposal, and air emissions fees is adequate. In fiscal year 2002, the Commission collected almost 99 percent of the fees assessed.

According to Health and Safety Code, Section 382.0621(b), fees imposed by the Commission on Title IV and Title V air permits covered by the federal Clean Air Act should be at least enough to cover all reasonable costs of the permit program. We evaluated these fees and program costs for fiscal years 2002 and 2003 and determined that revenues for these programs were sufficient to cover expenditures.

In general, the Office of the Comptroller of Public Accounts (Comptroller) and the Department of Public Safety collect and transfer to the Commission its share of each fee they administer and collect on behalf of the Commission (see Table 1).

The majority of the Commission's revenue comes from fees. Among the many fees the Commission assesses, six fees are expected to generate at least 70 percent of the Commission's revenue (see Table 1).

Table 1

Fiscal Year 2002 Revenue from Consolidated Water Quality, Solid Waste Disposal, and Air Emissions Fees

Fee Type	FY02 Assessed Revenue	FY02 Revenue Collected/ Transferred	Agency that Administers and Collects Fees
Air Emissions	$ 36,788,503	$ 35,816,108	Commission
Solid Waste Disposal	35,977,622	35,041,565	Commission
Consolidated Water Quality	-	-	Commission (new fee for fiscal year 2003)
Motor Vehicle Inspection, Auto Emissions Inspection, and On-Board Diagnostic Test	37,566,862	37,288,120	Department of Public Safety
Petroleum Delivery	80,333,943	80,319,206	Comptroller
Lead Acid Battery	14,056,557	14,050,782	Comptroller
Total	**$204,723,487**	**$202,515,781**	
Collected/Transferred Revenue as a Percentage of Total Revenue		**98.9%**	

Fee Details

Air Emissions fees are based on allowable levels and/or actual emissions, which the regulated entities report themselves.

Solid Waste Disposal fees are assessed quarterly based on amounts the regulated entities report themselves.

Consolidated Water Quality fees are assessed on authorized limits stipulated in permits.

The **Motor Vehicle Inspection (MVI) and Auto Emissions Inspection (AEI)** fees are assessed during vehicles' annual safety inspections. The AEI fee applies only to vehicles registered in counties designated as non-attainment areas. The Commission receives $2 per MVI sticker, 20 percent of AEI fees, and $6 for **On-Board Diagnostic** tests. Funds are deposited in the Clean Air Act account.

The **Petroleum Delivery** fee is assessed on the withdrawal of petroleum products. The Commission receives 98 percent of the fee, and it is deposited in the Petroleum Storage Tank Remediation account.

The **Lead-Acid Battery** fee is assessed on the sale, storage, use, or consumption of new or used lead-acid batteries, not for resale. The Commission receives 96 percent of the fee, and funds are deposited in the Hazardous and Solid Waste Remediation account.

Sources: Unaudited information from the Comptroller of Public Accounts, the Department of Public Safety, Commission records, and the Uniform Statewide Accounting System

Chapter 6-A

Unauthorized Solid Waste Disposal Fee Discount Reduces the Commission's Revenue

Since 1990, the Commission has granted federal facilities a 49 percent discount on solid waste disposal fees. For fiscal year 2002, the Commission forfeited $28,747 in solid waste disposal fees because of this discount. While we were not able to quantify the effect of the discount for the past 12 years, the revenue lost could be significant.

Neither state statutes nor the Texas Administrative Code give the Commission authority for granting this discount. The lack of official authority opens the door for other facilities to request a discount.

Recommendation

The Commission should reconsider the discount granted to federal facilities. If the Commission decides to continue the discount, it should update its current rules and, if necessary, request statutory authority to officially authorize the discount.

Management's Response

TCEQ agrees with the recommendation. The Deputy for the Office of Permitting, Remediation and Registration is responsible for implementing this recommendation by June 2005.

Federal facilities may have a legally supportable claim that they are not required to pay the part of this fee that is dedicated for use by local governments and regional planning commissions.

Chapter 6-B

Delays in Annual Revenue Reconciliations May Prevent the Commission from Reporting Accurate Data in Its Annual Financial Report

The Financial Administration Division (Division) has not reconciled fiscal year 2002 collected revenue between Prophecy (the internal billing and accounts receivable system) and the Uniform Statewide Accounting System (USAS). Accounting Policy Statement No. 029 from the Comptroller requires agencies to reconcile their program and accounting records to USAS.

USAS is the Commission's accounting system. Reconciling it with Prophecy would help ensure that revenue is properly recorded, accounted for, and reported in the Commission's Annual Financial Report (AFR). Reporting accurate and reliable information is essential as the AFR is used by both internal and external users for decision making.

Recommendation

The Financial Administration Division should reconcile amounts recorded in Prophecy against USAS data in a timely manner to ensure that revenue is properly recorded, accounted for, and reported in its AFR.

Management's Response

TCEQ agrees with this recommendation, and the Financial Administration Division does reconcile Prophecy and USAS data on a monthly basis. FA performs an annual reconciliation between Prophecy and USAS after USAS closes for the fiscal year (November 20th of each year). USAS data is not available early enough to reconcile for the AFR.

Chapter 6-C

Outdated MOU Could Create Difficulties in Revenue Transfers

The memorandum of understanding (MOU) between the Department of Public Safety (Department) and the Commission regarding the handling and transfer of motor vehicle and auto emissions inspection fees received by the Department has not been updated since December 1996. Texas Administrative Code, Chapter 30, Rule 7.110, requires the agencies to update this MOU at least every five years.

The MOU covers the establishment, planning, implementation, oversight, and evaluation of primary responsibilities for these agencies. Without a current MOU, there is a risk of miscommunication regarding the handling and transfer of auto inspection fees, which could make it difficult for the Department and the Commission to carry out their responsibilities.

Recommendation

The Department and the Commission should update their MOU as required. The revenue directors and staff involved in the collection, transfer, and receipt of funds should meet annually to discuss changes that affect these processes.

Department of Public Safety Management's Response

DPS agrees with the recommendation. The Supervisor of Accounting Systems has met with TCEQ and is in the process of developing a team to address the MOU draft to resolve all current issues that outlines the current situation in appropriate detail. The MOU draft initial completion date is estimated on January 31, 2004 depending on scheduling of appropriate staff.

Commission on Environmental Quality Management's Response

TCEQ agrees with this recommendation. The CFO is responsible for implementing the recommendation by April 30, 2004.

Chapter 6-D

The Funds Transfer Process Between the Commission and the Department Could Be Improved

The Department's process to transfer motor vehicle inspection and auto emissions fees to the Commission is adequate. We did not test the process used to collect the fees. However, there are opportunities to improve the process and to assist the Commission in tracking and allocating the corresponding fees:

- As of August 2003, the Department had transferred 99.26 percent ($37,288,120) of fiscal year 2002 sales to the Commission. The remaining 0.74 percent, or $278,742, was not transferred (see Table 1 on page 20).

- During fiscal year 2003, there was confusion between the Department and the Commission as to the correct number of Program Cost Accounts necessary to adequately allocate fees to the Commission's programs.

- Testing of fiscal year 2002 records shows that the Department waited until year end to transfer sales of certificates collected via interagency transfer vouchers. In addition, the amount transferred at year end does not reconcile to interagency transfer voucher sales recorded by the Department in the reports it provided to the Commission. At the end of the fiscal year, the Department transferred approximately $14,000 in these vouchers to the Commission.

- The report provided by the Department, which reflects monthly certificate sales by type, does not match transfer amounts recorded in USAS.

These problems are a result of a lack of communication between the agencies' personnel. The Commission depends on information provided by the Department in order to allocate collected fees among its programs. For the on-board diagnostic (auto emission) fee, the Commission transfers 100 percent of revenue collected to counties that participate in the Low Income Repair Assistance Program (LIRAP). Without adequate information, the Commission spends unnecessary time and resources reconciling the information in USAS against monthly reports provided by the Department.

Recommendations

The Department should establish better communication with the Commission in order to address any changes that may affect the process of transferring funds.

In particular, the Department should take steps to:

- Transfer funds using the Commission-requested Program Cost Accounts and fund numbers.
- Transfer interagency transfer voucher sales on a regular basis.
- Reconcile its monthly reports to its accounting system prior to providing them to the Commission.
- Provide the Commission with appropriate documentation so it can independently determine its share of sales by certificate type.

Department of Public Safety Management's Response

DPS agrees with the recommendations and has already implemented weekly contacts with appropriate TCEQ personnel to enhance communications. The Comptroller's Office has made the requested coding changes to the Rapid Deposit system to accommodate TCEQ's needs. Deposit reports are reconciled and monthly adjustment transfers are made on a more timely basis.

Chapter 7

Weak Password Controls and the Lack of a Business Continuity Plan Could Affect the Integrity of the Commission's Data

Central Registry and CCEDS, the two main information systems used for permitting and enforcement at the Commission (see text box), do not require users to change passwords from their initial passwords, which are assigned by the Central Registry system administrator. Without periodic password changes, there is a greater risk that a password could be compromised and that an unauthorized individual could gain access. Also, the Commission lacks a business continuity plan, which leaves it unprepared for a disaster.

Central Registry and CCEDS

The Commission has two primary data systems, Central Registry and the Consolidated Compliance and Enforcement Data System (CCEDS).

Central Registry is a data repository that contains data that is migrated from smaller legacy systems each month. It contains descriptive information on customers (called core data), as well as their relationships to a regulated entity. Core data includes the name, address, phone number, customer number, regulated entity number, permits, and registrations for each customer and regulated entity that is, or has been, of environmental interest to the Commission.

CCEDS is a system developed to replace the Compliance and Enforcement Division's legacy system. It contains information on investigations and enforcement actions. The Central Registry and CCEDS are linked.

Chapter 7-A

The Lack of Required Password Changes in the Central Registry and CCEDS Puts Data Security at Risk

Passwords for the Central Registry and CCEDS are assigned to new users by the Central Registry team. Neither CCEDS nor the Central Registry require the users to change their initial assigned passwords. In addition, there are no requirements to periodically update passwords in the Central Registry. The systems have the necessary features programmed to require users to change their passwords; however, this feature is not turned on. Once new users log on, they should be prompted to change their passwords. There can be problems with accountability in a system where the users do not change the initial passwords assigned to them. In the case of erroneous or unauthorized changes to data, it would be hard to track who made changes.

Recommendation

The Commission should activate the feature that prompts users to change their initial passwords when they first log in. Periodic changes to passwords should be required for the Central Registry.

Management's Response

TCEQ agrees with this recommendation, and we are evaluating the policy and mechanism for changing passwords.

Chapter 7-B

The Lack of a Business Continuity Plan Jeopardizes the Commission's Ability to Provide Services During a Disaster

The Commission still does not have a complete and tested business continuity plan. It is aware of this deficiency and has reported that it is in the process of developing a plan. However, we also identified this issue in our *Legislative Summary Document Regarding Texas Commission on Environmental Quality* (SAO Report No. 03-360, January 2003). At that time, the Commission stated that it planned to have its business continuity plan developed and tested by August 31, 2003. The lack of a complete and tested business continuity plan leaves the Commission unprepared for a disaster, which could result in a delay in providing services to the public or in not providing services at all for an extended period of time.

Texas Administrative Code (TAC), Title 1, Section 202.6 states that:

> Business Continuity Planning covers all business functions of an agency and it is a business management responsibility. Agencies should maintain a written Business Continuity Plan so that the effects of a disaster will be minimized, and the agency will be able to either maintain or quickly resume mission-critical functions. The agency head shall approve the Plan. The Plan shall be distributed to key personnel and a copy stored offsite.

Recommendation

The Commission should finalize its business continuity plan and have it approved by executive management. The plan should be tested at least annually.

Management's Response

The TCEQ agrees with this recommendation. The Business Continuity Plan (BCP) will be presented to Executive Management for approval by February 28, 2004. The BCP will be tested annually.

Chapter 8

Petroleum Storage Tank Rules Put the State at Risk of Overpaying for Leaking Tank Cleanups

At the Commission's request, we also reviewed the reimbursement rules for the Petroleum Storage Tank Remediation Program during our fieldwork in order to determine whether the rules apply to a contractor's actual costs. Based on our review of the reimbursement rules, we believe that the current rules relating to actual costs apply to the owner's or operator's expenses, not the contractor's. The Texas Water Code and rules set by the Commission indicate that the program is designed to reimburse eligible owners/operators for their remediation expenses. Therefore, the rules as currently constructed do not apply to a contractor's underlying operating expenses, such as overhead and indirect costs.

As a result, it appears that contractors performing and managing remediation services under an owner or operator assignment can be reimbursed up to the maximum allowable rate regardless of the contractor's operating expenses. Under the Commission's current rules, as long as contractors' claims do not exceed the maximum reimbursement rates, contractors can be paid for expenses that would not be reimbursable had the owner/operator claimed them. This situation puts the State at risk of overpaying for the cleanup of leaking tank sites.

Management's Response

We appreciate the SAO's assistance in reviewing the PST rules. We have already initiated the rule making process and anticipate the proposed rule changes will be presented to the Commission in the next several months.

Chapter 9
Issues for Consideration

During our fieldwork, we noted the following issues that may warrant further consideration from the Commission or the Legislature:

- Recent changes to the penalty policy reduce penalty enhancements, which could weaken the Commission's ability to deter violations.

- The current air emissions cap does not provide an incentive for facilities to limit emissions once they exceed 4,000 tons. Current statute (Health and Safety Code, Section 382.0621[d]) precludes the Commission from imposing a fee for any amount of emissions over 4,000 tons per year from any source. The cap also causes the Commission to miss an opportunity to collect more fee revenue. Using fiscal year 2002 data, we calculated that if the cap were eliminated, the Commission's potential revenue could increase by approximately $25 million per year.

Chapter 9-A
Recent Changes to Penalty Calculation Policies May Not Deter Violations

The Commission's revised 2002 penalty policy reduces penalty enhancements from their 1999 penalty policy levels for entities with long histories of prior violations. This new penalty policy has the potential to weaken the influence of enforcement actions on the regulated community, as well as decrease the penalty dollars assessed and collected.

Culpability. Under its 1999 policy, the Commission evaluated an entity's culpability based on whether the entity had received a prior notice of violation (NOV) for the same or a similar violation. Under the 2002 policy, the Commission no longer considers NOVs when evaluating culpability but does consider them with regard to compliance history. Culpability is further limited to the existence and discovery of documentation suggesting prior knowledge of the deficiency. As a result, there is little evidence left with which to determine culpability. Not using NOVs to determine culpability will allow repeat violators to avoid paying penalty enhancements.

Good-Faith Effort to Comply. The reduction for a good-faith effort to comply allows entities six months or longer to resolve violations and have their penalties reduced. Under established guidelines, the Commission has up to two months to issue an NOV and up to four months after screening to issue a draft order. If the violator addresses the violation during this time, the Commission reduces the penalty. The reductions result in a forfeiture of penalty dollars collected and interest revenue earned by the State.

Compliance History. The 2002 policy added a consideration for compliance history, but NOVs considered as part of compliance history are now limited to those issued after September 1, 1999, and 1660 orders are limited to those issued after February 1, 2002. As a result, entities with a long history of the same or similar violations may not be treated differently than an entity without a prior history.

Economic Benefit. The 2002 revision subjects all entities that receive more than $15,000 in economic benefits from noncompliance to a penalty enhancement of 50 percent of the base penalty. The entities that are subject to the enhancement often have economic benefits that exceed their penalties, which could reduce their incentive to comply. The enhancement does not significantly increase the impact because the penalty enhancement is a percentage of the base penalty, not a percentage of the benefit gained by noncompliance.

For example, if a violation with a base penalty of $2,000 allows an entity to save $20,000 during the period of noncompliance, the Commission increases the entity's penalty by 50 percent to $3,000. Even after paying the penalty, the violation provides the entity with a net economic benefit of $17,000. For the 80 fiscal year 2001, 2002, and 2003 cases tested, the amount of economic benefit gained by entities during noncompliance was $8,647,005. The Commission fined these entities a total of $1,683,635, which is approximately 19 percent of the entities' economic benefit.

The Commission contends that the cost of making repairs or adjustments to come into compliance should be considered in the enforcement process, and the cost of coming into compliance is often greater than the economic benefit gained. However, because these repairs or adjustments are needed for the entity to operate legally, their costs should not be considered as part of the penalty.

Chapter 9-B

Eliminating the Air Emissions Fee Cap Could Result in Increased Revenue and Decreased Emissions

According to the Health and Safety Code, Section 382.0621(d), "The Commission may not impose a fee for any amount of emissions of an air contaminant regulated under the federal Clean Air Act Amendments of 1990 in excess of 4,000 tons per year from any source." This allows some facilities to emit more than 4,000 tons of air pollutants without having to pay for more than 4,000 tons. For example, one facility reported emitting 85,990 tons of sulfur dioxide in fiscal year 2002 but paid a fee for emitting only the first 4,000 tons.

This cap does not provide an incentive for facilities to limit their emissions once they exceed 4,000 tons, and the Commission misses an opportunity to collect more fee revenue. We estimate that the Commission forfeited approximately $25 million in additional revenue during fiscal year 2002 because of the 4,000-ton cap.

Appendices

Appendix 1

Objectives, Scope, and Methodology

Objectives

Our objectives were to determine whether the permitting and enforcement functions for selected programs at the Commission on Environmental Quality (Commission) ensure that:

- Permits are issued in accordance with state statutes, regulations, agency policies, and best practices.
- Current processes for Title V Air Permits allow for effective public participation, review, and comment.
- Enforcement functions are carried out in accordance with state statutes, regulations, agency policies, and best practices.
- Selected program fees are collected and accounted for appropriately.
- Current management information systems adequately support the regulatory structure.

At the Commission's request, we also reviewed the petroleum storage tank reimbursement rules to determine whether the Commission has a process in place that clearly identifies allowable costs.

Scope

We primarily analyzed data and processes completed in fiscal year 2002, but in some cases we reviewed data from September 1, 2001, to May 31, 2003, as indicated. For the fee work performed, we coordinated efforts with the Commission's Internal Audit Department.

For the Permitting function, we reviewed the following permits:

- Air Permits – Title V and New Source Review Construction (this included new permits, renewals, amendments, and flexible permits) and Site Operating Permits received, approved, completed, and issued between September 1, 2001, and May 31, 2003.
- Water Quality:
  - Texas Pollutant Discharge Elimination System (TPDES) Multi-Sector General Storm Water Permit TXR05000
  - Wastewater General Permit TXG11000 (which includes authorizations TXG11 – Discharges of facility wastewater and contact storm water from

ready-mixed concrete plants; TXG34 – Discharges of facility wastewater and contact storm water from petroleum bulk stations and terminals; TXG83 – Discharges of petroleum contaminated water; and TXR05 – Storm water discharges associated with industrial activity). The population was composed of Notices of Intent that were completed, approved, and issued from September 1, 2001, through May 31, 2003.

- Air Permits subject to Public Participation – These permits include Construction and Site Operating Permits. Our review covered new permits as well as renewals and amendments completed from September 1, 2002, to May 31, 2003.

For the enforcement function, we focused on air, water quality, and public drinking water programs from the Houston, Beaumont, Corpus Christi, and Austin regions. Our population consisted of active enforcement cases from September 1, 2001, through May 31, 2003. Areas of emphasis included:

- Timeliness of issuing enforcement orders.
- The classification and monitoring of supplemental environmental projects (SEPs).
- Effectiveness of the penalty policy, which includes adjustments for economic benefit, repeat violator classification, culpability, good-faith effort, and compliance history.

Some of the Commission's fees are administered and collected by other state agencies. The time period we reviewed was fiscal year 2002, except as noted. Our review also included processing of fee payments received and posted to the Prophecy system (the Commission's billing and accounts receivable system) and USAS.

- The Commission administers the solid waste disposal, air emissions, and consolidated water quality fees. The consolidated water quality fee became effective on October 6, 2002 (fiscal year 2003), and it replaces the water quality assessment and waste treatment inspection. For the most recent fee, our review included the fee assessment and billing processes because they are performed at the beginning of the fiscal year (fiscal year 2003).
- The Office of the Comptroller of Public Accounts administers the petroleum storage delivery and lead-acid battery fees.
- The Department of Public Safety administers the motor vehicle safety inspection and auto emission fees. The auto emission fee also includes the on-board diagnostic fee, which is assessed only in certain counties and for vehicles newer than 1996.
- We also reviewed air, water quality, and public drinking water administrative penalties with agreed order dates from September 2001 to May 2003.

The information systems reviewed include the Commission's Central Registry and the Consolidated Compliance and Enforcement Data System (CCEDS) applications as well as selected legacy information systems that transfer data to CCEDS.

Methodology

Our methodology consisted of gathering information through interviewing management and staff from Commission headquarters and regional offices, reviewing policies and procedures, testing controls and related documentation, and reviewing data from information technology systems.

Procedures and tests conducted included the following:

- Reviewed state laws, regulations, and the Commission's policies and procedures
- Reviewed the Department of Public Safety's (Department) policies and procedures
- Reviewed the Office of the Comptroller of Public Accounts' (Comptroller) policies and procedures
- Reviewed prior State Auditor's Office (SAO) reports and the Commission's internal audit reports
- Reviewed working papers for the current SAO project "Controls Over the Tax Revenue System at the Office of the Comptroller of Public Accounts"
- Reviewed the Commission's 2002 self-assessments for selected divisions
- Reviewed the Commission's fiscal year 2002 Annual Financial Report
- Review the Comptroller's 2002 Annual Cash Report
- Reviewed the Environmental Protective Agency Code of Federal Regulations
- Conducted interviews with Department and Comptroller management and staff
- Conducted interviews with public interest groups
- Observed various functions to gain an understanding and verify the existence of controls
- Recalculated penalties assessed by the Commission and generated in Quattro Pro spreadsheets
- Analyzed SEPs' classifications
- Analyzed effectiveness of administrative penalties, including adjustments and deferrals based on previous and current policy changes
- Compared data elements for consistency between different information systems and hard copy data
- Determined Central Registry and CCEDS data accuracy and completeness
- Evaluated Central Registry and CCEDS access rights and system security

- Reconciled data in the Enforcement Database against Financial Administrative Division (Division) records of administrative penalties due
- Reconciled Division records against data independently obtained from USAS
- Reconciled Division records against Comptroller and Department data

Criteria used included the following:

- Texas statutes
- Texas Administrative Code
- General Appropriations Act (76th and 77th Legislatures)
- The Department's and the Comptroller's policies and procedures
- The following Commission policies and procedures:
  - Penalty policies: fiscal year 2000 revision (effective January 1, 1999) and fiscal year 2003 revision (effective September 1, 2002)
  - Penalty calculation worksheet instructions
  - Enforcement Division standard operating procedures
  - SEP standard operating procedures dated April 2003
  - Field Operations Division's standard operating procedures
  - Financial Administration Revenue Manual
  - Information technology policies and procedures regarding access and security

Other Information

We conducted fieldwork from April 2003 through September 2003. The audit was conducted in accordance with generally accepted government auditing standards.

The following members of the State Auditor's staff performed the audit work:

- Sandra Donoho, MPA, CISA (Project Manager)
- Ileana Barboza, MBA (Assistant Project Manager)
- Allen Ackles
- Romeo Diaz
- Shaniqua Johnson
- Robert Kiker
- Patricia Perme, CPA
- Juan Sanchez, MPA

- Serra Tamur, MPAff, CISA, CIA
- Rene Valadez
- Leslie Ashton, CPA (Quality Control Reviewer)
- Julie Ivie, CIA (Audit Manager)
- Frank Vito, CPA (Audit Director)

Appendix 2

Management's Response

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 8, 2003

Mr. Lawrence F. Alwin, CPA
Office of the State Auditor
P.O. Box 12067
Austin, Texas 78711-2067

Dear Mr. Alwin:

Thank you for the opportunity to review the draft, *An Audit Report on The Commission on Environmental Quality's Enforcement and Permitting Functions for Selected Programs.* The TCEQ generally agrees with the SAO recommendations and has already initiated implementation. While we agree with the recommendations, we have not seen adequate evidence to support the SAO's conclusions in two areas. Specifically, while there is room for programmatic improvement, we believe project classification and monitoring in the Supplemental Environmental Project program has been appropriate. Additionally, we agree with the SAO conclusion that our permitting processes comply with statute and agency policy; however, we do not agree that our public comment policy could reduce the effective comment period.

We are grateful to Julie Ivie, Sandy Donoho and the entire audit team. Their efforts will be helpful as we move forward in our work to protect our state's precious human and natural resources, consistent with sustainable economic development.

Sincerely,

Margaret Hoffman

Margaret Hoffman
Executive Director

Attachment

cc: Kathleen Hartnett White, Chairman, TCEQ
R.B. "Ralph" Marquez, Commissioner, TCEQ
Larry R. Soward, Commissioner, TCEQ
Steve Goodson, CIA, CISA, CGAP, Chief Audit Executive, TCEQ
Frank Vito, CPA, SAO Assurances Services Director
Julie Ivie, CIA, SAO Audit Manager
Sandy Donoho, CISA, SAO Project Manager

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Appendix 3

Permitting Timeframe Reduction Project

The following information is based on unaudited information provided by the Commission.

Due to a significant backlog of 1,126 permit applications, in April 2002 the Office of Permitting, Remediation and Registration (Office) initiated a Permitting Timeframe Reduction (PTR) program to address this backlog. The PTR program had two goals:

- To evaluate and establish the maximum number of days to complete permits internally
- To implement streamlining measures in order to meet those deadlines

The Office started by setting maximum target dates for the completion of permit actions to meet its first goal. In addition, projects were categorized as either Priority One or Priority Two projects (see text box).

Project Classification

Priority One projects are those projects that require an action on behalf of the Commission before an applicant can proceed with construction or modification.

Priority Two projects are those projects for which action on behalf of the Commission is not a prerequisite to beginning or continuing business operations.

Applications receiving a hearing request are not included in the above categories due to staff's inability to influence their closure.

To meet its second goal, the Office implemented a number of streamlining measures. Some of the highlights include:

- Requesting duplicate applications so that the technical review could begin while the application was undergoing the administrative review.
- Developing general permits for water quality and wastewater needs and standard permits for air sources.

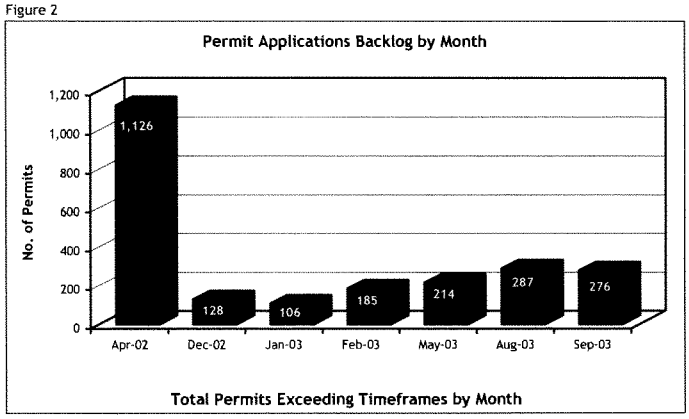
The Office also established monetary bonuses and overtime where appropriate for high performers and employed interns.

As of January 31, 2003, the Office was able to reduce the Priority One backlog from 1,126 applications to 106 (a 91 percent reduction). Based on information provided by the office, as of September 1, 2003 (seven months later), the backlog increased 160 percent from 106 to 276 permits, or the equivalent of 25 percent of the original April 2002 backlog (see Figure 2).

Since January 2003, the most significant increases (based on percentage) have occurred in the Water Quality Division, with an increase from 29 applications to 119, and in the Water Supply Division, with an increase from 3 permit applications to 35 exceeding their timeframes. However, it is the Air Division, with 77 applications, and the Water Quality Division, with 119 applications, that account for 71 percent of the September 30, 2003, backlog of 276 permit applications.

We were not able to project how long it will take for the backlog to build up to a degree similar to that of April 2002 because the Office does not track the progress of overdue permits each month and because we did not audit the data the Office was able to provide. In addition, the data is derived from various data systems that were not in the scope of our information systems audit work. We did trace the September 2003 numbers back to the automated reports from these systems.

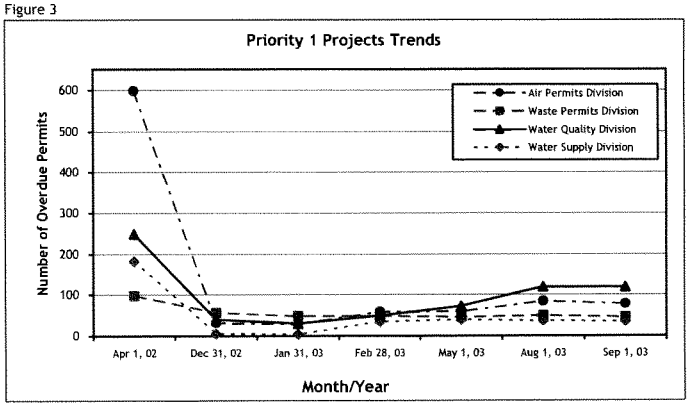
Figure 2



Source: Unaudited data from the Office of Permitting, Remediation and Registration, Commission on Environmental Quality

Figure 3 graphs the number of permits exceeding the timeframe goal according to category by month/year since April 1, 2002. The graph indicates that the number of permits exceeding the timeframe goals has evened out after hitting low numbers in December 2002.

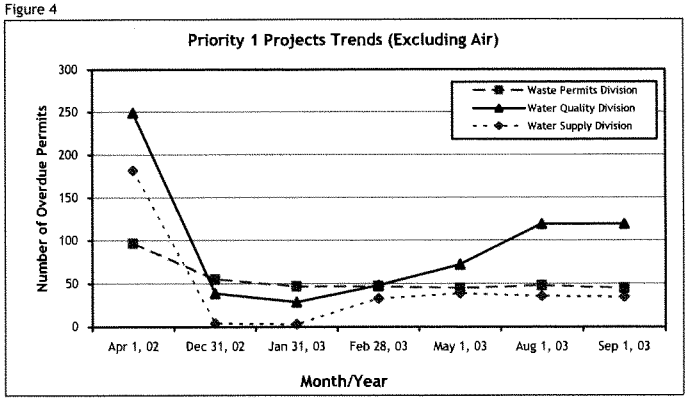
Figure 3



Source: Unaudited data from the Office of Permitting, Remediation and Registration, Commission on Environmental Quality

Figure 4 excludes the air permits because they appear to be skewing the trends. A review of the trends in this graph indicates that the overdue water quality permits have risen to approximately 50 percent of the April 2002 level. The number of overdue water quality permits has quadrupled since hitting low numbers in January 2003. The number of overdue water supply permits has risen as well.

Figure 4



Source: Unaudited data from the Office of Permitting, Remediation and Registration, Commission on Environmental Quality

Copies of this report have been distributed to the following:

Legislative Audit Committee

The Honorable Tom Craddick, Speaker of the House, Chair
The Honorable David Dewhurst, Lieutenant Governor, Vice Chair
The Honorable Teel Bivins, Senate Finance Committee
The Honorable Thomas "Tommy" Williams, Member, Texas Senate
The Honorable Talmadge Heflin, House Appropriations Committee
The Honorable Ron Wilson, House Ways and Means Committee

Office of the Governor

The Honorable Rick Perry, Governor

Commission on Environmental Quality

Ms. Kathleen Hartnett White, Chairperson
Mr. R. B. "Ralph" Marquez, Commissioner
Mr. Larry R. Soward, Commissioner
Ms. Margaret Hoffman, Executive Director

Department of Public Safety

Ms. Colleen McHugh, Chairperson
Mr. James B. Francis, Jr., Board Member
Mr. Robert B. Holt, Board Member
Colonel Thomas Davis, Executive Director

Office of the Comptroller of Public Accounts

The Honorable Carole Keeton Strayhorn, Comptroller of Public Accounts
Mr. Billy Hamilton, Deputy Comptroller

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Senator BARRASSO. Senator Cardin.

Senator CARDIN. Thank you, Mr. Chairman.

I want to thank both of our nominees for their willingness to serve in a very important public position.

Mr. Wheeler, I particularly want to underscore the message you made in your opening statement to the career people at EPA. I very much appreciate that statement. And I was impressed by your highlight of maintaining your integrity, which, to me, is not always easy. It is a proud accomplishment. It is always good to see a person from our staff move on, so it is good to see you here.

Mr. WHEELER. Thank you.

Senator CARDIN. I want to first ask consent that a letter signed by 47 conservation, environmental, and public health organizations to members of this Committee in opposition to Ms. White's confirmation be made part of the record based upon that she should not be placed in such a pivotal position in an agency whose mission she clearly does not believe in. I would ask unanimous consent.

Senator BARRASSO. Without objection.

[The referenced information follows:]

350.org • Alaska Wilderness League • American Rivers • Animal Welfare Institute Bold Alliance • Center for Biological Diversity • Center for Food Safety Clean Water Action • Climate Hawks Vote • ClimateTruth.org • Defenders of Wildlife Delaware Ecumenical Council on Children and Families • Earthjustice Endangered Species Coalition • Environment America • Environmental Protection Information Center • Food & Water Watch • Friends of the Earth • Grand Canyon Trust Green for All • GreenLatinos • Hip Hop Caucus • Indivisible • Information Network for Responsible Mining • Institute for Agriculture and Trade Policy • International Fund for Animal Welfare • International Marine Mammal Project, Earth Island Institute • Klamath Forest Alliance • League of Conservation Voters • Natural Resources Defense Council NextGen America • Oceana • Pesticide Action Network • Power Shift Network Public Citizen • San Juan Citizens Alliance • Save Animals Facing Extinction • Save EPA Sierra Club • Turtle Island Restoration Network • Union of Concerned Scientists Waterkeeper Alliance • Western Environmental Law Center • Western Watersheds Project WildEarth Guardians • Wilderness Workshop • Wildlands Network

November 7, 2017

The Honorable John Barrasso
Chairman
Senate Committee on Environment and Public Works
United States Senate
Washington, DC 20510

The Honorable Tom Carper
Ranking Member
Senate Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Re: Opposition to the Nomination of Kathleen Hartnett White as Chair of the Council on Environmental Quality

Dear Chairman Barrasso, Ranking Member Carper,

On behalf of our organizations and millions of members, we strongly urge you to reject the nomination of Kathleen Hartnett White to be the Chair of the Council on Environmental Quality (CEQ). Ms. White has been a consistent science-denier regarding the overwhelming scientific consensus on human-fueled climate change, making her unfit to lead an office charged with coordinating how the federal government analyzes and discloses climate change impacts in environmental reviews required by the National Environmental Policy Act (NEPA). That same climate change denial would also make her a dangerous person to lead conversations about adapting our national infrastructure to stronger and more frequent climate impacts like the recent superstorms we saw in the Gulf and Atlantic this year. Additionally, Ms. White has been a demagogic opponent of the Endangered Species Act, opposing protections for critically imperiled animals and plants in Texas. Ms. White has built her career aligning herself with the

fossil fuel industry and favoring big corporations and special interests over the health of the public and the environment. If confirmed, she would be placed at the fulcrum of federal interagency policy discussions on energy and environmental matters, making her one of the most powerful and dangerous environmental officials in the Trump administration.

In her current position at the Texas Public Policy Foundation—a conservative think tank that has received huge donations from fossil fuel interests that include Koch Industries, ExxonMobil and Chevron, and whose board of directors includes oil industry executives[1]—Ms. White has promoted tactics for undermining the Endangered Species Act (ESA), claiming its protections for endangered wildlife imperil economic prosperity. In a 2015 policy paper, she argued that the ESA and the U.S. Fish and Wildlife Service have been "ineffective at helping endangered species to recover," and that the Service has been more effective "in blocking needed infrastructure and industry."[2] However, these fossil fuel industry talking points have been debunked time and again. The ESA has been more than 99 percent effective at saving species under its protection from extinction and has put hundreds more on the road to recovery.[3] It also rarely ever blocks development projects. A 2015 paper analyzed over 88,000 ESA consultations since 2008 and found that no projects were stopped because of endangered species.[4] Ms. White has also previously stated that the ESA is "making natural disasters worse,"[5] and has argued against a Texas bill that would have given expert wildlife biologists authority for the state's response to candidates for ESA listing. She called this the "wrong approach," and said that the "current framework is working." However, the framework she refers to vests authority to the Interagency Task Force on Economic Development and Endangered Species, where the Comptroller of Public Accounts—an agency that manages state fiscal and tax matters and lacks a single staff biologist or other scientist—is charged with leading the Task Force.

As Chair of CEQ, Ms. White would be given broad statutory responsibilities to not only oversee implementation of NEPA and its substantive policies, but also provide critical recommendations to the President on proposed legislation and environmental policies. Notably, among the responsibilities of CEQ outlined in NEPA, the Chair is charged with ensuring the Federal Government "recognize the worldwide character of environmental problems and… lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment."[6] Not only has Ms. White failed to recognize the global threat of climate change on vulnerable communities, she has actively opposed international cooperation compacts like the

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[1] *See* Forrest Wilder, *Revealed: The Corporations and Billionaires that Fund the Texas Public Policy Foundation*, The Texas Observer (2012) *available at*: https://www.texasobserver.org/revealed-the-corporations-and-billionaires-that-fund-the-texas-public-policy-foundation/

[2] Kathleen Hartnett White, *The Endangered Species Act and Texas: A Look Ahead*, Texas Public Policy Foundation (2015).

[3] *See* News Release, *U.S. Fish and Wildlife Service, NOAA Propose Actions to Build on Successes of Endangered Species Act* (May 2015), *available at*: https://www.fws.gov/news/ShowNews.cfm?ID=7CA2994B-D4A6-1658-411D5635AAB69560

[4] *See generally* Jacob W. Malcom & Ya-Wei Li, *Data Contradict Common Perceptions About A Controversial Provision of the US Endangered Species Act*, 112 PNAS 15844 (2015).

[5] The Endangered Species Act and Texas, *supra* note 2, at 2.

[6] *See* 42 USC § 4332(F).

Paris Climate Accord and aggressively pursued an industry funded agenda which will accelerate, rather than prevent, a decline in quality of the environment.

Ms. White has also challenged the scientific conclusions of international experts on the Intergovernmental Panel on Climate Change (IPCC)—a volunteer group of scientists whose findings are considered the gold standard of climate science—and criticized the Supreme Court's 2007 ruling that carbon dioxide and other greenhouse gases are pollutants that can be regulated under the Clean Air Act. In a June 2016 op-ed titled "Restrain the imperial EPA,"[7] she advocated for legislation that would deny the U.S. Environmental Protection Agency (EPA) the authority to regulate carbon dioxide, methane, and other greenhouse gases. She has also called renewable energy "unreliable and parasitic,"[8] and global warming "a creed, a faith, a dogma that has little to do with science."[9] And she has described efforts to combat global warming as little more than an attack on the fossil fuel industry.

Ms. White has also frequently argued that carbon dioxide is not an environmental hazard, stating last year that "carbon dioxide is an odorless, invisible, harmless and completely natural gas lacking any characteristic of a pollutant."[10] As an outspoken critic of the science that underpins the U.S. Environmental Protection Agency's climate rules, she ardently fought against the agency's 2009 endangerment finding that greenhouse gases are harmful to human health and welfare. This finding triggered important EPA rules that would limit emissions from sectors like power plants, oil wells, landfills and automobiles. Ms. White has also unapologetically argued there is a moral case for expanding the development of fossil fuels regardless of carbon dioxide emissions, and has even gone as far as claiming that fossil fuels are to thank for abolishing slavery. In a 2014 blog post, she wrote about the connection between "the abolition of slavery and humanity's first widespread use of energy from fossil fuels," and that "fossil fuels dissolved the economic justification for slavery."[11]

As this Congress prepares to invest billions of taxpayer dollars to repair our Nation's crumbling infrastructure, CEQ will play a critical role in ensuring that our roads, water systems, and energy infrastructure are not only resilient to climate change but also safeguard those communities that continue to disproportionately suffer the adverse human health and environmental impacts of climate change. Through oversight of NEPA, the CEQ Chair has the unique responsibility to ensure that federal agencies are fulfilling their legal duty to analyze and disclose the impacts of federal projects on climate change as well the impacts of climate change on federal projects. Ms. White's persistent disavowal of climate science, her determination to ignore the overwhelming public support for action on climate change, and active opposition to policies that will protect the health and welfare of vulnerable communities makes her demonstrably unfit to oversee the NEPA review process. At its core, NEPA is about listening to the public voice and using the best available science to analyze the impacts of federal decisions. Ms. White's history of

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[7] Kathleen Hartnett White, *Restrain the imperial EPA*, The Hill (June 2016) *available at*: http://thehill.com/blogs/pundits-blog/energy-environment/283931-restrain-the-imperial-epa

[8] Kathleen Hartnett White, *Fossil Fuels: The Moral Case*, Texas Public Policy Foundation (2014) *available at*: https://www.texaspolicy.com/library/doclib/2014-06-RR03-FossilFuelsTheMoralCase-KathleenWhite-ACEE.pdf

[9] *See* Kathleen Hartnett White, Stephen Moore, *Fueling Freedom* (2016).

[10] Restrain the imperial EPA, *supra* note 6.

[11] Kathleen Hartnett White, *Energy and Freedom*, Blog post, Texas Public Policy Foundation (2014) *available at*: https://www.texaspolicy.com/blog/detail/energy-and-freedom

prioritizing industry profit over the overwhelming public consensus and scientific evidence on the need to act on climate change demonstrate she is unfit to oversee our national environmental policy outlined in NEPA.

Ms. White should not be placed in such a pivotal position in an agency whose mission she clearly does not believe in. If confirmed, she would bring a clear bias in favor of industry and is likely to undermine the implementation of our nation's core environmental laws. An extreme denier of mainstream climate science, a hero of those who oppose urgent action on global warming, and a person who believes that "there is no environmental crisis," and that "there's almost no major environmental problems,"[12] Ms. White is unfit to hold the highest environmental post in the government to advise the president on the most pressing environmental issues our nation faces.

We strongly urge you to oppose Ms. White's nomination as Chair of the CEQ.

Sincerely,

350.org
Alaska Wilderness League
American Rivers
Animal Welfare Institute
Bold Alliance
Center for Biological Diversity
Center for Food Safety
Clean Water Action
Climate Hawks Vote
ClimateTruth.org
Defenders of Wildlife
Delaware Ecumenical Council on Children and Families
Earthjustice
Endangered Species Coalition
Environment America
Environmental Protection Information Center
Food & Water Watch
Friends of the Earth
Grand Canyon Trust
Green For All
GreenLatinos
Hip Hop Caucus
Indivisible
Information Network for Responsible Mining
Institute for Agriculture and Trade Policy
International Fund for Animal Welfare
International Marine Mammal Project, Earth Island Institute
Klamath Forest Alliance

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[12] Americans for Prosperity Forum (November 2011), *video available at*: https://vimeo.com/31646143.

League of Conservation Voters
Natural Resources Defense Council
NextGen America
Oceana
Pesticide Action Network
Power Shift Network
Public Citizen
San Juan Citizens Alliance
Save Animals Facing Extinction
Save EPA
Sierra Club
Turtle Island Restoration Network
Union of Concerned Scientists
Waterkeeper Alliance
Western Environmental Law Center
Western Watersheds Project
WildEarth Guardians
Wilderness Workshop
Wildlands Network

Senator CARDIN. Ms. White, I want to follow up on some of Senator Carper's points about your comments. Just last Friday, the Trump administration released the fourth National Climate Assessment for the U.S. Climate Research Program, reiterating that human activity is the dominant cause of global temperature rise.

Now, I say that in that COP 23 is convening this week in Bonn, Germany, the twenty-third opportunity for the international community to come together on climate issues, and I particularly was concerned about an article you wrote that contains much of what Senator Carper was referring to. The article was Signing the Paris Agreement Is the Worst Way to Celebrate Earth Day.

Now, when the climate agreement was signed, there were two countries that did not participate; the rest of the global community did. Those two countries have since now joined the Paris agreement, so it was the entire global community that came together, and now there is one country that is backing off of it: the United States.

So I have a responsibility, as the Ranking Democrat on the Senate Foreign Relations Committee, which has primary responsibility over the international global discussions on climate. So I questioned Secretary nominee Rex Tillerson as to his views on this, and he was very open and said, yes, the United States should be sitting at the table during climate discussions with the international community, and yes, climate change is real. There may be different ways of dealing with it, but it is real, and we have to deal with it.

It seems to me that you don't believe climate change is real.

Ms. WHITE. I am uncertain.

Senator CARDIN. You are uncertain.

Ms. WHITE. No, I am not, I am sorry. I jumped ahead. Climate change is of course real.

Senator CARDIN. Does human activity affect climate change?

Ms. WHITE. More than likely, but the extent to which I think is very uncertain.

Senator CARDIN. Have you relied on scientists to give you that answer or not?

Ms. WHITE. No, I had the question for a very long time.

Senator CARDIN. So you have a distinguished background in academics and humanities and religion.

Ms. WHITE. Yes.

Senator CARDIN. Which is fine. It is a wonderful field. You are not a scientist, are you?

Ms. WHITE. No, I am not a scientist, but in my personal capacity I have many questions that remain unanswered by current climate policy. I think we indeed need to have more precise explanation of the human role and the natural role.

Senator CARDIN. And where do you get that information from?

Ms. WHITE. A wide range of information. The IPCC is a very good source.

Senator CARDIN. What is that?

Ms. WHITE. United Nations Intergovernmental Panel on Climate Change that has been the vehicle for ongoing assessment of climate change.

Senator CARDIN. What role do scientists play in this?

Ms. WHITE. Many of them are the authors. There are thousands of them involved in the whole, but they are, of course, they are scientists.

Senator CARDIN. Would you support the EPA allowing its scientists to fully participate in all discussions?

Ms. WHITE. I don't see why not. I think science should overwhelmingly guide assessments and all of that, but I don't think they dictate policy results.

Senator CARDIN. Do you stand by your statement that carbon dioxide, greenhouse gases are not dangerous at all to our environment?

Ms. WHITE. I would characterize it differently, but I would say that, as I did earlier, it is likely that CO_2 emissions from human activity have some influence on the climate, but again, not to the extent, but CO_2 in the atmosphere has none of the characteristics of a pollutant that contaminates and fouls and all of that that can have direct impact on human health. As an atmospheric gas, it is a plant nutrient.

Senator CARDIN. One last question, Mr. Chairman, and that is, you disagreed with the Supreme Court decision that said that the EPA had a responsibility because of the impact of greenhouse gases on public health. Are you now changing that or do you still——

Ms. WHITE. That was styled as the Massachusetts decision in 2007. That is the Supreme Court's ruling. That is the law of the land.

Senator CARDIN. But you think it was based on the wrong scientific information?

Ms. WHITE. No. I thought it was based on an overly expansive reading of the definition of an air pollutant in the Clean Air Act.

Senator CARDIN. Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Cardin.

Senator CARPER. Mr. Chairman, I ask unanimous consent to submit for the record materials relating to Ms. White's views that higher carbon dioxide levels are not harmful to our environment.

Senator BARRASSO. Without objection.

[The referenced information follows:]

Kathleen Hartnett White on the environmental benefits of CO2

In a 2015, YouTube video titled "Kathleen Hartnett White discusses the benefits of CO2," Ms. Kathleen Hartnett White talks about her book and how it discusses the benefits, among which are the "greening of the earth" which is being picked up by satellites.

https://www.youtube.com/watch?v=xykBJLfxDFI

Kathleen Hartnett White

Speech Excerpts for the Record

1. According to the CO2 Coalition's website: "More carbon dioxide levels will help everyone, including future generations of our families." And "Such [climate] policies furthermore threaten to deprive mankind of the benefits of carbon dioxide, an essential component of life and well-being." And according to these videos, what we need to do to save the bees is pollute more. Hartnett-White is a member. https://www.youtube.com/playlist?list=PL9Xa0BLOfUbA_4C9X4T0fS6A9JaNsowzU

2. July 11, 2015 – International Conference on Climate Change, The Heartland Institute After quoting Alice in Wonderland: "Pure propaganda... the word 'carbon' can mean chemical basis of life or it can mean a weapon of mass destruction, according to our secretary of state" https://www.youtube.com/watch?v=ULe-JfBm6bY

3. CPAC conference: "No, carbon dioxide is not a pollutant, and fossil fuels are not the agents of death," Hartnett White told the receptive audience. https://www.facebook.com/Energy.Environment.Legal/videos/vb.529782830430730/1276948252380847/?type=3&theater

4. During an interview on The Paradigm Shift Kathleen Harnett White said, "because I don't think it's a vexing problem. Global warming. I find that to be such extraordinary human arrogance. to imagine at this point in time that we could reengineer the climate system in which this planet operates. I think, and what a waste of science." [Paradigm Shift, YouTube, 8:30. https://www.youtube.com/watch?v=5Dyn2pRuxj8

5. Communism would be a much better system for decarbonizing" May 24, 2016 https://www.youtube.com/watch?v=jylsBqN8WbI

6. Speech that said that the United Nations has "revealed themselves" as advocating for communism as "the only system of government which effectively would reduce carbon dioxide." https://www.youtube.com/watch?v=BXgebG5uXgk

7. Hartnett White appeared on "The Right Perspective," an online conservative radio show, in September 2016 when she made the comments talking about a "dark side" to belief in global warming. "There's a real dark side of the kind of paganism -- the secular elites' religion now -- being evidently global warming," Hartnett White said.

http://www.cnn.com/2017/10/19/politics/kfile-kathleen-hartnett-white-paganism/index.html

8. When asked on the What's Up Radio Program is there any evidence fracking contaminates water, White stated, "The society for petroleum engineers in a report concluded that...that at least one million wells have used hydraulic fracturing. And over that time in those over one million wells there's never been an instance where fracking process itself contaminated ground water above it. http://www.terrylowry.com/audio/121221KathleenWhite1.mp3 (3:33)

9. Americans for Prosperity Conference video Extreme Power Abuse – The EPAs Job Crushing Regulatory Assault, about 2011 (when Lisa Jackson was administrator) - "People do not die from particulate matter levels." https://vimeo.com/31646143

10. July 2, 2015- The Blaze "Particulate matter is twice or three times as higher when you're inside a building because of the fibers on your clothes" https://www.youtube.com/watch?v=uh3-O5eeOcQ

11. When asked on the What's Up Radio Program, "Is ozone, though, a harmful pollutant that kills millions and millions of Americans and other citizens around the world?" Ms. Kathleen Hartnett White answered, "The answer is NO, with a couple of qualifications. At certain levels, and certain amounts of exposure, a very high ozone concentration can be harmful to health. At the level it is at now because of the improvement I just mentioned, it is not harmful to human health. Unless, you put your mouth over the tailpipe of a car for eight hours every day. When you go inside, ozone levels drop maybe two-thirds or more. And most people, there are still people the work outside all day long, but the overwhelming majority go inside. So it's not, it's not a basic health risk." http://www.terrylowry.com/audio/160520KathleenWhite.mp3 (starting at 3:54)

12. "EPA thinks it is, by saying oh gee, the same efforts to reduce ozone will reduce another pollutant that EPA calls fine particulate matter, but dust would be a good example and industrial operations also produce tiny, tiny, almost microscopic bits of matter. But that pollutant too has been so reduced almost the entire country meets the current federal standard. But EPA says almost two-thirds of all the benefits they calculate from this new ozone standard would be what they call coincidental benefits from also reducing fine particles. And fine particles have already been reduced! (5:26) http://www.terrylowry.com/audio/160520KathleenWhite.mp3

13. T: Is ozone, though, a harmful pollutant that kills millions and millions of Americans and other citizens around the world?
KHW: The answer is NO, with a couple of qualifications. At certain levels, and certain amounts of exposure, a very high ozone concentration can be harmful to health. At the level it is at now because of the improvement I just mentioned, it is not harmful to human health. Unless, you put your mouth over the tailpipe of a car for eight hours every day. When you go inside, ozone levels drop maybe two-thirds or more. And most people, there are still people the work outside all day long, but the overwhelming majority go inside. So it's not, it's not a basic health risk. (4:40)
http://www.terrylowry.com/audio/160520KathleenWhite.mp3

14. "No, I think without access to a cheap, abundant reliable source of electricity, economic growth in those developing countries would either be glacially slow or impossible. Those that so believe that renewables, and I'm thinking predominantly wind and solar, can replace fossil fuels and still give the same performance at the same price are just not being open and upfront about renewables. They are far more expensive. Most of the studies that come up now claim they are cheaper than conventional fuels that's because they don't calculate what's the largest share of the cost. Like the subsidies of some good data has come out recently that suggests, in the last eight years or something the federal, state, and local government combined have extended 175$ billion for renewable subsidies… not just to operate them but installation and to operate them." 8:12
http://www.terrylowry.com/audio/160621KathleenWhite1.mp3

White: Climate change policies driven by power, not science

OPINION By Kathleen Hartnett White - Special to the American-Statesman

Posted: 3:49 p.m. Monday, June 20, 2016

White is director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation and former chairman of the Texas Commission on Environmental Quality. She is co-author of the new book "Fueling Freedom: Exposing the Mad War on Energy."

The technologies that drove the shale revolution are neither new nor high risk. Fracking has been around since 1947 and horizontal drilling since the 1980s. The historic breakthrough that led to the shale revolution was George Mitchell's combination of the two technologies in 1998: fracking in the horizontal well bore, targeting the plentiful but previously noncommercial tighter hydrocarbon bearing zones.

As has been the case for decades, a large contingent of environmentalists treat oil and natural gas as inherently villainous. Yet, these fuels are integral to modern prosperous societies, have lifted billions out of poverty and offer the chance for health and economic growth in the poorest countries on the earth. Fossil fuels have amplified our food supply. Natural gas-based fertilizer accounts for 40-60 percent of the global supply. Well over half of the materials and fibers that fill our homes, offices and hospitals are made out of fossil fuels. We are so swathed in energy services that we don't even notice their presence. Even our small, clean smartphones are energy guzzlers, consuming more electricity than all of global aviation.

The crucial fact omitted from the debate surrounding man-made global warming is that there are no

alternative energy sources that can replicate the performance of fossil fuels right now. Lavishly subsidized renewables cannot provide the concentrated, abundant, affordable, reliable, versatile and controllable energy that fossil fuels can. Consider how Germany's aggressive deployment of subsidized wind and solar facilities turned electricity into a "luxury good." With retail electric rates now three times higher than the U.S. average, almost a million German homes no longer can afford electricity and have reverted to burning wood. Using taxpayer money to subsidize renewables to the tune of perhaps $175 billion over the last ten years in the U.S. is transfers wealth from the poor to the rich. Meanwhile, the private sector-driven shale revolution has spurred a U.S. energy renaissance while creating tens of thousands of jobs and dramatically lowering the cost of energy.

Americans now use around two hundred times more energy than in 1800, and all but a trace of this is derived from fossil fuels. Since fossil fuels were first harnessed less than two centuries ago, our life expectancy is now three times longer and average income per person has risen ten- to twentyfold. As late as 1900, the workweek was 72 hours – 12 hours per day for six days. The colossal productivity made possible by fossil fuels shortened the workweek and increased per capita income, leading to the emergence of an enduring middle class with upward mobility. Do we really want to reverse this trajectory and restore the misery of pre-industrial societies when a small sliver of elites enjoyed the fruits of energy while the majority of society was trapped in gnawing poverty?

Carbon dioxide is not a pollutant, and carbon is certainly not a poison. Carbon is the chemical basis of all life on earth. Our bones and blood are made out of carbon. A natural, trace gas in the Earth's atmosphere, invisible and odorless, carbon dioxide does not contaminate the air as genuine pollutants can do. Ambient CO2 has zero health impacts. This falsely maligned natural gas is better known as the "gas of life" because it is a necessary nutrient for plant growth — the food base of life on the planet earth.

No genuine empirical science is ever settled. Science begins with a theory that must then be validated by observational measurements. In the case of climate modeling, the United Nation's predictions of dangerous warming have been at odds with NASA's more sophisticated satellite and balloon temperature measurements. Although you won't hear this from politicians and activist scientists, the UN's most recent climate report admits this discrepancy and suggests that the models assumed too much climate sensitivity to man-made CO2. While a modest correlation between CO2 and temperature has been observed throughout history, it appears that rising CO2 follows rising temperatures, suggesting that CO2 may not be the cause of warming but instead a symptom of it. And we still know little about how other natural variables impact climate. What role does our sun play? The sun is the source of over 99 percent of the energy in the earth's climate.

Since its inception 30 years ago, the U.N. has politicized and driven climate change alarmism. Climate science should continue but under normal scientific transparency. The current state of the UN science is not validated and politically corrupt. It's truly remarkable that some propose it as justification for dismantling our fossil-fueled energy system that our very lives depend on. As with so many politicized issues, the climate issue is not about the weather, the environment or energy. It's about power, over

our economy and over our lives, at the expense of liberty and the human condition.

White is director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation and former chairman of the Texas Commission on Environmental Quality. She is co-author of the new book "Fueling Freedom: Exposing the Mad War on Energy."

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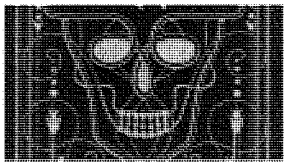
by Staff, Special to the American-Statesman

As reported by the American-Statesman's Katie Hall, Austin-Travis County Emergency Medical Services lost its employment contract after negotiations with the city came to an impasse this week. Representatives for the agency could not agree with Austin officials on issues such as compensation and credentialing, and city officials decided to stop...



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by Kirkus Reviews

A woman's recent addition to a trust fund could earn her a windfall — provided the other beneficiaries don't kill her first — in Mike McCrary's "Steady Trouble." Texas bartender Theodora, better known as Steady Teddy, has had trouble with her memory since she sustained brain trauma when she was 18. Her injury...

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by Ken Herman, American-Statesman Staff

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Here's What Will Not Be Discussed at the Upcoming U.N. Climate Conference in Paris

Kathleen Hartnett White / November 18, 2015 /

Here's What Will Not Be Discussed at the Upcoming U.N. Climate Conference in Paris

An employee installs a sticker with the logo of the upcoming COP21 Climate Change Conference on a Nissan LEAF electric car in Boulogne-Billancourt, near Paris, France, Nov. 16, 2015 (Photo: Beoit Tessier/Reuters/Newscom)

COMMENTARY BY

Kathleen Hartnett White

Kathleen Hartnett White is distinguished senior fellow-in-residence at the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation.

As the Obama administration prepares to leave for the U.N. climate treaty negotiations in Paris on Nov. 30, Texas Public Policy Foundation's Kathleen Hartnett White outlines important climate questions:

Q: What are some ideas missing in the global warming policy conversation?

A: The official science driving global warming alarmism is based on models built to assume

that natural climate variables are extremely sensitive to a relatively small increase in atmospheric CO2 from human activity. But facts on the ground contradict the climate models' assumption.

Temperatures have not warmed as predicted by the models over the last 18 years. And extreme weather events have not been more frequent or more intense than in the 20th century.

The current concentration of CO2 in our atmosphere is around 400 parts per million. To put that in perspective, greenhouses inject CO2 to around 1200 parts per million to stimulate plant growth.

In previous geological eras, CO2 concentration was in the *thousands* of parts per million and plant life flourished. Many agronomists think that the currently much lower levels are almost starving plant growth.

Q: What are some of the benefits of carbon dioxide emitting energy resources?

A: The kind of energy available in fossil fuels – abundant, affordable, concentrated, versatile, reliable, controllable, storable – was *and remains* a necessary condition of monumental improvements in human welfare and economic growth that emerged around 1800. Since 1900 energy consumption rose 17 fold and gross world product rose 16 fold.

Synthetic materials, fibers, pharmaceuticals, plastics, and the like derived from fossil fuels represent 60 percent of all materials we use today. Before fossil fuels, all these materials had to be harvested from the natural world using millions and millions of acres.

From 1960-2007, the world population doubled from 3.1 billion to 6.7 billion, but food per person increased by 27 percent thanks to natural gas-based fertilizer and other fossil fuel inputs. Without fossil fuels, the amount of land needed to grow crops would have to increase by 150 percent.

And most don't realize that a "carbon foot print" allows mankind to shrink its physical footprint. Wind and solar facilities can require land areas 100-1,000 times more than coal, natural gas or nuclear plants and also use far more steel, concrete, and other industrial materials than a coal or gas plant does per megawatt.

Q: You've talked about climate as being a 'moral' issue – what do you mean?

A: The growth from the Industrial Revolution is unique in all history in that the greatest benefits were gained by the poor and not the already rich elites. An enduring middle class emerged for the first time in human history around the time of the Industrial Revolution. The economic growth performed for the people and, not as always before, for the privileged.

Since 1800, the human life span has tripled and real income per person has increased 10-20 percent. Western countries have gained the most but the improvements in the material condition of human life is global in reach. The U.N. concludes more people have been released from acute poverty in the last 50 years than in the last 500 years.

Policies to supplant fossil fuels – without a fully comparable substitute proven at scale – are immoral.

Increased energy prices hurt middle and low income families the most. Germany's green energy policies have made electricity "a luxury good" for the poor with average retail electric rates three times higher than the average U.S. rate.

Hundreds of thousands of homes can no longer afford electricity and have reverted to wood for home use. The UK is actually subsidizing purchase of wood burning stoves in their renewable fuel initiative. 1.3 billion people in the world still lack access to electricity. They don't need subsidized solar panels – they need affordable, efficient, reliable electricity.

Q: What is the Environmental Protection Agency's Clean Power Plan regulation?

A: The Clean Air Act authorizes the EPA to set emission limits at individual power plants. But in the Clean Power Plan, the EPA asserts control over the nation's entire electric system (energy source, generation, distribution and individual consumption).

States have had almost exclusive authority over electric utilities since law was enacted in 1930. The CPP, constructively, federalizes electric utilities.

The CPP also fundamentally transforms the operation of the electric grids. No longer will cost, reliability and safety be the factors that determine what electricity flows on the line. The CPP will make the carbon content of the generating fuel the determining criterion for dispatch. Policies of this national consequence must be the decision of the U.S. Congress – not the EPA.

Further, the EPA's assumptions about the amount of additional renewable energy that could be deployed in the next few years is dream land and destructive. For only the state of Texas, the CPP envisions installation of 45,000 new wind turbines. This will disfigure millions of acres of open space.

Q: Why is the U.N. Paris climate meeting so important?

A: As 195 nations will be considering a binding global agreement in Paris to essentially eliminate fossil fuels, the recent shale revolution has achieved access to vast store of oil and gas – a development with prodigious economic opportunities for the entire world.

Nixing fossil fuels without a fully comparable substitute is an energy *regression*. This has already begun in select nations that are returning to wood. The shale revolution that has led to lower fuel prices already has helped every household in the U.S.

We don't need to supplant fossil fuels at this point in time. We need to help developing countries increase energy availability for their people and use emission control technologies to manage real pollutants.

Q: What should U.S. leadership look like in Paris at the climate confrence?

A: President Obama is the first and only U.S. president to *advocate* a binding global agreement. And he has imposed damaging, unjustified, counter-productive regulatory mandates on our country merely to serve as a symbol of U.S. leadership.

The EPA christened CO2 as "pollutant" in 2009, hours before Obama flew to Copenhagen for the last major U.N. Conference of the Parties on Climate Change. And by the way, Obama will fly to Paris with the ink still wet on the final Clean Power Plan.

Congress several times considered, but ultimately rejected, giving the EPA any authority to regulate CO2.

So, the EPA created CO2 as a pollutant and under the highly prescriptive and enforceable Clean Air Act.

The most important action the U.S. Congress could take in a very short bill would be: "CO2 is not a pollutant within the regulatory jurisdiction of the Clean Air Act."

The Texas Public Policy Foundation will host an "At the Crossroads: Energy and Climate Summit" in Austin, Texas. The Summit will bring together more than 20 of the nation's top energy and environment thought leaders to discuss important topics such as "Earth's Climate History," "Energy Poverty," and "The Politics and Economics of Climate." For more information on the Texas Public Policy Foundations' conference, please visit http://crossroads-summit.com/

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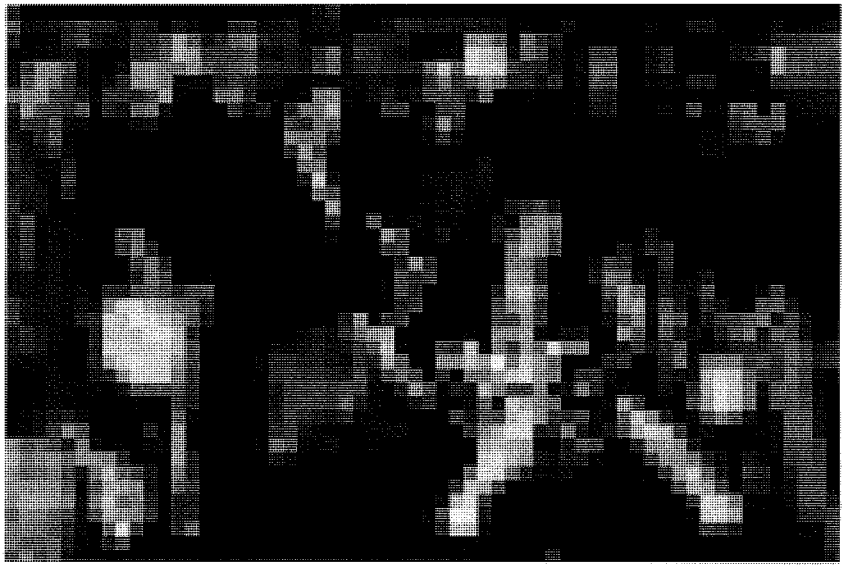
Energy and Environment

Trump taps climate skeptic for top White House environmental post

By Brady Dennis and Chris Mooney October 13



Surrounded by miners, President Trump signs an "energy independence" executive order at the Environmental Protection Agency in March. (Jim Watson/AFP/Getty Images)

This story has been updated.

President Trump on Thursday tapped Kathleen Hartnett-White, a former chairman of the Texas Commission on Environmental Quality, to head a key White House office that coordinates environmental and energy policies across the government.

The nomination of Hartnett-White to chair the administration's Council on Environmental Quality is not entirely surprising — she previously had been considered to head the Environmental Protection Agency — but nevertheless is sure to infuriate environmental advocates.

Kathleen Hartnett-White arrives at Trump Tower in New York last November. (Drew Angerer/Getty)

Like other members of the Trump administration, she has long questioned the overwhelming scientific consensus on human-fueled climate change and has criticized the findings of the Intergovernmental Panel on Climate Change (IPCC), a volunteer group of climate scientists whose findings are considered the gold standard of climate science. And she has described efforts to combat global warming as little more than an attack on the fossil fuel industry.

"I am not at all persuaded by the IPCC science that we are standing on some precipice," Hartnett-White told The Washington Post last October, referring to the urgency to combat global warming. "We're not standing on a cliff from which we are about to fall off."

[New EPA document reveals sharply lower estimate of the cost of climate change]

Hartnett-White is a senior fellow at the Texas Public Policy Foundation, an organization whose board of directors includes oil industry executives and GOP activists. Koch Industries, an oil-based conglomerate that has funded a variety of libertarian political groups, was among the group's broad range of original donors.

From her post at the foundation, Hartnett-White often has challenged the conclusions of international experts on climate change science, as well as criticized the Supreme Court's 2007 ruling that carbon dioxide and other greenhouse gases are pollutants that can be regulated under

the Clean Air Act.

"I take issue with that," she told The Post last fall. "Carbon dioxide has none of the characteristics of a pollutant that could harm human health."

She has displayed similar contempt for international climate efforts, calling scientific conclusions from United Nations panels "not validated and politically corrupt." Hartnett-White has also questioned the idea that carbon dioxide is a pollutant at all, calling it "an odorless, invisible, beneficial, and natural gas."

"Our flesh, blood and bones are built of carbon," she wrote in 2016. "Carbon dioxide (CO_2) is the gas of life on this planet, an essential nutrient for plant growth on which human life depends."

She made similar arguments in a book she co-authored in 2016, titled "Fueling Freedom: Exposing the Mad War on Energy," as well as in numerous essays questioning climate change, including one last year in which she called President Barack Obama's efforts to slow global warming by reducing carbon emissions "deluded and illegitimate."

The Council on Environmental Quality or CEQ, formed in 1970, doesn't just coordinate environmental policy at the White House. It plays a central role in the implementation of the National Environmental Policy Act, or NEPA, which requires an assessment of the environmental impacts of many proposed federal actions before they are undertaken.

That's where Hartnett-White could have a lot of influence in an administration that has called for speeding up infrastructure projects and cutting down on holdups due to environmental requirements.

"The new chair has wide latitude to weaken NEPA in an effort to speed oil and gas and other project approvals, which could undermine a key tool to understand and potentially mitigate environmental harms," said Jason Bordoff, director of the Center on Global Energy Policy at Columbia University and a former CEQ staffer in the Obama administration.

But James Connaughton, who held the role for which Hartnett-White has been nominated in the George W. Bush administration, argued that at the Texas Commission on Environmental Quality in the 2000s she presided over an impressive period in which economic growth and energy infrastructure expansion — particularly for wind energy and shale gas drilling — was nevertheless matched by continuing environmental protection.

"It's a great track record of effective planning, effective decision-making, while still meeting and sustaining environmental requirements," Connaughton said, calling Hartnett-White "highly qualified."

Connaughton also argued that at CEQ, Hartnett-White could successfully streamline project approvals without undermining environmental protections. "The Clean Water Act is still there, Endangered Species Act is still there, all of those substantive laws are still on the books and NEPA helps organize the process of getting through all that," he said.

Critics of Hartnett-White, however, have long seen her as far outside the mainstream, a denier of well-established science who would reflexively side with fossil fuel interests.

"Her ill-conceived policies would put the health of our families at risk and increase the deadly impact of climate change," Gene Karpinski, head

of the League of Conservation Voters, wrote last fall.

Christy Goldfuss, vice president of energy and environmental policy at the Center for American Progress and a former managing director of the White House Council on Environmental Quality, called Hartnett-White's nomination a win for the industry interests.

"She advocates for the moral case for developing fossil fuels, which flies in the face of the responsibilities of the chair to engage the public on environmental issues and advise the president on how to protect the public from the greatest environmental threats," Goldfuss said in a statement. "As communities rebuild across the country from climate fueled wildfires and hurricanes, her stated alliance with the fossil fuel industry makes her unfit to hold the highest environmental post in the government to advise the president on the real moral threat to our country: climate change."

Even with the nomination of Hartnett-White, who must be confirmed by the Senate, the Trump administration has left empty dozens of key scientific posts throughout the government. The positions span high-level science advisory jobs in the White House, the National Science Foundation and the Department of Energy.

Steven *Mufson contributed to this report.*

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Trump's energy policy team includes climate change skeptics, free-market advocates

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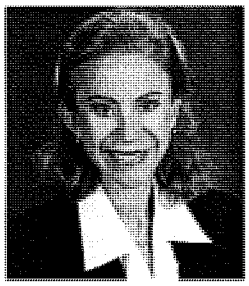

Kathleen Hartnett White

Credentials

- M.A., Humanities & Religion, Stanford University. [1], [2], [3]
- B.A. Humanities & Religion, Stanford University. [1], [2], [3]
- Attended Doctoral Program in Religion, specializing in East Asian and comparative Religions, Princeton University. [1], [3]
- Completed first year of law school, Texas Tech University. [1], [3]

Background

Kathleen Hartnett White is the distinguished senior fellow-in-residence and director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation (TPPF). Hartnett White previously worked as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). Prior to 2001, she served as then-Governor George W. Bush's appointee to the Texas Water Development Board, where she sat until appointed to TCEQ. [1]

Kathleen Hartnett White a director of the TPPF's Fueling Freedom

unconstitutional efforts to take over the electric power sector by regulating CO_2 via the Clean Power Plan." The Fueling Freedom project also seeks to"End the regulation of CO_2 as a pollutant." She is also a member of the Advisory Committee for the CO_2 Coalition, formerly known as the George C. Marshall Institute, a group that maintains that

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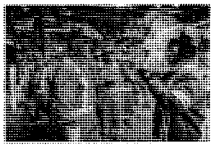

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increased CO_2 is beneficial for life on Earth. [4], [5], [6], [7]

In October 2017, Trump tapped Hartnett White to lead the White House Council on Environmental Quality (CEQ), pending confirmation. She was also a member of Trump's "economic advisory team" in 2016. [51], [12]

Hartnett White has also held positions as the Director of Private Lands and the Environment for the National Cattlemen's Beef Association (NCBA) in Washington, D.C. She has served as director of the Ranching Heritage Association. Notably, NCBA opposed the EPA's endangerment finding rule in 2010. She was a special assistant in the White House Office of the First Lady Nancy Reagan. [1], [8]

Kathleen Hartnett White is co-author, with Stephen Moore, of *Fueling Freedom: Exposing the Mad War on Energy* where she argues against the shift to renewable energy. According to a review of the book in *American Thinker*, "Rather than worrying that carbon energy resources are destroying the planet and looking to renewable energy as an alternative, the authors suggest we should celebrate the vast contributions fossil fuels made during the past century." *Rolling Stone* described *Fueling Freedom* as "a hymnal to all things fossil fuels, the dirty-energy, non-satirical equivalent of *Thank You for Smoking*." [1], [9], [10]

The *Texas Observer* found that the TPPF has been funded by ExxonMobil, Chevron, the Koch network, RJ Reynolds, the Heartland Institute, and others among what they describe as the "Who's Who of Texas polluters. " [11]

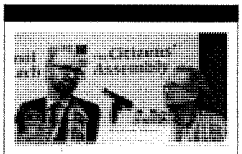
Texas Commission on Environmental Quality (TCEQ)

From 2003 to 2007, Hartnett White was the leader of the Texas Commission on Environmental Quality (TCEQ) appointed by Rick Perry. *The Texas Observer* noted that as TCEQ leader, Hartnett White voted to construct a new coal plant near Dallas despite opposition from mayors and officials in 24 cities and countries. When judges reviewed the plant's air permit, telling TCEQ that its pollution controls would be insufficient, Hartnett White argued that the owner of the plant was "under no obligation to prove its pollution controls would work." [52]

A 2003 Texas State Audit found that the TCEQ did "not consistently ensure violators are held accountable" and polluters "often have economic benefits that exceed their penalties, which could reduce their incentive to comply." [53]

Emails from the TCEQ revealed that Hartnett had led the group while it was involved in what one government watchdog group described as "conspiracy at the TCEQ of the highest order." Despite clear rules dictating federal limits on radiation in drinking water, *KHOU* 11 News reported that "the agency's top commissioners directed staff to continue lowering radiation test results, in defiance of federal EPA rules." [54]

Before he chose her to become chairman of TCEQ, then-Governor Rick Perry had also appointed her to the Texas Water Development Board.



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Rover Pipeline Sets Record for Environmental Violations

Invisible Horseman: An Interview with Photographer Tiny Moth

[52]

Donald Trump's Economic Advisory Team

Kathleen Hartnett White was named as a member of Donald Trump's "economic advisory team" in 2016. The team promised to "get the American economy back on track." Trump, who also added fellow climate change denier Myron Ebell to his team in September 2016, has called global warming "bullshit" and promised he would "cancel" the Paris climate agreement as well as roll back President Obama's actions on climate change. [12], [13]

> "I think a lot of things are way too premature to try to characterize meaningfully, but it would be my lifelong work — it would be an honor to serve in his administration," said Hartnett White. [14]

Hartnett White said that her book, *Fueling Freedom*, was a primary reason she was asked to join Trump's team, "along with her work as an environmental regulator and their shared devotion to the oil shale (or fracking) revolution." [10]

Hartnett White has long called for restraint of what she called the "imperial EPA," and in June 2016 she promoted the bill H.R. 3880, "The Stopping the EPA Overreach Act," while describing carbon dioxide as a "necessary nutrient for plant life." Later in 2016, Hartnett White said that while we need not necessarily do away with the EPA as Trump has planned, still "we don't need regulation; we're already doing a good job." [15], [16]

Rolling Stone comments that when Trump announced that his "environmental agenda" would be "be guided by true specialists in conservation" that "He may well have meant Hartnett White," given her experience in government regulation working on the Texas Water Development board under then Governor George W. Bush, as well as chair of the Texas Environmental Quality Commission under Governor Rick Perry. Hartnett White told *Rolling Stone* that she would "love to serve" in a Trump administration if given the opportunity. [10]

Stance on Climate Change

Kathleen Hartnett White has said the Intergovernmental Panel on Climate Change (IPCC) ignores natural causes of climate change. She has also argued that Carbon Dioxide has been wrongfully regulated as a pollutant.

October 19, 2016

Speaking with *Ars Technica*, in her role as a Trump campaign advisor, Kathleen Hartnett White suggested the IPCC has ignored natural causes of climate change: [17]

> "[The IPCC] never really takes on an explanation of how the other variables in climate affect climate. [...] It never takes on the Sun. There are a number of very, very senior atmospheric physicists—one I think of in particular, Fritz Varenholt, who wrote a book called *The Neglected Sun*. As a scientist, he's just appalled that better knowledge about the role of the Sun would not be a part of the science." [17]

September 29, 2015

Writing at *Townhall.com*, Kathleen Hartnett White described what she calls "propaganda" surrounding the climate change issue, what she suggests is a wrongful description of carbon dioxide as a pollutant, and she contends CO_2's impact on climate remains a "question": [18]

> "Carbon dioxide (CO_2) is the gas of life on this planet, an essential nutrient for plant growth on which human life depends. How craftily our government has masked these fundamental realities and the environmental benefits of fossil fuels!" Hartnett White said. "Notwithstanding the unscientific declaration of absolute certainty surrounding the politically official science, the climate's sensitivity to the relatively small increment of human-induced CO_2 remains the central unsettled question surrounding the climate issue." [18]

June, 2014

In a June 2014 TPPF policy document, titled "Fossil Fuels: The Moral Case" (PDF), Kathleen Hartnett White wrote: [19]

> "IPCC science claims of 95 percent certainty that human activity is causing climate calamity are more like the dogmatic claims of ideologues and clerics than scientific conclusions." [19]

Key Quotes

November, 2016

Speaking with the *Washington Examiner*, Kathleen Hartnett White discussed Donald Trump's plans to revive the coal industry. [20]

> "[Trump]'s very much for clean air and clean water" Hartnett White said. "But the better home for considering this discussion about carbon dioxide and climate is in the Department of Energy." [20]

> According to Hartnett White, climate change concerns "are really a discussion about energy, not really a discussion about environmental protection." She described CO_2 regulations as "the killer for coal." [20]

> Speaking of the Clean Air Act's regulation of CO_2, Hartnett White

said that the Clean Air Act "was never designed to control a pollutant that ubiquitous that has no adverse environmental impacts on people." She said that "Carbon dioxide has no adverse impact in the air we breath at all. It's a harmless trace gas that is actually an essential nutrient for plants." [20]

September, 2016

Speaking with *Rolling Stone*, Hartnett White declared: [10]

"We're not a democracy if science dictates what our rules are." [10]

September, 2016

While Kathleen Hartnett White has said that we don't need to dismantle the EPA entirely, she did say to *SNL* that "we don't need regulation" and that rather the EPA would only be needed to "maintain the achievements reached": [21]

"A basic recommendation I would make to anyone running for president is we need to review this avalanche of rules that has been promulgated over the last eight years and possibly rescind. [...] and replace [them] with new rules," Hartnett White said.

"Again this doesn't mean we don't need EPA; **we don't need regulation; we're already doing a good job**. No. Just to maintain the achievements reached [...] is a very important function for an administrative agency [like the EPA]" (Emphasis added). [21]

July, 2016

Writing in the *National Review*, Hartnett White declared: [22]

"Now, the plentiful, reliable, and affordable energy source that is coal can be regarded as clean." [22]

March 30, 2016

Writing in *The Hill*, Hartnett White said:

"Renewables are a false hope that simply won't work." [23]

"[I]ntermittent renewables are parasitic on back-up power from reliable fossil fuels" [23]

November 2011

At a forum convened by Americans for Prosperity (AFP), funded by the Koch Family Foundations, Harnett-White said: [58]

"There is no environmental crisis—in fact, there's almost no major

environmental problems."

Extreme Power Abuse from AFPhq on Vimeo.

Key Deeds

October 12, 2017

As first reported by Hannah Northey on Twitter and later at *E&E News*, President Donald Trump named Kathleen-Hartnett to chair the Council on Environmental Quality (CEQ), pending approval. Rick Perry, who previously appointed Hartnett White to the role she held at the Texas Council on Environmental Quality (TCEQ) from 2004 to 2007, had reportedly advocated for her to run for the position at CEQ. [55], [56], [51], [57]

As head of the CEQ, Hartnett White would be in charge of coordinating interagency science, climate, and environmental policy and oversee things such as the National Environmental Policy Act (NEPA) review process and agency compliance with that law. [51]

"Though CEQ oversees the NEPA process, it remains unclear how seriously Hartnett White will take the NEPA review process, for decades seen as a bedrock of U.S. environmental regulation since NEPA became law in 1970," *DeSmog*'s Steve Horn reported. [51]

Hartnett White will go through a U.S. Senate confirmation hearing process, where she will likely face questions regarding her history of promoting fossil fuels and denying climate change. The Environmental Working Group (EWG) released a press statement critical of Hartnett White's appointment: [51]

> "At least Butch and Sundance had to put some effort into robbing banks and trains," Ken Cook, EWG's president, said in a press statement. "If Hartnett White joins Administrator Pruitt, polluters will stroll through the front doors of both the EPA and the White

> House, no questions asked, as the rampant looting of environmental and public health protection policies continues." [59]

February 24, 2017

Kathleen Hartnett White was a speaker on a discussion panel sponsored by the CO_2 Coalition at the 2017 Conservative Political Action Conference (CPAC). Tony Heller moderated the panel, and it also featured Craig Idso of the CO_2 Coalition. View video of the event at the Energy & Environment Legal Institute's Facebook page. [50]

Hartnett White describes the CO_2 coalition as "very very meaningful source," and later says that the group has inspired her and given her hope: [50]

> "I'm very hopeful because of organizations like the CO_2 Coalition," Hartnett White said. "The board composed of just the top of the heap of science on this issue. Brilliant. Not a B team at all, but an A-plus team. So, I think in a way, the long debate that we were told was settled — was unequivocally settled, incontrovertible settled [...] Look, I think that debate, that crazy debate, deluded denial of that debate, I would say it's over. But there's a crack in the door." [50]

According to Hartnett White, "Carbon Dioxide is not a pollutant, nor are fossil fuels the agent of death." She later describes it as "an invisible trace gas that has no impact on human health even at very high levels." [50]

> "I like to say that CO_2 or fossil fuels, they originated—certainly fossil fuels—originate in life, and they're really the compressed and heated concentration of life, and they come back to amplify human life," she said. [50]

She later describes climate change policies as a "civilizational threat," and claims that "All the climate policies to date are futile." [50]

> "President Obama and his lieutenants repeatedly said that the greatest global civilizational threat is the threat of man-made global warming, in his views caused by fossil fuels" she said. "I submit that climate policies, not fossil fuels nor CO_2 is actually a civilizational threat. That's what the book [Fueling Freedom] has kind of been about." [50]

Hartnett White concludes that she hopes President Trump will usher in new policy: [50]

> "It's hard to imagine how all this could shift, given the extent to which, not only in regulation, but just diffused throughout culture, assumptions that carbon dioxide is inherently harmful. Just hard to imagine how that can happen. I so hope—and this is the only

> opportunity I've seen in 20 years—a real redirection. [...] There's become this gap where the planet itself has some value higher than human life on this. And that means, really, some pretty simple things about policies at issue here and policies championed very consistently by President Trump and his campaign. Employment has got to be a key factor on any cost-benefit analysis." [50]

In the Q&A Session following her discussion, Hartnett White discussed the Environmental Protection Agency (EPA), and how its focus on CO_2 emissions has been a supposed "distraction" from more important issues. The EPA has "lost their sense of real priorities," she said. [50]

She continues on the EPA, saying their risk assessment on CO_2 was based on "heinously bad science." "Even the American Academy of Sciences and their review panel have mocked EPA," she adds "They're not a little bit bad. They're really bad. And they do nothing but serve to justify often truly infeasible standards, you know." [50]

In her closing remarks, Hartnett said: [50]

> "I think the department of energy could take very strategic steps on a lot of the things we've been talking about if the decision makers are willing to make some 180-degree turns." [50]

December 8, 2016

Kathleen Hartnett White spoke at, "At the Crossroads III: Energy and Climate Policy Summit," an event co-hosted by the Texas Public Policy Foundation (TPPF) and the Heritage Foundation. At the Crossroads describes itself as "the premier energy-and-climate policy event in America," and, as before, promises to attract a range of prominent climate change deniers. [24]

The event description invites attendees to "Join national policymakers, leading energy experts, and the field's most innovative minds to explore what's next in energy policy, what's coming in climate science, and how you may affect both." [24]

The agenda lists the following speakers: [24]

- Brooke Rollins, President, Texas Public Policy Foundation
- Becky Norton Dunlop, Ronald Reagan Distinguished Fellow, The Heritage Foundation
- The Honorable **Mike Lee** (R-UT), Member, Senate Committee on Energy & Natural Resources, and Chairman, Subcommittee on Water & Power
- The Honorable Lamar Smith (R-TX), Chairman, House Committee on Science, Space and Technology
- The Honorable **Pete Olson** (R-TX), Chairman, Subcommittee on Energy & Power, House Committee on Energy & Commerce
- The Honorable **Gary Palmer** (R-TX), Member, House Committee on Science, Space and Technology

Michael Needham, Chief Executive Officer, Heritage Action for America – Moderator
- The Honorable James Inhofe (R-OK), Chairman, Senate Environment & Public Works Committee
- The Honorable Kathleen Hartnett White, Director, Armstrong Center for Energy & the Environment, TPPF
- Stephen Moore, Distinguished Visiting Fellow, The Heritage Foundation
- **Bud Brigham**, Chairman, Brigham Resources, and Founder, Anthem Ventures – Moderator
- David W. Kreutzer, Ph.D., Senior Research Fellow, Center for Data Analysis, The Heritage Foundation
- Patrick J. Michaels, Director, Center for the Study of Science, Cato Institute
- Mark P. Mills, Chief Executive Officer, Digital Power Group; Senior Fellow, The Manhattan Institute; and Faculty Fellow, McCormick School of Engineering and Applied Science, Northwestern University
- **Horace Cooper**, Adjunct Fellow, National Center for Public Policy Research – Moderator
- **Patrick Forkin**, Vice President Strategy & Global Energy Analytics, Peabody Energy
- **Allen Gilmer**, President, Texas Independent Petroleum Producers Association
- **Karen Harbert**, President, Institute for 21st Century Energy, U.S. Chamber of Commerce (Invited)
- **Nick Loris**, The Herbert and Joyce Morgan Fellow, The Heritage Foundation – Moderator
- Dr. Richard Lindzen, Alfred P. Sloan Professor of Meteorology, MIT
- Dr. Willie Soon, Astrophysicist and Independent Scientist
- **Andrew M. Grossman**, Co-Founder, Free Speech in Science Project – Moderator
- Dr. William Happer, Emeritus Professor of Physics, Princeton University
- Dr. Craig Idso, Chairman, Center for the Study of Carbon Dioxide and Global Change
- Dr. Roy Spencer, Principal Research Scientist, University of Alabama in Huntsville

Doug Domenech, director of the Texas Public Policy Foundation's "Fueling Freedom" project, wrote about the proceedings at *The Hill*. Domenech outlined the common climate change denial message shared among the speakers: "Is climate change real? Yes, it has happened in the past and will happen in the future. Is man making an impact on the climate? Perhaps but in very small ways. But the overarching consensus remains the climate change we are experiencing is by no means catastrophic." [25]

October 22, 2016

Speaking at a Fueling Freedom event with fellow speaker Stephen Moore, Kathleen Hartnett White emphasized coal as a preferred fuel source over other sources: [26]

> "You can't compete with heat value and density of coal, natural gas and petroleum." [26]

Moore and Hartnett White provided a list of reasons to combat the idea of using green energy sources like wind and solar as the sole means of power, emphasizing the supposed unreliability of such sources. [26]

> According to Hartnett White, "Germany is five to 10 years ahead of the United States (when it comes to renewables)," Hartnett White said. "It is the most aggressive country on renewables, and their energy bill is three times the rate in the U.S. – not 30 percent, three times." [26]

They also said that pushing developing countries to use renewables is like keeping them in a "16th century energy mindset." [26]

October 7, 2016

In an interview with the *Orlando Sentinel*, Kathleen Hartnett White discussed her views on the EPA, Clean Power Plan, and renewable energy. [27]

> "An invisible, harmless trace gas in the Earth's atmosphere, CO_2 is a plant food" Hartnett White said. "In the long geological/ climatological history of the Earth, there were long periods when atmospheric levels of CO_2 were hundreds of times higher than the current level of around 400 parts per mission. For context, consider that man-made emissions of CO_2 now account for 0.02 percent of all atmospheric gases. Slightly higher levels of human induced CO_2 have increased plant productivity especially in arid regions as shown by satellite imagery. Greenhouses inject CO_2 to reach levels over 1000 ppm to increase plant growth." [27]
>
> "Even the EPA recognizes that carbon cuts mandated by the rule would reduce the rate of warming predicted by the United Nations' Intergovernmental Panel on Climate Change by only 0.02 percent — an amount so miniscule it is immeasurable." [27]
>
> "Even without an aggressive climate plan, the U.S. is reducing CO_2 more than any other country." [27]
>
> "There is nothing inviolable about fossil fuels. Who knows what alternative sources innovative human minds will develop that can benefit humanity as much or more than oil, natural gas and coal. Right now however, there are no alternatives capable of providing the benefits of fossil fuels." [27]

September 27, 2016

In an interview with CNBC, Hartnett White defended Donald Trump's temperament as "humanizing and they [supporters] can actually identify with his style much more than they can with the very, very scripted approach Mrs. Clinton has." [28]

September 23, 2016

Kathleen Hartnett White told *S&P Global Intelligence* her recommendations for the EPA, which included that many rules would be cut: [16]

> "A basic recommendation I would make to anyone running for president is we need to review this avalanche of rules that has been promulgated over the last eight years and possibly rescind [...] and replace [them] with new rules. [...] Again this doesn't mean we don't need EPA; we don't need regulation; we're already doing a good job. No. Just to maintain the achievements reached...is a very important function for an administrative agency [like the EPA]," she said. [16]

According to S&P Global Intelligence, during the interview Hartnett White "attacked the EPA's 2009 finding that carbon dioxide emissions pose a threat to public health and welfare," which had been a prompt for the EPA's formation of the Clean Power Plan. Hartnett White claimed that the EPA overstretched its mandate: [16]

> "Policies of that magnitude to me must be a decision of the U.S. Congress or we don't really function like a democracy anymore, if we have agencies that through very strained interpretation of existing law can impose such bold measures," she said. [16]

August 9, 2016

Quoted in the far-right news source *Breitbart*, Kathleen Hartnett White praised Donald Trump's economic plan, focusing on his plans to reduce regulation on the energy industry. [29]

> "The manner in which energy is developed and unitized, in just endless different ways in our economy, can provide an extraordinary stimulus to economic growth," said Hartnett White. "The surest path to job creation in my judgment is through taking advantage of the energy." [29]

Hartnett White also promoted the Keystone XL pipeline, declaring that "the very fact of the access we now have to worlds of oil and natural gas in this country and also in Canada, but we lack really the key infrastructure to take the maximum effiencent [sic] use of it because we don't have pipelines in certain places, the Keystone Pipeline is as important to North Dakota and those states — Pennsylvania — all of those as it is to Canada." [29]

She went on to praise Trump's proposal to rescind the Climate Action Plan, the Waters of the United States Rule, and cancellation of the Paris Climate Agreement while denouncing President Obama's policies, saying that Obama's regulatory authority had been "proliferating." [29]

June 17, 2016

Kathleen Hartnett White wrote an article in *The Hill* calling for restraint of the "imperial EPA." White promotes bill H.R. 3880, "The Stopping the EPA Overreach Act." The bill would prevent the EPA from regulating carbon dioxide, methane and three other greenhouse gases. According to White, the EPA's treatment of carbon dioxide as a pollutant is an example of "regulatory overreach." [15]

> "The truth is that our bodies, blood and bones are built of carbon! Carbon dioxide is a necessary nutrient for plant life, acting as the catalyst for the most essential energy conversion process on planet earth: photosynthesis," she writes. "[...] How do our national leaders square their public vilification of carbon dioxide with fundamental scientific and economic realities? Such political propaganda has now educated at least two generations of Americans who think carbon is a killer instead of the stuff of life on the earth." [15]

June 6, 2016

On June 6, 2016, the authors spoke at an event co-hosted by the Texas Public Policy Foundation and the Heritage Foundation to discuss the release of their new book. [30]

Also in June, Kathleeen Hartnett White spoke on *The Energymakers* show to discuss *Fueling Freedom*, where she declared: [31]

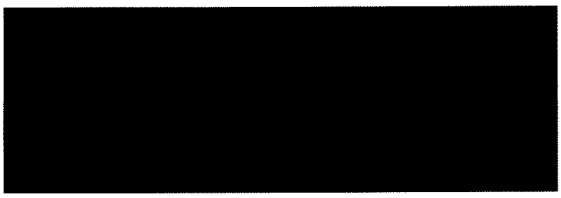
> "The core of the science of the IPCC is based on a set of assumptions about how the natural climate system responds to what is really, in terms of a percentage of atmospheric gas, tiny. [...] There is a growing gap between observed (measured) temperature, and the predictions of the IPCC." [31]

> "Extreme weather events are currently no more extreme or no more frequent than recently. Those two core claims: that the temperatures would increase at a certain rate [...] and that this will create weather havoc, if you will, have not occurred." [31]

May 26, 2016

Kathleen Hartnett White, director of the Armstrong Center for Energy & the Environment at the TPPF, went on the One America News Network's *Tipping Point* to discuss Hillary Clinton's energy policies. [32]

> "A significant part of [Hillary's] party is at a predominately extreme position on energy," Hartnett White says. [32]



May 23, 2016

Kathleen Hartnett White is the co-author, with Stephen Moore, of *Fueling Freedom: Exposing the Mad War on Energy*. The Amazon description of the book reads as follows: [33]

> "Fossil fuel energy is the lifeblood of the modern world. Before the Industrial Revolution, humanity depended on burning wood and candle wax. But with the ability to harness the energy in oil and other fossil fuels, quality of life and capacity for progress increased exponentially. Thanks to incredible innovations in the energy industry, fossil fuels are as promising, safe, and clean an energy resource as has ever existed in history. Yet, highly politicized climate policies are pushing a grand-scale shift to unreliable, impractical, incredibly expensive, and far less efficient energy sources. Today, 'fossil fuel' has become such a dirty word that even fossil fuel companies feel compelled to apologize for their products. In Fueling Freedom, energy experts Stephen Moore and Kathleen Hartnett White make an unapologetic case for fossil fuels, turning around progressives' protestations to prove that if fossil fuel energy is supplanted by 'green' alternatives for political reasons, humanity will take a giant step backwards and the planet will be less safe, less clean, and less free." [33]

The Heartland Institute, which hosted Stephen Moore for a talk on his book, describes how the authors "argue that if fossil fuel energy is supplanted by 'green' alternatives for political reasons, humanity will take a giant step backwards and the planet will be less safe, less clean, and less free." [34]

Hartnett White and Moore were quoted in *The Patriot Post*, where they had described in their book that renewable energy is "inconsequential":

> "Green energy remains an inconsequential source of energy in America despite more than $80 billion in direct federal taxpayer subsidies under Presidents George W. Bush and Barack Obama." [35]

Rolling Stone describes the book, noting that the authors deride "weak and parasitic renewable energy," mock the "green job craze," electric cars, and biofuels. Global warming is dismissed meanwhile as "exaggerated nonsense [...] a creed, a faith, a dogma that has little to do

with science." [10]

According to the book, green-energy policies that "undermine human progress" and "are not really clean at all," we should fear people who want us to "build windmills and ride our bicycles to work." [10]

From *Fueling Freedom*, which Hartnett White co-wrote with Stephen Moore: [33]

> "Contrary to false reports in the media, virtually no documented environmental problems have been associated with fracking – ever." [33]

April 22, 2016

Writing in *The Federalist,* in an article titled "Signing The Paris Agreement Is The Worst Way To Celebrate Earth Day," Hartnett White said: [36]

> "What will be labeled a global triumph will in reality likely be, if actually implemented, a tragedy for rich and poor countries alike and especially for the poor wherever they reside. The Paris agreement represents the first energy regression in mankind's history. It's a regression imposed by the ruling elites of the world's most prosperous and educated countries, abetted by legions of UN functionaries and their kin in non-governmental organizations (NGOs)." [36]

Hartnett White claims that global warming is last on a list of "a dozen genuine public priorities," and that the signing of the Paris agreement would signal "a return to pre-industrial days." She adds that the idea that renewable energy could replace fossil fuels is a "grand delusion of climate policy". [36]

April 21, 2016

Kathleen Hartnett White gave a talk at the April Luncheon of the Society of Petroleum Engineers (SPE), Fort Worth Section. Her talk was titled "The Great Energy Enrichment." [37]

March 3, 2016

> "[M'ounting evidence invalidates the modeled predictions of the IPCC — the official scientific anchor of the crusade. For decades, the IPCC models have failed to accurately forecast temperature as observed by the most sophisticated technology: NASA's remote sensing satellites and balloons." [38]

> "Like it or not, prosperous countries are utterly dependent on the abundant, affordable, versatile, reliable, concentrated, controllable, and portable energy available from fossil fuels. At this point in time, the intermittent, and far more expensive, renewable energies cannot provide the countless energy services on which our long, healthy, affluent, and comfortable lives with

personal freedom depend." [38]

November 19, 2015

Kathleen Hartnett White was a keynote speaker at the Texas Public Policy Foundation (TPPF)-sponsored event, "At The Crossroads" climate conference. She presented in Session II, in a talk titled "Not a Pollutant: CO_2 is the Gas of Life." Video below. [39]

November 18, 2015

Shortly before the U.N. Climate Change Conference in Paris (COP21) Kathleen Hartnett White was interviewed by *The Daily Signal* where she "outlines important climate questions." According to Hartnett White, there hasn't been significant global warming in 18 years: [40]

> "Temperatures have not warmed as predicted by the models over the last 18 years. And extreme weather events have not been more frequent or more intense than in the 20th century." [40]

She argues coal, natural gas, and nuclear power are superior to wind and solar, claiming they have a smaller "physical footprint" and that the EPA's Clean Power Plan would "disfigure millions of acres of open space" with wind turbines. [40]

> "The kind of energy available in fossil fuels – abundant, affordable, concentrated, versatile, reliable, controllable, storable

> – was and remains a necessary condition of monumental improvements in human welfare and economic growth that emerged around 1800," she said. "Policies to supplant fossil fuels – without a fully comparable substitute proven at scale – are immoral." [40]

With reference to the UN COP21 climate conference, she writes that "We don't need to supplant fossil fuels at this point in time. We need to help developing countries increase energy availability for their people and use emission control technologies to manage real pollutants." She concludes that the U.S. Congress should recognize that "CO_2 is not a pollutant within the regulatory jurisdiction of the Clean Air Act." [40]

Responding to the question "What are some ideas missing in the global warming policy conversation?" Hartnett White says: [40]

> "The official science driving global warming alarmism is based on models built to assume that natural climate variables are extremely sensitive to a relatively small increase in atmospheric CO_2 from human activity. But facts on the ground contradict the climate models' assumption," She adds that Temperatures have not warmed as predicted by the models over the last 18 years. And extreme weather events have not been more frequent or more intense than in the 20th century." [40]

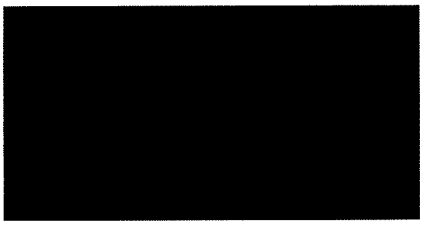
September 29, 2015

Kathleen Hartnett White writes in *Townhall* that Pope Francis's visit to America "is a reminder of the extent to which pure propaganda now circumscribes public discourse about climate change." [18]

> "The climate issue, in all its many dimensions, is not about air pollution as Pope Francis's recent speeches labeled the issue and as the media parroted his words. The climate change issue is about energy derived from fossil fuels," White writes.

June 11, 2015

Kathleen Hartnett White was a speaker at the Heartland Institute's Tenth International Conference on Climate Change in Washington, DC where she discussed " the economic impacts of federal climate policy" on a panel titled "Energy Realities." Video below: [41]



November 30, 2014

With Stephen Moore, Kathleen Hartnett White co-wrote an article in the *Washington Times* titled "EPA's goofy green-energy rules." Together, the authors argue against the EPA's Clean Power Plan: [42]

> "The EPA's proposed Clean Power Plan regulations are the most expansive and economically disruptive rules in four decades from an agency that is notorious for its reckless disregard for the financial consequences of regulation under the Clean Air Act, " Moore and Hartnett White write. "As an act of total desperation, the EPA is now playing the race card. The agency is adopting the theme that shutting down coal plants and other fossil fuel development is necessary to secure 'climate justice for communities of color.' Ms. McCarthy pitched this gibberish in August: 'Carbon pollution standards are an issue of justice. If we want to protect communities of color, we need to protect them from climate change.' This is just short of derangement." [42]

September 25–26, 2014

Kathleen Hartnett White spoke at the Texas-Public-Policy-Foundation-hosted "At the Crossroads: Energy & Climate Policy Summit." According to the event description, Sessions will explore the latest in climate science; current federal regulations and litigation; the history, politics, and economics behind man-made global warming; energy alternatives to fossil fuels; and how energy factors into prosperity and poverty. [43]

Speakers included: [43]

- Matt Ridley — Author of *The Rational Optimist*
- Mark P. Mills — Senior fellow at the Manhattan Institute
- Dr. Frank Clemente — Professor emeritus at Penn State University
- Governor Rick Perry
- State Senator Dan Patrick (Houston)

June, 2014

Kathleen Hartnett White authored a study at the Texas Public Policy Foundation titled "Fossil Fuels: The Moral Case." [19]

White says that her research was inspired by a "comprehensively researched monograph" written by fellow climate change denier Indur Goklany titled "Humanity Unbound." [19]

White describes the thesis of her paper as that "fossil fuels, as a necessary condition of the Industrial Revolution, made modern living standards possible and vastly improved living conditions across the

world." [19]

> "[...] the greatest beneficiaries of this energy revolution known as the Industrial Revolution were average workers and the most impoverished. Increasing emission of man-made CO_2 is tightly correlated with this monumental achievement." [19]

According to White, "[fossil]fuels are superior on many levels to the current alternatives." With reference to climate change, she claims that evidence for dangerous climate change "weakens" over time. [19]

> "Mandates to force an abrupt energy transition from fossil fuels to renewable sources are naïve and fraught with peril for highly industrialized economies. As this paper detailed, energy sources are not necessarily interchangeable. In energy density, abundance, reliability, versatility, and other advantages, fossil fuels are far superior to wind, solar, and biomass. [...]"

> "IPCC science claims of 95 percent certainty that human activity is causing climate calamity are more like the dogmatic claims of ideologues and clerics than scientific conclusions. " she writes. [19]

Hartnett White spoke about the study at an event hosted by the Heritage Foundation. See video below:

May 30, 2014

Kathleen Hartnett White is the author of an open letter to John Hennessy, President of Stanford University where she criticizes the university's divestment from coal: [2]

> "I regret that the Board has endorsed a highly politicized, dogmatic point of view that is not in the interest of maximizing returns on the endowment investments, the abject needs of billions of people across the world or, indeed, the environment,"

> Hartnett White writes. "Stanford's decision to divest in coal is a symbol for the elite that regrettably reflects indifference to the poor across the world who has never seen a light switch." [2]

March 14, 2008

Kathleen Hartnett White published an article in the opinion pages of *The Hays Daily News* (PDF) where she claims that she made the decision to approve the first coal-fired power plant in Texas in 20 years because "[E]quipped with groundbreaking emission controls [the new plant], was a net environmental benefit for Texas," reports Desmog. [44], [45]

> "Lost in the outcry over carbon dioxide are these considerations," Hartnett White said. "CO_2 represents only 5 percent of global greenhouse gas. CO_2 added by human activity such as power plants constitutes only 3.4 percent of all CO_2.
>
> As predicted by the reigning science of the United Nations Intergovernmental Panel on Climate Change, the risk of global warming from human-induced greenhouse gases such as CO_2 is an uncertain, remote, gradual risk with impacts predicted in 100 years or more." [45]

The *Wichita Eagle*'s Editorial blog responded:

> She [Harntett White] also makes misleading, unsupported assertions on science, claiming that the U.N. Intergovernmental Panel on Climate Change portrays global warming as an 'uncertain, remote, gradual risk with impacts predicted in 100 years or more.' To the contrary, the panel's study is unequivocal on the high risks of warming, the environmental damage already under way, and the urgency of controlling carbon and greenhouse gases now." [45]

2004 — 2007

The *Dallas Morning News* wrote an editorial discussing Hartnett White's departure as chairman of the Texas Commission on Environmental Quality: [46]

> "She [Hartnett White] has been an apologist for polluters, consistently siding with business interests instead of protecting public health. Ms. White worked to set a low bar as she lobbied for lax ozone standards and pushed through an inadequate anti-pollution plan. She also voted to approve TXU's pollution-intensive Oak Grove coal units, ignoring evidence that emissions from the lignite plant could thwart North Texas' efforts to meet air quality standards," the editorial reads. [46]

Environmental groups had put up a billboard and website pushing for Hartnett White to be removed from the position. White said that her exit, which came when her term expires, had always been planned. [46]

During her time at TCEQ, where she had been appointed by Rick Perry, Hartnett White approved a new coal plant despite widespread opposition. When judges reviewed the plant's air permit and concluded controls would be insufficient, Hartnett White said the owner of the plant was "under no obligation to prove its pollution controls would work." [52]

A 2003 Texas State Audit found that the TCEQ did "not consistently ensure violators are held accountable" and polluters "often have economic benefits that exceed their penalties, which could reduce their incentive to comply." [53]

According to a set of emails released in 2011, TCEQ under Hartnett White had also directed staff to lower radiation test results, in defiance of federal EPA rules. [54]

The TCEQ maintained the practice of subtracting off each test's margin of error, making the resulting radiation levels appear lower than they actually were, while the EPA had said as early as 2000 that states should not subtract this margin of error. The emails show that by October, 2007, TCEQ staff began questioning the senior directors about whether it was appropriate to defy this federal regulation. [54]

The TCEQ drinking water team lead was told, "I believe there may been some EPA guidance on not subtracting, but can't remember back that far for sure. This has been the practice in Texas since day one of radionuclide monitoring. This option was thoroughly discussed with the commissioners and the (executive director) staff when the reg was being adopted. We were directed to maintain the current methodology for subtracting the counting error at that time." [54]

The same team leader had presented testimony on behalf of TCEQ that showed TCEQ was aware of the federal rule, noting that the federal agency had "issued guidance for calculating radionuclide levels for compliance." Kathleen Hartnett White was present at a discussion of the TCEQ testimony in a June 7, 2004 meeting with the Texas Water Advisory Council, minutes from the meeting showed. [54]

Kathleen Hartnett White, who also sat on the Texas Water Advisory Council at the time, told KHOU news that the decision to continue the subtraction was a good one: [54]

"As memory serves me, that made incredibly good sense," she said. [54]

December, 2003

A 2003 state auditor report (PDF) found that the Texas Environmental Quality Commission (TEQC) under Hartnett White consistently failed to hold violators accountable for breaking its laws, applied fines that amounted to only about 40 percent of the profits the companies made breaking the law, and introduced policies that weakened its own regulations. [47]

Hartnett White "was put in that position by the governor for that very reason," Luke Metzger, director of the non-profit Environment Texas told Rolling Stone. "Gov. Perry had received hundreds of thousands of dollars

in campaign contributions from these very businesses who had an incentive to make sure there was as weak a regulatory structure in place as possible. She definitely filled that role to a tee." [10]

Affiliations

- Texas Public Policy Foundation — **Senior fellow-in-residence. Director, Armstrong Center for Energy & the Environment.** [1]
- CO_2 Coalition — **Member,** Advisory Committee. [6]
- **Donald Trump Presidential Campaign (2016)** — Member, Economic Advisory Team. [12]
- **The Fueling Freedom Project** — Director. [25]
- **Texas Commission on Environmental Quality (TCEQ)** — Chairman **(November 2001–August 2007).** [3]
- **GenTex Power Corporation** — Board Member **(2010–2013).** [3]

Other Affiliations

- **Hartnett & Evans** — Managed a family-owned ranging, farming, and oil and gas business **(1980–1985).** [3]
- **Texas Water Foundation** — Board Member. [3]
- **National Cattlemen's Beef Association (NCBA)** — Former Board Member. [3]
- **Texas Water Development** — Board Member **(1999–2001).** [3]
- **Texas Strategic Economic Development Planning Commission** — Board Member **(1999–2001).** [3]
- **Cattlemen's Legal Defense Fund** — Former Board Member. [3]
- **Texas National Resource Foundation** — Former Board Member. [3]
- **International Boundary and Water Commission** — Former Board Member. [3]
- **Bi-National Working Group on Environment** — Former Board Member. [3]
- **Ranching Heritage Foundation** — Executive Director **(1993–1994).** [3]
- **National Cattlemen's Association** — Director of Private Lands and Environment **(1987–1993).** [3]
- **Environmental Flows** — Member, Advisory Committee **(2006).** [3]

Social Media

While Kathleet Hartnett White does not appear to have a personal social media account, the Texas Public Policy Foundation (TPPF) maintains several accounts that make mention of her work:

- TPPF on Facebook
- TPPF on LinkedIn
- TPPF on Twitter (@TPPF)

Publications

A search of Google Scholar for articles by Kathleen Hartnett White does not return any publications authored in peer-reviewed journals. However, the search does return a number of policy documents written by Kathleen Harntett-White and largely published by the Texas Public Policy Foundation. For example: [48]

- Fossil Fuels: The Moral Case" (PDF), *Texas Public Policy Foundation,* 2014. [19]
- "EPA's Pretense of Science Regulating Phantom Risks" (PDF), *Texas Public Policy Foundation,* 2012.
- "The Clean Air Act: Reform Proposals" (PDF), *Texas Public Policy Foundation PolicyPerspective,* October 2012.
- "Inglorious Mess," *National Review Online,* 2012.
- "The New Value of Water," *Texas Public Policy Foundation,* 2004. (Part of the TPPF report "Choppy Waters: Understanding the Challenges to Texas Water Policy.")
- KH White, LR Soward, G Shankle. "Harvesting, storing, and treating rainwater for domestic indoor use," *Texas Commission on Environmental Quality,* 2007.
- "Texas' Ozone Success: Changing Standards Mask Texas' Air Quality Achievements," *Texas Commission on Environmental Quality,* 2010.
- "Who Regulates the Regulator: Cost-Effectiveness Analysis in Texas State Agency Rulemaking," *Hein Online*, 2012 - 2013.
- "EPA as Overlord of U.S. Electric Power" (PDF), *Texas Public Policy Foundation*, October 2014.
- Kathleen Hartnett White and Mario Loyola. "EPA's Regulatory Barrage and the Lone Star State" (PDF), Inside ALEC, November/December 2010.

Other Publications

A TPPF "Media Expert" backgrounder on Kathleen Hartnett White lists Hartnett White as making regular media appearancesin the *National Review (print and online), Investors' Business Daily the Washington Examiner, Daily Caller, Forbes, Houston Chronicle,* and *Dallas Morning News.* Some sample articles below. [49]

- "EPA's Approaching Regulatory Avalanch" (PDF), *Texas Public Poilcy Foundation*, February, 2012.
- "The Fracas on Fracking," *National Review*, February 16, 2011.
- "Taming the Fourth Branch" *The Daily Caller,* September 12, 2011.
- "The Ruse of Regulatory Reform," *National Review Online*, February 16, 2011.
- "Environmental Policy Constraints on U.S. Oil Supply," *Texas Public Policy Foundation*, May 22, 2008.

Resources

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2. "An Open Letter to President Hennessy," Texas Public Policy Foundation, May 30, 2014. Archived November 28, 2016. Archive.is URL: https://archive.is/ug5VU
3. "COMMITTEE ON NATURAL RESOURCES 114 th Congress Disclosure Form As required by and provided for in House Rule XI, clause 2(g)(5)" (PDF). Retrieved from U.S. House of Representatives Document Repository. Archived .pdf on file at DeSmog.
4. "Home," *Fueling Freedom*. Archived November 13, 2016. Archive.is URL: https://archive.is/y99w1
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12. (Press Release). "EXPANSION OF TRUMP ECONOMIC ADVISORY COUNCIL," *PR2016.org*, August 11, 2016. Archived September 28, 2016. Archive.is URL: https://archive.is/5h88Y
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15. Kathleen Hartnett White. "Restrain the imperial EPA," *The Hill*, June 17, 2016. Archived July 4, 2016. Archive.is URL: https://archive.is/gjgJh

16. Andrew Topf. "If Trump wins, he'll scrap Clean Power Plan and go after EPA," *Mining.com*, September 23, 2016. Archived November 13, 2016. Archive.is URL: https://archive.is/tSWfG

17. "Hillary Clinton vs Donald Trump on science, energy, and the climate," *Ars Technica*, October 19, 2016. Archived November 14, 2016. Archive.is URL: https://archive.is/W2kEp

18. Kathleen Hartnett White. "Clearing the Air on Climate Change," *Townhall*, September 29, 2015. Archived July 4, 2016. Archive.is URL: https://archive.is/tsqtp

19. Kathleen Hartnett White. "Fossil Fuels: The Moral Case" (PDF), *Texas Public Policy Foundation*, June 2014. Archived .pdf on file at DeSmogBlog.

20. John Siciliano. "Trump's plan to bring back coal country places EPA in crosshairs," *Washington Examiner*, November 14, 2016. Archived .pdf on file at DeSmog. Archive.is URL: https://archive.is/JeeoJ

21. Kip Atkinson Keen and Molly Christian. "To stoke growth, Trump adviser calls for overhaul of environmental regulations," *S&P Global Market Intelligence*. Retrieved from SNL.com. Archived .pdf on file at DeSmog.

22. "The GOP Platform Is Right: Coal Is Clean," *National Review*, July 21, 2016. Archived November 14, 2016. Archive.is URL: https://archive.is/e2xrs

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THE HILL

Restrain the imperial EPA

BY KATHLEEN HARTNETT WHITE - 05/17/16 02:35 PM EDT

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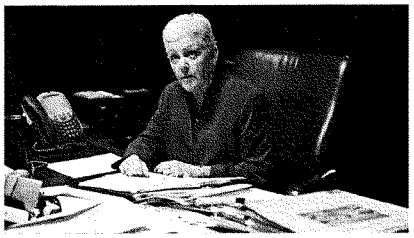

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The growing power of the administrative state is the defining feature of this era. Federal regulations now touch almost every area of American life, and almost all economic activity. Aggressive regulatory bodies like the Environment Protection Agency (EPA) increasingly impose these mandates by seizing what is the exclusive legislative power of Congress.

If Americans care about restraining this lawless assertion of federal regulatory power, the most important bill in Congress right now is H.R. 3880, introduced late last year by Rep. Gary Palmer (R-Ala.). The Stopping the EPA Overreach

Act now has 147 co-sponsors. Through clear language and only four pages, the bill would deny the EPA the authority to regulate carbon dioxide, methane and three other greenhouse gases The EPA now treats carbon dioxide — a ubiquitous byproduct of almost all human activity — as a dangerous pollutant controlled under the authority of the 40-year-old Clean Air Act. This regulatory overreach is the root of the energy policy morass in which our country is now mired.

The EPA again and again relies on the "Endangerment Finding" to force President Obama's Climate Action Plan among new mandates, which includes the methane rule and a moratorium of coal development on federal lands. Yet the EPA's expanding climate crusade is bereft of legally meaningful justification. The agency merely asserts that the unequivocal "dictates of science" and the social cost of carbon to legitimize new rules without further explanation. Neither current findings on what is regarded as the official climate science of the U.N. nor the social benefits of atmospheric carbon dioxide are mentioned. Our president and his functionaries across the federal government, however, persist in trumpeting the view of more radical climate alarmists who declare that man-made global warming of apocalyptic proportion is upon on right now. When questioned about justification, the EPA typically defaults to a moral imperative to supplant fossil fuels regardless of costs or futility. And zap goes the rule of law.

The Supreme Court has recently rebuked the EPA for several overreaching air quality rules such as the "tailoring," mercury and Clean Power Plan rules. Yet meaningful judicial restraint remains rare and mild when it occurs. Only Congress can effectively reclaim the broad, lawmaking authority that the EPA has seized over carbon dioxide. Policies of such national consequence must remain the prerogative of our elected reprasentatives, not Washington bureaucrats, and Palmer's bill is on point.

Such a bill is necessary because although Congress has consistently rejected delegating to EPA authority to regulate carbon dioxide, the agency now exercises that authority in a host of federal actions. When the massive Waxman-Markey bill to curb greenhouse gases failed Senate passage in 2009, the EPA went ahead and made the Endangerment Finding that carbon dioxide is a pollutant endangering human health and welfare — and thus subject to regulatory control under the Clean Air Act. What Congress refused to do, the EPA did on its own.

Seven years later, most people are inured to the EPA's expanding carbon agenda. But it's worth considering the unchecked authority the EPA now wields. In one of its first carbon rule-makings, the agency admitted that the Endangerment Finding would expend its ragulatory universe from 14,700 to more than 6.1 million entities. Hospitals, schools, hotels, apartment complexes,

office buildings and small business would now be subject to the Clean Air Act's top-down, inflexible dictates. In a later carbon rule known as the Clean Power Plan rule, the EPA arrogates the authority to re-engineer the nation's entire electric system. Under the agency's centralized plan, cost, safety and reliability would take a back seat to reducing carbon.

It's hard to overstate the consequences of regulatory scope of this magnitude. As a result of the EPA's legal censure of carbon dioxide, major U.S. coal companies have declared bankruptcy, thousands have lost their jobs, the Keystone XL pipeline was nixed, natural gas is under assault, energy assets once valued in the trillions are now stranded and the middle class is shrinking.

Obama and his lieutenants, such as Secretary of State John Kerry, now demonize carbon as "perhaps the world's most fearsome weapon of mass destruction." The truth is that our bodies, blood and bones are built of carbon! Carbon dioxide is a necessary nutrient for plant life, acting as the catalyst for the most essential energy conversion process on planet earth: photosynthesis.

Carbon dioxide is an odorless, invisible, harmless and completely natural gas lacking any characteristic of a pollutant. It doesn't contaminate or defile the air, as actual pollutants do. Ambient levels of carbon dioxide in the air we breathe have zero adverse health effects, in contrast to high levels of genuine pollutants listed in the Clean Air Act like lead and mercury. With good reason, the EPA has not set health-based limits on the ambient concentration of carbon dioxide. The Occupational Safety and Health Administration (OSHA) does set some advisory levels for prolonged exposure to carbon dioxide in tightly enclosed spaces, but they are set at more than 10 times the current level to which humans are routinely exposed.

Carbon dioxide is also a key ingredient in our food supply, about 60 percent of which depends upon fossil fuel-based fertilizers. How do our national leaders square their public vilification of carbon dioxide with fundemental scientific and economic realities? Such political propaganda has now educated at least two generations of Americans who think carbon is a killer instead of the stuff of life on the earth.

In the second decade of the 21st century, humanity sits atop two centuries of major advances in physics, biology and chemistry that have applied hydrocarbon compounds for mankind's benefit. Yet the climate doomsayers of our age employ the term "carbon" as if it were a poison threatening the survival of civilization.

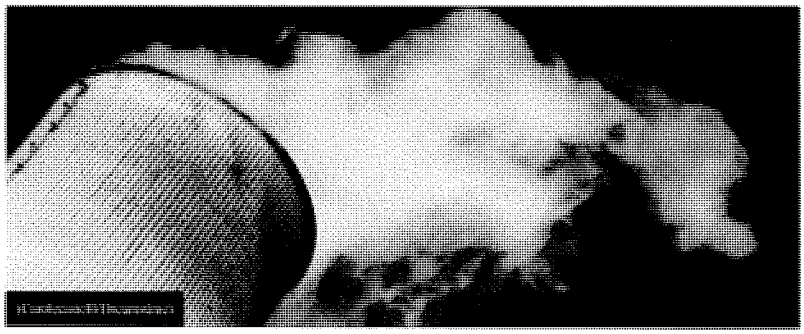
In one of the late Supreme Court Justice Antonin Scalia's last majority opinions,

he articulated a constitutional limit to regulatory overreach: "When as Agency claims to discover in a long-extant statute an unheralded power to regulate a significant portion of the economy, we expect Congress to speak clearly if it wished to assign to agencies decisions of such vast economic and political significance." The EPA's expanding regulatory scheme to decarbonize our country, unquestionably, has such vast economic significance. Rep. Palmer's legislation to nullify the EPA's Endangerment Finding provides the "clarity" Scalia said would be needed when unelected bureaucrats usurp the lawmaking power held by Congress alone.

White is the distinguished senior fellow-in-residence and director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation. She is the co-author of "Fueling Freedom" (Regnery Publishing, May 2016) along with Steve Moore.

TAGS JOHN KERRY

The GOP Platform Is Right: Coal Is Clean



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by KATHLEEN HARTNETT WHITE *July 21, 2016 4:03 PM*

Carbon dioxide has none of the characteristics of a real pollutant.

Some in the media are alarmed that the just-approved Republican-party platform takes a positive view of fossil fuels. "The platform tosses aside an environmental regulatory structure built on congressional legislation and judicial rulings over more than four decades," wrote Steven Mufson of the *Washington Post*. It's no surprise that mainstream media and its friends on the political left would feel that way — especially after they have been vilifying oil, gas,

and especially coal for more than a generation. It's on that last fuel that the platform takes perhaps its most remarkable position, declaring coal "an abundant, clean, affordable, reliable domestic energy resource."

It doesn't meet with the approval of the environmentalist Left — but it does happen to be true.

Although this Environmental Protection Agency never acknowledges it, a slew of state-of-the art technologies has led to dramatic reductions in emissions from coal-fired power plants. In this respect, coal is quite clean. Since 1970, emissions of key pollutants per kilowatt hour (electric) have fallen 89 percent. Use of low-NOx boilers, selective catalytic reduction, wet and dry electrostatic precipitators, scrubbers, and sorbent injection, while not popular topics at cocktail parties, have led to huge reductions in genuine pollutants that impact human health under certain concentrations and exposures.

In 2007, during my tenure as chairman of the Texas Commission on Environmental Quality, I signed the first permit for a lignite-fired coal-power plant in more than two decades. The elaborate emissions controls for this new plant have achieved amazing efficiencies comparable to those of plants powered by natural gas, and they continue to reduce real emissions. Yet EPA's Clean Power Plan may force closure of this modern plant, trashing the hundreds of millions invested in reducing real pollutants.

Although now viewed by the EPA as dirty carbon pollution, carbon dioxide (CO_2) lacks any of the characteristics of a real pollutant. CO_2 is an odorless, invisible, and beneficial natural gas and the catalyst for photosynthesis, the most vital energy conversion in our biosphere. How soon we forget eight-grade science! CO_2's life-amplifying potency is why greenhouses pump CO_2 to levels over four times that of the natural concentration in the air we breathe.

Officialdom's constant use of the word

"clean" masks the many details about energy that keep the lights on. In most cases, "clean energy" is a general designation for low-to-zero carbon-energy resources, the most prevalent forms being wind and solar power. The public has been led to believe that coal and other fossil fuels are dirty and that wind and solar are clean.

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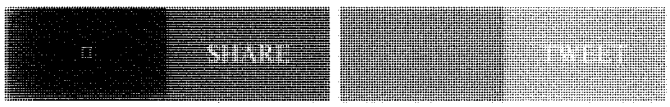
But just how clean are the steel and concrete used in the fabrication and operation of wind and solar installations? The amount of rebar packed under the ground to anchor the wind turbines is an eye-opener. Jesse Ausubel of Rockefeller University calculates that a typical wind system uses around 460 metric tons of steel and 870 cubic meters of concrete per megawatt (electric). A natural-gas combined-cycle power plant of the same capacity uses only three metric tons of steel and 27 cubic meters of concrete. "You can make wind turbines with steel, but you can't make steel with wind turbines," as Chris Horner of the Competitive Enterprise Institute put it. Coal remains essential to making steel.



Coal has long been the mainstay of reliable generation. We are so accustomed to electric power delivered at the touch of a finger that most people are unaware of the intricate system of bulk power that provides this marvel: cheap, versatile, and controllable electricity. Unlike other energy carriers, electric generation must exactly, and almost instantaneously, adjust to demand for electricity. This constant balance

between generation and demand is critical to keeping the electric grid stable. This is what energy doyen Mark P. Mills of the Manhattan Institute refers to as "the incredibly weird physics of the electric grid."

In contrast with wind and solar power, coal, as well as natural gas, can ramp generation up and down in split-second response to demand and thereby balance the grid. And the massive transmission and voltage infrastructure of our electric system was designed around the availability of coal and other dispatchable energy sources. In stark contrast, the variability of wind and solar cannot be controlled. In other words, the availability of wind or solar power has no correlation to demand. This is a rarely admitted but huge challenge for renewable energy.

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The antidote to this inherent limitation is reliable backup power typically provided by coal. When wind speeds fluctuate, coal generation can increase or decrease generation to meet demand. Wind and solar lack this flexibility and therefore reliability. Backup or redundant power, however, is a highly wasteful and expensive way to generate and deliver electricity. Germany has found that a completely redundant supply of flexible power operating in a form of idling is necessary at a certain level of wind energy dispatched on the grid for every megawatt of wind and solar power dispatched. This has forced Germany to increase the use of coal and wood — not exactly a goal of their clean-energy revolution. As a consequence, Germany's average electric rates are three times higher than the current U.S. rates.

MORE ENERGY

As inherently variable energy sources, wind and solar can also generate power in excess of demand at unpredictable moments. In these instances, grid operators have to intervene within seconds to rebalance power supply and demand. And

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here arises the incredibly ironic economics of intermittent renewables. As a result of unpredictable surges in wind power in 2015, the German government paid grid operators and wind generators $548 million to abruptly shut down to avert a collapse of the grid.

The U.S. Congress is addicted to ballooning energy subsidies. But we must ask ourselves what energy breakthrough of enduring, universal value has resulted from the hundreds of billions of taxpayer dollars devoted to these pipedreams. Just look to the free market for two overlooked energy miracles. The recent shale revolution has given us access to the mother lode of oil and natural gas long thought forever locked in shale, while innovative engineers have developed technologies to reduce genuine pollutants by as much as 90 percent. Now, the plentiful, reliable, and affordable energy source that is coal can be regarded as clean.

— *Kathleen Hartnett White is Distinguished Senior Fellow-in-Residence at, and the director of, the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation. She is a coauthor of the new book* Fueling Freedom: Exposing the Mad War on Energy.

Clearing the Air on Climate Change

Kathleen Hartnett White | Posted: Sep 29, 2015 9:08 AM

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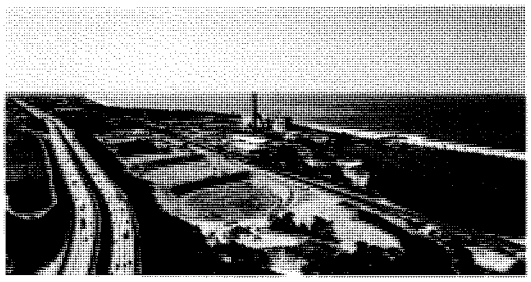

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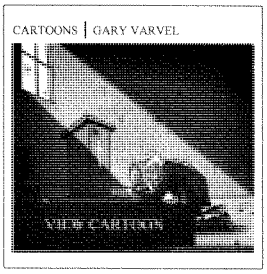
Why So Much Hatred Against Christians in America Today?

Pope Francis's visit to America this past week is a reminder of the extent to which pure propaganda now circumscribes public discourse about climate change. The climate issue, in all its many dimensions, is not about air pollution as Pope Francis's recent speeches labeled the issue and as the media parroted his words. The climate change issue is about energy derived from fossil fuels.

No matter how many times, the President, EPA and the media rant about "dirty carbon pollution," there is no pollution about carbon itself! As a dictionary will tell you, carbon is the chemical basis of all life. Our flesh, blood and bones are built of carbon. Carbon dioxide (CO_2) is the gas of life on this planet, an essential nutrient for plant growth on which human life depends. How

craftily our government has masked these fundamental realities and the environmental benefits of fossil fuels!

CO2 is an odorless, invisible, beneficial, and natural gas lacking any characteristics of a pollutant. CO2 in no way contaminates or defiles the air as genuine pollutants can. A trace gas, CO2 accounts for only around 0.04 percent (400 parts per million-ppm) of the atmosphere surrounding the earth that is dominated by nitrogen and oxygen. Even the IPCC's most recent Assessment Report admits that the dynamics of our climate may not be as sensitive to the relatively small addition of man-made CO2 as official science previously assumed. Notwithstanding the unscientific declaration of absolute certainty surrounding the politically official science, the climate's sensitivity to the relatively small increment of human-induced CO2 remains the central unsettled question surrounding the climate issue.



Yet, one fact about CO2 is settled. Ambient levels of CO2 in the air we breathe have zero adverse health effects in contrast to genuine pollutants such as benzene and sulfur dioxide, as listed in the Clean Air Act. With good reason, EPA has set no health-based limits on the ambient concentration of CO2. The Occupational Safety and Health Administration (OSHA) does set some advisory levels at 5,000 ppm for prolonged exposure to CO2 in a tightly enclosed space -more than ten times the current level to which humans are exposed. To put this in context, the Navy sets the safety limit for breathing inhaled air in a submarine at 8,000 parts per million!

Although the EPA rarely admits it, the U.S. has achieved a dramatic reduction in real pollution over the last few decades.

Between 1990 and 2010, EPA's most recently compiled data shows a 59 percent reduction in total emissions from the six major "criteria," pollutants regulated under federal law. Reductions of many individual pollutants are much higher. Air emissions of benzene, a well-known carcinogen and the most widespread hazardous air pollutant, has declined by more than 88 percent since 2013. Tailpipe emissions from vehicles—the predominant source of pollution from particulate matter and ozone —was reduced by 95 percent from 1980 to 2013. This is an astonishing environmental success.

The industrialized nations that utterly depend on the consumption of fossil fuels have not amplified environmental degradation of the natural world, as the Pope's speeches and encyclical claim. In fact, the highly concentrated energy in carbon-rich fuels have decreased human encroachment on the natural world. For a radical departure from the current canon of political correctness, consider that mankind's carbon footprint has shrunk mankind's physical footprint on the glorious earth.

Agriculture has now converted 1.5 billion hectares of the surface of the earth to cropland. Without the productivity achieved through natural gas-derived fertilizer and other energy inputs dependent on fossil fuels, the amount of land devoted to cropland would be as much as 3.8 billion hectares —enlarging the physical human footprint by almost three-fold.

In 1910 before the internal combustion engine replaced animate horse power, almost 30 percent of the U.S. crop harvest was devoted to feeding the 27.5 million horses used for muscle power on the farm and for transportation. Cars

and trucks soon replaced the horse. Although U.S. food demand has grown with the population over the last 100 years, the number of acres of American land devoted to agricultural crops and pasturing horses has not increased since 1910.

Policies to replace fossil fuel-based electric generation with wind and solar generation necessitate massive land modification and habitat destruction. Renewable installations can require hundreds to thousands more acres of land than a coal, natural gas or nuclear power plant to produce the same power. In contrast to pre-industrial eras when forests were a primary source of energy, the density and efficiency of fossil fuels have been kind to trees - shrinking mankind's physical footprint on the surface of the earth.

The meaning of "climate change" now includes so many disparate matters that the phrase is virtually meaningless. Stretching the phrase to include pollution is factually incorrect and grossly misleading to the public. As the evidence for *unprecedented* warming temperatures, extreme weather events, declining arctic ice, and rising sea levels wanes, the entrenched warmists' grasp for familiar tags such as "pollution" or "environmental protection" to sanitize their grand schemes to decarbonize human societies. Consideration of the fundamental physical realities about energy and the environmental benefits of fossil fuels, which enrich human well-being across the world, are dangerously absent from the public square.

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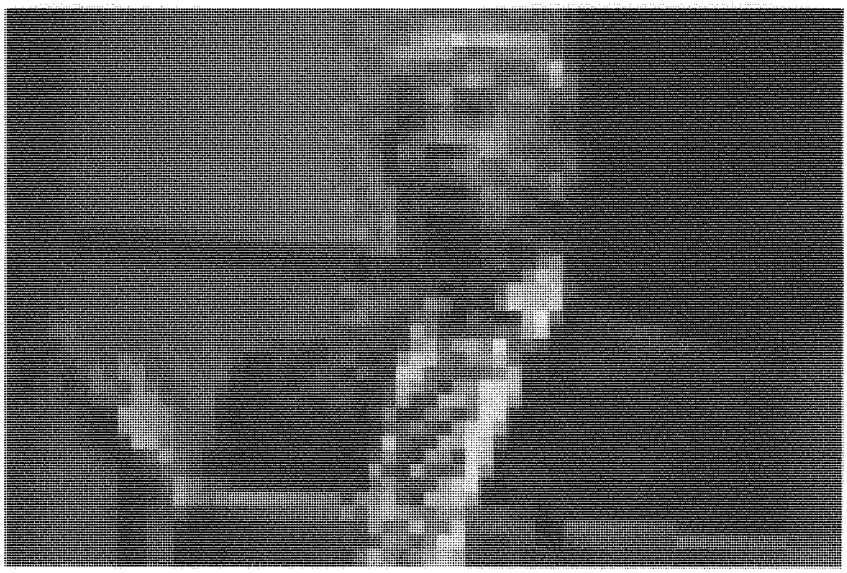
Trump's energy policy team includes climate change skeptic, free-market advocate



Donald Trump delivers remarks at the Shale Insight energy conference in Pittsburgh on Sept. 22. (Jonathan Ernst/Reuters)

By Steven Mufson November 29, 2016

Donald Trump's transition team may have taken steps to distance itself from lobbyists, but the president-elect continues to get advice on energy policy from people working for think tanks heavily funded by oil companies.

These advisers could influence Trump's choice of personnel for Cabinet jobs for Interior Department, the Environmental Protection Agency and the Energy Department. And they could reshape a host of environmental policies and limits on mining and drilling.

On Monday, Trump met with Kathleen Hartnett-White, a former chairman and member of the Texas Commission on Environmental Quality who is now a senior fellow at the Texas Public Policy Foundation. The foundation has a board of directors stacked with oil industry executives and GOP activists. Koch Industries, an oil-based conglomerate that has funded a variety of libertarian political groups, was one of a broad range of original donors.

Trump's transition team for energy also includes Thomas Pyle, head of American Energy Alliance (AEA), a wing of the Institute for Energy Research. Both groups have strong ties to the oil industry, including Koch Industries, for whom Pyle worked as a lobbyist eight years ago before heading the AEA. Neither returned calls seeking comment.

They join Myron Ebell, another non-lobbyist who has spent more than a decade working for the Competitive Enterprise Institute, which has received money from ExxonMobil in the past and more recently from an ultra-conservative funding entity called Donors Trust, staffed largely by people who have worked for Koch Industries or a nonprofit financed by

brothers Charles Koch and David H. Koch.

Gone are the registered lobbyists who did not want to agree to the transition's 13-point ethics guidelines for transition team members, including a six-month ban on lobbying after the transition or a five-year ban if they were to serve in the new administration.

But Norman Eisen, a fellow at the Brookings Institution and President Obama's ethics adviser, said the restrictions should be broader: "What good is a five-year lobbying ban if you're going to let all the non-lobbyist swamp creatures frolic in the murky waters of special influence?"

Hartnett-White, Pyle and Ebell have all expressed doubt about climate change and have criticized the findings of the International Panel on Climate Change (IPCC), a volunteer group of climate scientists whose findings are considered the gold standard of climate science. The IPCC not only issues forecasts, but also gathers and assesses data that have shown a steady trend of global warming and rising sea levels.

"I am not at all persuaded by the IPCC science that we are standing on some precipice," Hartnett-White told The Washington Post in October. "We're not standing on a cliff from which we are about to fall off."

Hartnett-White argued the United States had "the mother lode of all hydrocarbon reserves" and that the nation should not curtail development of those resources for the sake of climate concerns.

She also criticized the Supreme Court's 2007 decision allowing the Environmental Protection Agency to regulate carbon dioxide as a pollutant under the Clean Air Act. "I take issue with that," she said. "Carbon dioxide has none of the characteristics of a pollutant that could harm human health."

"When you stare at the words of the Clean Air Act, almost anything could be a pollutant," she added.

Hartnett-White said she was not in favor of reducing the EPA to an advisory body, as some Trump advisers have recommended. But she said the agency should leave major decisions such as climate ones to Congress and should leave other regulation to the states.

Though Hartnett-White had not spoken to Trump at the time of the October interview, she praised his written policy. "He really wants the market to work," she said. "That means that the government steps back, not forward."

She also condemned other strategies for curbing carbon emissions. She said a carbon tax "is like taxing food" not only because food includes energy costs but also because of energy's "value to human welfare." And she said the Clean Power Plan would "rip up this trillion dollar finely tuned electrical system to shut the coal plants."

New to the transition team is Pyle, president of the American Energy Alliance, an advocacy group that promotes free-market energy policies. He replaced Mike McKenna, president of firm MWR Strategies, who stepped aside after the transition team asked advisers to drop their lobbying clients. Pyle earned $365,000 in 2014 from the nonprofit AEA and its sister group Institute for Energy Research.

AEA's website argues that Obama's Clean Power Plan, which promotes energy efficiency and places strict limits on coal plants, fails on several fronts. "Without immediate action by our elected officials to protect your state sovereignty, Americans could face diminished living standards and an uncertain future," it said.

The group said Obama's new five-year plan to lease sites for drilling offshore was the "most anemic" in U.S. history.

The group wants to end the renewable fuel standard for ethanol, end "wind welfare" by cutting tax credits that are being phased out, and calls the Obama administration's tightening of ozone standards "the costliest regulation in U.S. history" and "all pain, no gain."

The IER's website says the Obama administration "violates rule of law" by holding up the Dakota Access pipeline in North Dakota. It advocates an end to "costly" regulations, including a relaxation of federal fuel economy mandates that have shaved as much as 2 million barrels a day from U.S. oil consumption.

The group proclaims its devotion to "freely functioning energy markets."

11 minutes ago Frederica Wilson received threatening calls over her...

Wednesday, October 18, 2017

Trump's plan to bring back coal country places EPA in crosshairs

by John Siciliano | Nov 14, 2016, 12:01 AM

President-elect Trump's plan to bring back the coal industry will likely start by scrapping the Environmental Protection Agency's climate change agenda, according to a newly appointed member of his transition team.

The agency would be dialed back to focus strictly on

"genuine pollutants" that pose immediate harm to public health, and not carbon pollution blamed for causing manmade global warming, said Kathleen Hartnett-White, a member of Trump's economic advisory council, in an interview with the *Washington Examiner*.

"He's very much for clean air and clean water," she said. "But the better home for considering this discussion about carbon dioxide and climate is in the Department of Energy."

Over the last eight years of the Obama administration, the EPA "used the legal rubrics of the Clean Air Act really to pursue a low-carbon energy policy and really not to further environmental protection," she said.

The climate concerns "are really a discussion about energy, not really a discussion about environmental protection," she said.

She explained that regulating CO2 "is the killer for coal." So, pulling back the two principal regulations directed at the coal industry will help that resource the most, she said. "The two direct regulations for new sources and for existing sources are both direct regulations, and are also the ones that I think have constitutional problems," she said.

Both regulations are undergoing court review and are expected to go to the Supreme Court before a final decision is made on their legality. Over half the states in the country are opposing the centerpiece of the regualtions, called the Clean Power Plan, by arguing that EPA has overstepped its legal authority under the Clean Air Act to regulate CO2.

The Supreme Court put a hold on the EPA power plan on Feb. 9 as it makes its way through a lower federal appeals court.

"Carbon dioxide has no adverse impact in the air we breath at all," Hartnett-White said. "It's a harmless

trace gas that is actually an essential nutrient for plants."

The Clean Air Act "was never designed to control a pollutant that ubiquitous that has no adverse environmental impacts on people," she added.

If the government wants to address CO2, then the "U.S. Congress should be the ultimate arbiter of this," she said. "That to me is a decision that Congress makes and not experts at EPA."

She noted that Bob Murray, the CEO of Ohio-based Murray Coal, recently said "he does not envision that the entire coal industry will be back in place, but a level playing field to allow coal" to compete under a Trump administration.

She said coal companies can be clean and remain competitive by focusing on cutting criteria pollutants like nitrogen dioxide, sulfur dioxide and the other 200-plus toxic air polltants. Those pollutants can be controlled with available and affordable technologies, which is not the case for carbon dioxide.

Trying to force coal plants to use technologies that aren't commercial and only halfway developed, as EPA is forcing them to do under the climate rules, is cost-prohibitive and will put them out of business, according to Hartnett-White. Even the cleanest coal plants in the country are at risk of shutting down if the Clean Power Plan is allowed to move forward, she explained.

"There is a very important role for environmental protection, but you can do so in a way that is not based on implausible worst-case scenarios and onerous, onerous regulations," Hartnett-White said.

"The entire eight years of the Obama administration, they used the legal rubrics of the Clean Air Act really to pursue a low-carbon energy policy and really not to further environmental protection," she said.

Hartnett-White was asked Friday to join the president-elect's transition team. She has already been an adviser to his campaign on energy and regulatory reform based on her experience serving on the Texas environment commission, which she notes is the largest environmental regulatory body in the world, second only to EPA.

She led a number of crucial environmental fights between Texas and EPA over the years, especially when it came to Washington trying to dictate terms on what the state should do to cut its emissions.

Although she is not certain exactly where the president-elect will come down on his policy on how to address EPA overreach, she told the *Examiner* that the focus will be on what is achievable under the law to guard human health.

"Two of the four of Donald Trump's economic policies, which he consistently from the very beginning of his speeches and his written statements," have focused on energy and regulations, she explained.

"There's taxes, and there's trade reform, but the other two of equal importance are the energy factor, taking great advantage of newly accessed vast energy resources, and the fourth is regulatory reform," she added.

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Senator BARRASSO. Senator Fischer.

Senator FISCHER. Thank you, Mr. Chairman.

And thank you both for being here today.

Mr. Wheeler, I appreciated you coming to meet with me, and in our meeting we did discuss the importance of the RFS to my State and to the viability, I believe, of all of rural America.

The Deputy Administrator plays an important role in ensuring that the Renewable Fuel Standard functions according to congressional intent. How familiar are you with the President's commitment to the RFS and to biofuel production, and will you uphold the President's commitment to the RFS?

Mr. WHEELER. Thank you, Senator. I enjoyed our visit and talking about this issue in your office.

The RFS is the law of the land, and I fully support the program. I have not had specific conversation with the President on this issue, but from all accounts, fully supports the program and the intent of the program, and I support both the law and the intent of the RFS program.

Senator FISCHER. Thank you very much.

Ms. White, as I discussed in our meeting, I do have serious concerns with numerous factually incorrect statements you have made about the RFS. I worry about your lack of understanding about the purpose of the law, which is to provide market access for renewable fuels and to promote agriculture and to promote rural America. As I have stated multiple times, I support an all of the above energy policy, but I worry about your extremist views and your role as an advisor to the President.

We are all aware of your statements and position on the RFS. However, it is the law of the land. Should you be confirmed, I would ask you will you echo President Trump's support for the statute and uphold the congressional intent of the RFS?

Ms. WHITE. Yes, I would. That is what I understand as upholding the rule of law.

Senator FISCHER. Do you think it is important to provide the President with accurate, factual information when you provide him with options on issues, if you are confirmed?

Ms. WHITE. Absolutely. And that advice needs to be based on the most solid, informed, robust science and data.

Senator FISCHER. In our conversation in my office, and in your answers to Senator Rounds, you did state that you used flawed data as recently as 2014, as recently as 2016 with regards to the RFS in making statements such as ethanol policies of the United States have led to food riots in several countries over the last few years. That was in 2014.

I would ask you if you can guarantee in any way to us that you will check data, that you will check facts, that you will, in your capacity, if you are confirmed in this position, to always, always check and make sure you are providing that accurate information to the President of the United States when you give him options?

Ms. WHITE. The specific question, please?

Senator FISCHER. Will you use facts when you are presenting options?

Ms. WHITE. Oh, of course.

Senator FISCHER. And current data.

Ms. WHITE. And the 2014 statements you are talking about was a part of the book.

Senator FISCHER. Will you use current data and facts?

Ms. WHITE. Yes, I will, unquestionably.

Senator FISCHER. Thank you.

I would remind people that we are talking about more than corn here. Of course, when we talk about the RFS and renewable fuels, we are looking at second generation biodiesel. We are looking at our soybean growers, as well. This is a huge issue for rural America, and we need to take it seriously.

As a follow up, Ms. White, there have been press reports about some interest in altering the RFS before 2022. I would ask would you commit to me today that, should you be confirmed, you would not support opening up the RFS before 2022?

Ms. WHITE. I would support the President's position in that.

Senator FISCHER. So you will not commit that to me at this point?

Ms. WHITE. I can't really prejudge that.

Senator FISCHER. OK.

Ms. WHITE. And I might also add it is not because, at another time, I would feel comfortable making a clearer position.

Senator FISCHER. OK, fair enough. Thank you.

Mr. Wheeler, we also discussed the importance of communication between the EPA and stakeholders that are impacted by regulations. For many years I have heard a lot of frustrations from constituents about the lack of dedication at the EPA to assist with compliance requirements for communities and for businesses.

Sometimes we have seen in the previous years really an agency that I think works on a gotcha mentality instead of looking at a collaborative approach. So I would ask you if you would look at using collaborative or cooperation with federalism in working with States and local communities, and really being an agency that assists States and local communities to meet and be in compliance with regulations that are so very important for us.

Mr. WHEELER. Absolutely, Senator. Administrator Pruitt's commitment to cooperative federalism I think goes right along with what you just said, and I am looking forward to helping him implement that.

Senator FISCHER. Thank you so much.

Thank you, Mr. Chair.

Senator BARRASSO. Thank you, Senator Fischer.

Senator CARPER. Mr. Chairman, can I make a unanimous consent request that a number of references in recent years to paganism, communism, relating that to climate change from Ms. White be entered into the record, please?

Senator BARRASSO. Without objection.

[The referenced information follows:]

KFILE

Trump pick for top environmental post called belief in global warming a 'kind of paganism'

By Andrew Kaczynski, CNN

Updated 3:32 PM ET, Thu October 19, 2017

Kathleen Hartnett White arrives at Trump Tower, November 28, 2016 in New York City.

STORY HIGHLIGHTS

Kathleen Hartnett White described the belief in "global warming" as a "kind of paganism" for "secular elites."

As head of the Council on Environmental Quality, Hartnett White would oversee environmental and energy policies across the government.

(CNN) — President Donald Trump's nominee to be the White House senior adviser for environmental policy in 2016 described the belief in "global warming" as a "kind of paganism" for "secular elites."

Trump last week nominated Kathleen Hartnett White, who previously led the Texas Commision on Environmental Quality, to head the White House Council on Environmental Quality, a post that requires Senate confirmation. Hartnett White, currently a senior fellow at the conservative think tank Texas Public Policy Foundation, has long expressed skepticism about established climate science and once dismissed the idea that carbon dioxide is a pollutant, calling it "the gas of life on this planet."

As head of the Council on Environmental Quality, Hartnett White would oversee environmental and energy policies across the government.

Hartnett White appeared on "The Right Perspective," an online conservative radio show, in September 2016 when she made the comments talking about a "dark side" to belief in global warming.

"There's a real dark side of the kind of paganism -- the secular elites' religion now -- being evidently global warming," Hartnett White said.

To illustrate her point, Hartnett White pointed to comments made by the former executive secretary of the United Nations Framework Convention on Climate Change, Christiana Figueres.

Figueres told Bloomberg News that on combating climate change and reducing pollution, China was "doing it right," adding that the country was able to enact key tough climate policies because of its political system. In the same interview, Figueres said that the divided US Congress was "detrimental" to combating climate change.

Hartnett White also referenced comments made by Figueres in which she spoke about intentionally changing "the economic development model that has been reigning for at least 150 years, since the industrial revolution."

Hartnett White characterized these comments as admissions by believers in climate change of an intent to create a "one-world state ruled by planetary managers."

"Some of the leaders, totally open, like the just stepping down head of the United Nations climate change program, Christiana Figueres, from Costa Rica, openly says that communism is the best system and maybe our only last chance to use -- and she uses China as some good example as the way we can avert global warming," Hartnett said.

She continued, "On other occasions [Figueres] says, 'we have, the first time, a clear opportunity using climate policy, climate plans, to undermine the system of economic growth and industrialization that began a couple hundred centuries ago.' I mean totally open. We're talking about, you know, one-world state ruled by planetary managers, you know to kind of allocate our little portion of grub and energy, but they're open and adamant about it."

Hartnett White did not respond to a request for comment. A representative for the White House also did not respond to an email requesting comment.

Hartnett White has drawn condemnation from environmentalists, who view her nomination as a threat to enacting policies that would combat climate change. If confirmed, Hartnett White would join several other Trump administration officials, including EPA administrator Scott Pruitt, who are skeptical of climate change and have opposed regulations that seek to stymie its effect.

ENERGY AND FREEDOM

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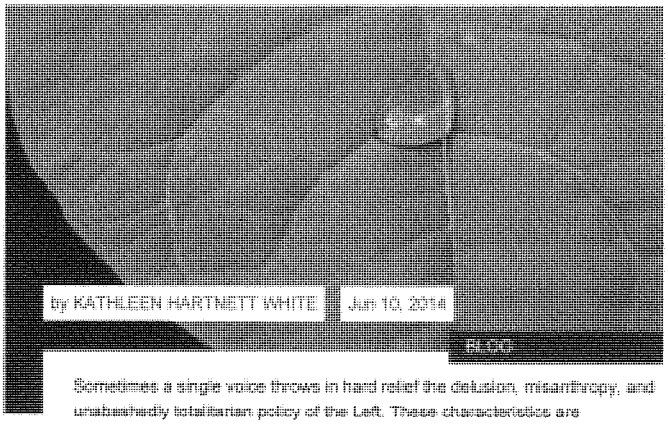

SHARE

Sometimes a single voice throws in hard relief the delusion, misanthropy, and unabashedly totalitarian policy of the Left. These characteristics are particularly embedded in the Left's secular religion: Apocalyptic Anthropogenic Global Warming. Check out MSNBC's Chris Hayes's Sidney-Award-winning article in *The Nation* entitled "The New Abolitionists." This lengthy article analogizes the abolition of slavery to the abolition of fossil fuels, as demanded by the "climate justice movement" of which Hayes professes to be an ardent member.

At several junctures, Hayes disavows any moral equivalency between enslavement and fossil fuel combustion, but the protestation is belied by the central conceit of the 3,600-word piece. Hayes emphasizes that it is the *methods* used to abolish slavery that "climate justice" must use for the abolition of fossil fuels: primarily forfeiture of property. Hayes calculates this as

a neatly convenient $10-trillion loss incurred as a result of the abolition of slavery in the U.S. - and $10 trillion loss from leaving 80 percent of the world's fossil fuel reserves in the ground. Hayes's plan for keeping this planet habitable, as he puts it, is forcible suppression of the extraction of oil, natural gas, and coal.

Chris Hayes might have devoted as much research to the economic history of energy as he does to what he calls the "political economy of slavery." Had he done so, he may have discovered a real relationship between fossil-fuel use and human enslavement. Hayes acknowledges that slaves were a major source of mechanical energy throughout human history, but he neglects to explore why this is no longer the case. There is, in fact, a historical connection between the abolition of slavery and humanity's first widespread use of energy from fossil fuels. First harnessed in the English Industrial Revolution, fossil fuels spawned unceasing economic growth- an unprecedented productivity of most benefit to the poor until then consigned to poverty and enslavement across the world.

In 1807, the British Parliament finally passed William Wilberforce's bill to abolish the slave trade in the British Empire. In the same year, the largest industrial complex in the world powered and illuminated by coal opened in Manchester, England. Thus began the century-long process of converting mankind's industry from the power of muscle, wood, wind, and water to stored solar energy in fossil fuels.

Fossil fuels dissolved the economic justification for slavery. When the concentrated and versatile energy stored in fossil fuels was converted to mechanical energy, the economic limits under which all societies had formerly existed were blown apart. A life of back-breaking drudgery was no longer the inescapable condition of the overwhelming majority of mankind. The productivity made possible by fossil fuels led to the institutionalization of compassion and respect for the inalienable rights of each human individual.

In the Rational Optimist, Matt Ridley captures the magnitude of the energy breakthrough. "By 1870," he writes, "the burning of coal in Britain was generating as many calories as would have been expended by 850 million labourers. It was as if each worker had twenty servants at his beck and call.... That is how much energy had been harnesses to the division of labor. That is how impossible the task of Britain's 19th century miracle would have been without fossil fuels."

Fossil fuels have fundamentally improved human living conditions. Before methodical application of the energy supplied by coal, natural gas and petroleum, the human life expectancy of about 25 years had changed little throughout human history; lifespan has now tripled. Income per capita has increased eleven-fold. World population increased from 760 million in 1750 to 6.8 billion in 2009. From 1961 to 2007, the world population doubled while food supply per person increased by 27 percent thanks to fossil fuel inputs such as natural-gas based fertilizer.

Hayes, acknowledges that coercing dispossession of $10 trillion worth of hydrocarbon assets will likely require more forcible disruption than persuasion! No less a theft, however, is what Hayes contends that the "climate justice movement is rightly demanding," and apparently without concern for the harshly regressive impacts on society or whether the renewable alternatives are up to the job.

Hayes' recommendation to avert global warming, like most warmist policies, toys with the greatest advance made by mankind. Energy poverty already emerges in highly developed countries like England and Germany which have placed excessive faith in renewable alternatives to fossil fuels. It's a curious case for a self-described progressive, to advocate the abrupt end to progress, but this is the intellectual cul-de-sac at which the Apocalyptic Anthropogenic Global Warming cult has arrived.

Energy sources are not readily interchangeable. Power-dense, abundant, versatile, reliable, controllable, portable, storable and affordable: fossil fuels provide over eighty percent of the world's energy because they are superior to present alternatives. Who knows what future innovation will generate as alternative energy sources fully comparable or superior to fossil fuels ?

Liquidating a key wellspring of mankind's release from abject poverty and enslavement demands far more robust science than the IPCC's highly politicized and speculative science increasingly contradicted by empirical evidence. The abolition of slavery was the most morally justified forfeiture of assets in human history. Abolition of fossil fuels, as Hayes' proposes it, would be the most morally objectionable.

Kathleen Hartnett White is the Distinguished Senior Fellow-in-Residence and

Director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation. She served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality. Her research study: "Fossil Fuels: The Moral Case," will be released in June 2014.

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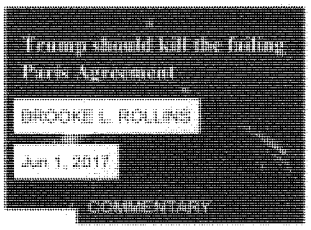
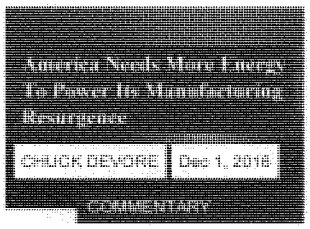
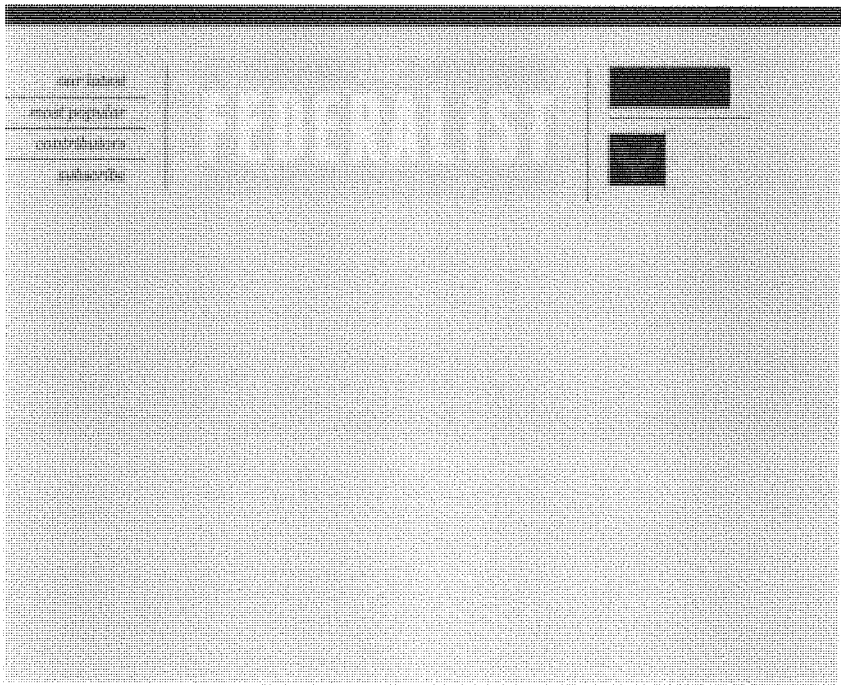




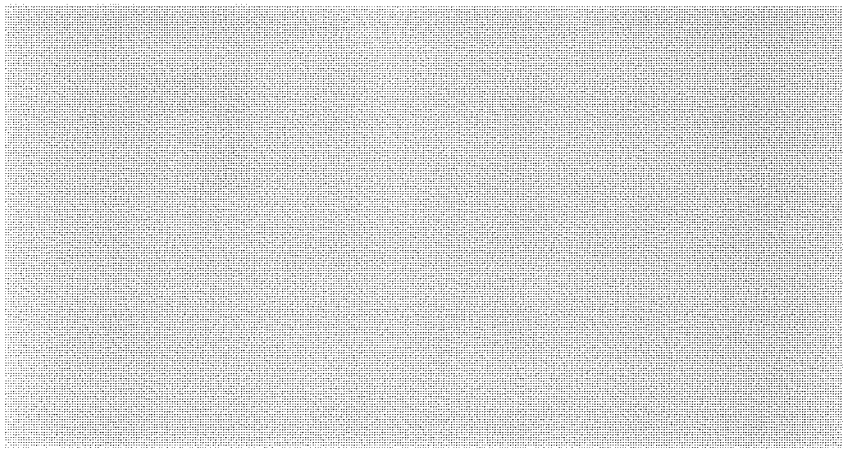


ECONOMICS

Pope Francis's Poverty And Environment Ideas Will Worsen Both

Socialism, fascism, and one-world government are not solutions to poverty and environmental degradation, as Pope Francis's encyclical seems to suggest.

As a lifelong Catholic with graduate degrees in religious studies and a long stint as the head of an environmental agency second in size only to the Environmental Protection Agency, I am deeply troubled by Pope Francis' encyclical "Praise to You, Lord (Laudato, Si'): On Care of Our Common Home." Long anticipated for revelation of the pope's support for a global climate treaty, the encyclical is, and is not, focused



By Kathleen Hartnett White
JUNE 25, 2015

on global warming.

On the one hand, this lengthy, many-layered papal letter can be understood as a rich theological reflection on the human individual's relationship with the natural world through the eyes of the pope's namesake—the ascetic and mystic St. Francis of Assisi (1182-1226). On the other hand, much of the text reads like an anti-capitalist polemic.

Excuse Me: Capitalism has Drastically Reduced Poverty

Whether explicitly or implicitly, the thrust of the text, however, focuses on global warming in urgent calls to reverse the "disfigurement and destruction of creation" and to heal the earth "now burdened and laid waste" by human sin. In language topping the hyperbolic rhetoric of most warmists, the pope contends that industrialization over the last two centuries has so "hurt and mistreated" our home that the earth is now "an immense pile of filth." Is the pope oblivious to the vast improvement in human welfare and environmental quality flowing from modern economic growth?

Since 1800, global human life expectancy has increased more than three-fold. Per-capita income has increased eleven-fold, and global population has increased eight-fold. From 1960-2007, the world population doubled. Instead of the mass starvation predicted by Neo-Malthusian Paul Ehrlich, the food supply per person has actually increased by 27 percent. Hunger is no longer a question of food supply, but of access to the supply. Of course, there is a huge divergence between developed and developing countries, but improvements are global in reach. The United Nations estimates that poverty has decreased more in the last 50 years than it had in the previous 500 years.

The economic growth that has made this colossal advance possible was driven by market economies and the abundant, concentrated, and affordable energy in fossil fuels. Natural-gas-based fertilizer is responsible for huge gains in our food supply. Fossil fuels remain a necessary condition of the soaring productivity that distinguishes the Industrial Revolution and its aftermath from all previous eras. This economic growth has most benefitted the average worker, allowing the emergence of a middle class for the first time in human history. A hasty rush to inferior energy sources threatens this most momentous advance in the physical conditions of human society.

Capitalism has also Improved the Environment

This prosperity has led to dramatic environmental improvements. Sustained economic growth enabled huge investment in innovative technologies that have dramatically reduced air pollution and water contamination. In an understandable rush to electrify, China has severely polluted urban air quality, but is beginning to install emission controls. Studies such as the Environmental Performance Index demonstrate that countries with market economies and related legal institutions achieve the highest environmental quality.

Fossil fuels have shrunk the human footprint on the magnificent natural world. Without them, woodlands would be felled and crop land vastly expanded. The environmental "filth" of which Pope Francis speaks does not describe mature industrialized market economies, but all pre-industrial societies in which streets and water courses were packed with excrement and putrefied waste.

Fossil fuels have shrunk the human footprint on the magnificent natural world.

The pope's position on anthropogenic global warming admits no doubt. "A very solid consensus of science indicates that we are witnessing a disturbing warming of the climatic system." Without further explanation, the encyclical reiterates the orthodox ideology of the most extreme warmists. Humanity's use of fossil fuels and "compulsive consumption"—which includes things like air-conditioning—is the overwhelming cause of an apocalyptic "crisis" now at the "breaking point." The letter overlooks the nearly 20-year pause in warming temperatures and the United Nations' most recent Intergovernmental Panel on Climate Change scientific assessment reports finding that allegedly unprecedented weather events are neither unusual nor likely caused by global warming.

One-World Government Is an Awful Idea

The most disturbing aspect of the pope's letter is his solution for the "deep crisis"—global governance with teeth. The encyclical recommends creation of a "one world common plan" implemented by a "true world political authority" (quoting his predecessor Benedict XVI). This international institution is to enforce the global plan through "functionaries who are appointed fairly in agreement by national governments and empowered to impose sanctions."

Pope Francis may repeatedly disavow the Catholic Church's meddling in matters of science and politics, but this encyclical puts his office inside those domains.

Pope Francis may repeatedly disavow the Catholic Church's meddling in matters of science and politics, but this encyclical puts his office inside those domains. He openly acknowledges his hope that his letter will influence the outcome of negotiations for a global treaty to be sealed this year in Paris. On the day the Vatican released the encyclical, Catholic bishops held a press conference followed by congressional briefings in DC. It appears the last time the church became so embroiled in science was when Pope Urban VIII arrested Galileo in 1632.

Also disquieting is the pope's failure to recognize that his favored policies to avert global warming are increasing the very poverty he seeks to alleviate. The renewable energy he supports to "replace fossil fuels without delay" has left roughly 800,000 households in Germany without electricity because they are unaffordable at prices now three times higher than the average rate in the United States. The World Bank and International Monetary Fund inhibit or deny financing for affordable electricity from fossil fuels in developing countries, consigning the poorest of the world to lives of continued misery.

Setting aside these sharp contours, Pope Francis' encyclical does offer a powerful message about the state of our culture damaged by moral relativism. His reminder of what it means to value the dignity of each human being made in the image of a loving God "takes us to the heart of what it is to be human." As a Catholic, I mourn the absence of one vital factor in the pope's letter: human liberty guided by a clear moral compass and the rule of law. As the twentieth century so tragically demonstrates, "common plans" inevitably enforced through totalitarian polity lead to environmental squalor, poverty, and denial of inherent worth of the individual. On this matter, let us pray that the encyclical evokes vigorous dialogue.

Kathleen Hartnett White is director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation. White also sits on the editorial board of the Journal of Regulatory Science, the Texas Emission Reduction Advisory Board, and the Texas Water Foundation.

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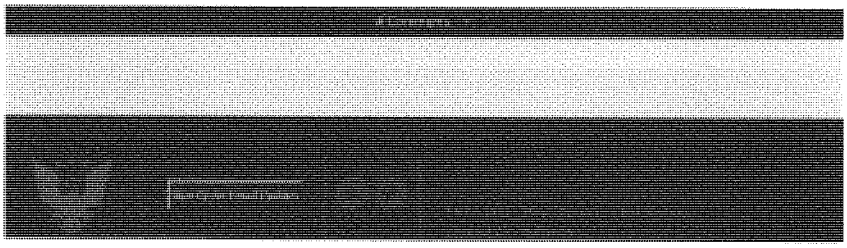

Fueling Freedom: Exposing the Mad War on Energy

By Kathleen Hartnett White

Selected Quotes

1. "We would also submit that fundamental judeo-Christian principles regarding the value of the human person also played a powerful role..."

2. "It is, perhaps, not merely a coincidence that in 1807, when the British Parliament finally passed William Wilburforce's bill to end the English shave trade, the largest industrial complex in the world using steam power and lighting generated by coal opened in Manchester, England."

3. Book jacket: "Why the cruel green agenda will keep billions of people in grinding poverty and threatens the world with mass starvation."

4. "The world faces a stark choice between unprecedented prosperity fueled by abundance energy or self inflicted poverty."

5. "Anti-industrialism would send us to a Planet of the Apes future where energy is rationed - though elites could opt out by buying paper carbon credits to avoid the austerity imposed on the rest of us,"

6. "The climate crusade is indeed a mad war on human welfare."

7. "Anyone who talks about decarbonizing our economy is talking about demodernizing it as well."

8. "Without abundant, affordable, reliable, and versatile energy, economic growth will be undermined. The productivity achieved through man's relatively recent energy enrichment, commonly known as the Industrial Revolution, will be unraveled. Poverty will increase and the middle class will shrink, a trend already occurring across the world, even in the United States. The ruling elites will go unscathed, protected as they were

before the Industrial Revolution, while the rest of mankind reaps the bitter harvest of false green hopes."

9. "[Western environmental policies] seem more interested in carbon dioxide levels than in life expectancy."

10. "Comparing doomsaying neo-Malthusians like Paul Ehrlich with doomslaying humanitarians like Norman Borlaug, we might ask ourselves whose team we'd want to join. Ehrlich's remedy for food shortages, pollution, and now supposed Man-made global warming is for all-powerful government to reduce the number of human beings, who are despoiling the natural world, going so far as to oppose emergency shipments of food to alleviate crises until the rulers of those starving people get "the population under control." His followers supported some of the most inhumane acts of genocide in history, their population-control ideology leading to forced abortions, sterilizations, one-child policies, and other statist dictates on human reproduction.... Says "Ehrlich stands in a grand apocalyptic tradition, beginning with Malthus in the eighteenth century and continuing with Al Gore in our own day."

11. "Unless feeding the world's seven billion human residents is not a priority, the increased atmospheric concentrations of carbon dioxide attributable to human activity is unquestionably a huge social benefit."

12. "The ethanol mandate has achieved none of its objectives - reducing oil imports, displacing gasoline, improving air quality, and reducing carbon dioxide..., what the ethanol mandate did accomplish was reduction of the global food supply in what is still the basic source of calories for much of the world's population - grains."

13. "Ethanol policy is a prime example of counterproductive, outdated, and ethically offensive federal energy policy." Pg.48

14. "The ethanol policies of the United States, which transform a basic food into an optional fuel, have been widely condemned by international institutions developed to eliminating hunger." (pp. 159–60)

15. "Promoters of ethanol pitch it as a way to reduce greenhouse gas emissions, yet research has shown that ethanol probably increases such emissions." p.161

16. "It is nearly impossible for a candidate from either party to win the Iowa caucuses without supporting ethanol mandates. This political factor alone has perpetuated the counterproductive and ethically dubious Renewable Fuel Standard."

17. "Only the elite in the most affluent countries, insulated from the human face of subsistence poverty, could devise and mandate policies to shrink the supply of basic food commodities like corn."

18. "At any cost, renewable energy from wind, solar, and biomass remains diffuse, unreliable, and parasitic, in that those intermittent sources rely on fossil fuels for back-up." (p. 6)

19. "You can't power a $15 trillion economy with wind and solar," she explains in the book. "Most green energy policies undermine human progress. They are regressive, disproportionately hurting low and middle class income families by driving energy prices higher, thus eroding our standard of living."

20. "Replacing fossil fuel energy w the medieval technologies of wind, solar power, and biomass is a dangerous fantasy."

21. "The grand prize winner in the government subsidies sweepstakes was the wind industry, which received $5 billion."

22. "Contrary to false reports in the media, virtually no documented environmental problems have been associated with fracking – ever."

FUELING FREEDOM

EXPOSING THE MAD WAR ON ENERGY

STEPHEN MOORE AND KATHLEEN HARTNETT WHITE

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To my new wife, Anne, who is my personal unrelenting source of energy.
—Stephen Moore

In honor of and in appreciation for my late parents, Mary Clare and Andrew Stone Hartnett.
—Kathleen Hartnett White

must rise over time explains the seemingly invincible faith in the economic feasibility of green energy. But in reality the cost of fossil fuels is rapidly falling. The price of natural gas has fallen by more than two-thirds, and green energy can't possibly compete with $2 natural gas. Nuclear energy has enormous potential, but it too is having a hard time competing with cheap fossil fuels. For the foreseeable future, there are no reasonable or cost-effective alternatives to fossil fuels. A new study in the *Journal of Economic Perspectives* finds that the oil price would have to rise to above $300 a barrel (from $40 now) for electric cars to be financially viable.

Are Greens the New Reds?

We are worried that government climate policies could arrest or unravel the unquestionable gains in human welfare that have flowed from modern economic growth. There were astonishing advances in material living standards and human freedom during the twentieth century, but in that same century some 170 million persons perished at the hands of brutal totalitarian regimes—four times the number of persons killed in the century's wars. The march of progress is not steady or inevitable.

Many cultural historians contend that "environmentalism" is the ideological successor to failed Marxist and socialist ideologies. The historian Paul Johnson, for one, comes out swinging: "The idea that human beings have changed and are changing the basic climate system of the Earth through their industrial activities and burning of fossil fuels—the essence of the Greens' theory of global warming—has about as much basis in science as Marxism and Freudianism. Global Warming, like Marxism, is a political theory of actions, demanding compliance with its rules."[10]

Every policy prescription for addressing climate change is a call for more government control. Would the Left embrace the green agenda if it meant more individual freedom and more capitalism, not less? History suggests that if climate change becomes a threat to civilization in the

Senator BARRASSO. Senator Booker.

Senator BOOKER. Thank you very much, Mr. Chairman.

Ms. Hartnett White, I am very concerned about environmental justice issues in our country, and I have this belief—which I don't think is radical—that every American should have access to clean air, clean water, even clean soil to plant in. Because of the issues of urban areas, I live in the central ward of Newark and see how challenging the exposure to particulate matter is for children in my city that I was mayor of; asthma rates off the charts, teachers complaining about even just being able to educate kids because of the level of kids' missing school because of asthma.

But this is not just a New Jersey problem. I have traveled, since I have been on this Committee, to Duplin County, North Carolina, where people who live around CAFOs have alarming rates not just of cancers, but also of respiratory diseases. A few months ago I was in a place unfortunately nicknamed Cancer Alley in Louisiana, between Baton Rouge and New Orleans, where again, particulate matter released by petrochemical plants has people literally gasping for air at alarming rates.

A lot of my colleagues have already mentioned some of your alarming rhetoric on some of these issues, but I just really have an urgent concern about your views of the dangers of particulate matter in some of your past statements. I was really shocked when my staff pulled documents that showed that at an Americans for Prosperity conference in 2011, you publicly stated that "people do not die from particulate matter levels." Then again in 2013 you testified actually before a House subcommittee and said that "In the last 5 years, EPA's regulatory initiatives have been preoccupied with particulate matter as if it was a source of major risk to premature mortality."

I look at a lot of the data and studies, and I had my staff pull for the hearing, and they pulled one study, which is one of the most comprehensive, really an unprecedented study that was published in the New England Journal of Medicine from Harvard University, which looked at 60 million Medicaid participants, 60 million people over a 12-year period, longitudinal study of an unprecedented nature, with far more statistical power than any previous analyses done.

The researchers looked at every American over 65, including people in rural places like I named and urban places like I live in, and the analysis unequivocally linked long term exposure to ozone and fine particulate matter to an increased risk of premature death. The study found, in fact, no evidence of safe levels of exposure to particulate matter. It really sounded the alarm.

And I will tell you what is disturbing to me is how this particulate matter seems to affect low income people. It affects poor folks, and as a result, disproportionately people of color. And they show that the higher risk of premature deaths for African-Americans, for example, are three times higher. Three times higher.

So I just really need to understand your position on the urgency of particulate matter and dealing with this environmental justice. So maybe the specific question, first of all, do you think the New England Journal of Medicine is wrong in this study about the crisis of particulate matter?

Ms. WHITE. Senator, I would have to read it before I answer that. But if I may, I would like to tell you about some work I am proud of regarding environmental justice in Texas.

Senator BOOKER. You will forgive me, but I only have a minute and 10 seconds left, so I just would like to push you a little bit. So you think the New England Medical Journal of Medicine might publish a study that isn't scientifically sound?

Ms. WHITE. I think there's all different kinds of methodologies, and if I were still at TCEQ, I would gather my chief toxicologist and his staff, the professionals, to completely absorb that and brief me on it.

Senator BOOKER. So I think what I am trying to get at is do you or do you not believe that we have a crisis of particulate matter in the United States of America in certain communities now, especially low income communities?

Ms. WHITE. Why, when the bulk of the country attains the national ambient air quality standard for fine particulate matter, that, to me, is confusing, if there is a crisis.

Senator BOOKER. Well, I don't find it confusing; I find it really concerning, as we have a nation right now with the No. 1 reason why kids miss school, medical reason, is asthma; that we see that disproportionately in communities that are dealing with real problems with particulate matter, whether it is highways, airports, CAFOs, or the like.

I find it deeply, deeply concerning your past statements and your inability right now to say for the record that you think there is a crisis in this country with particulate matter and the respiratory diseases that are affecting so many of our children. To take a position that is supposed to be protecting people to a fundamental American right of clean air, clean water, I have grave concerns about your nomination.

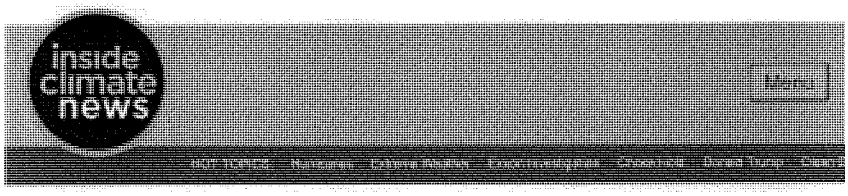
But my time has expired.

Senator BARRASSO. Senator Carper.

Senator CARPER. Mr. Chairman, could I ask unanimous consent that Ms. White's views be entered into the record relating to her view that particulate matter does not harm human health, please?

Senator BARRASSO. Without objection.

[The referenced information follows:]



Groups Raise Alarm Over Climate Denial Creeping into Trump's Team

Environmental organizations write a letter urging Senators to oppose Trump nominees who have a history of disregarding science.

BY MARIANNE LAVELLE, INSIDECLIMATE NEWS

DEC 2, 2016

Donald Trump is said to be considering former Alaska Gov. Sarah Palin for several administration posts including Secretary of Interior. Credit: Getty Images

As Donald Trump's transition unfolds, the names of more climate science deniers emerge daily as contenders for cabinet spots. This prompted leaders of 30 environmental groups on Thursday to urge the Senate to block nominees who would reverse progress on global warming.

"If the president-elect...chooses to nominate individuals who deny climate science or would seek to gut our bedrock environmental protections or roll back recent climate progress, we urge you to vote against their confirmation," they said in a letter sent to senators. "Climate change is one of the most pressing domestic and global challenges we face, and the president-elect's nominees should recognize the need for immediate action."

Blocking Trump's nominees will be an uphill battle, because only a simple majority of the Senate is required to approve them. Republicans will have a 51-48 majority and Vice President Mike Pence will be able to break a tie, so at least three GOP votes would be needed to sink a nominee. In the past, it took 60 votes to confirm presidential nominees, but new rules adopted by the Senate in 2013 changed that. Only nominations to the Supreme Court face the 60-vote hurdle.

It is a bitter pill for Senate Democrats, who lowered the bar when they were in the majority and were frustrated by the GOP blocking President Obama's nominees. Under Senate Majority Leader Harry Reid,

they pushed through a rule allowing presidential appointees, except for Supreme Court nominees, to be approved by simple majority. Now Trump will benefit from that lower bar.

Although Trump has not yet named nominees for the key environmental posts leading the Environmental Protection Agency, or the departments of Energy and Interior, the rumored names are deeply concerning to many environmentalists, said Tiernan Sittenfeld, senior vice president for government affairs for the League of Conservation Voters (LCV), one of the organizations that coordinated the letter.

She said the letter purposefully did not name names. But Trump met with several potential EPA nominees in the past two weeks who have been outspoken critics of environmental regulation.

Kathleen Hartnett White, a fellow in residence at the conservative think tank Texas Public Policy Center, has called EPA officials who attempted to rein in particulate pollution, a known cause of lung cancer, as "mandarins brandishing their scientific credentials." Carbon dioxide is "the gas that makes life possible on the earth and naturally fertilizes plant growth," she has written, ignoring the consensus science that an atmospheric overload of the gas is harmful to life on Earth. In an interview, she told McClatchy News that she wants to cut renewable energy subsidies.

Another potential EPA nominee, Oklahoma Attorney General Scott Pruitt, is a leader of the legal fight against President Obama's signature climate initiative, the Clean Power Plan, and his Waters of the U.S. rule, which is bitterly opposed by the oil and gas industry. In a radio interview, Pruitt said he was looking forward to "regulatory rollback" under Trump.

Arkansas Attorney General Leslie Rutledge, who served as a stalwart Trump surrogate during the campaign, also is a rumored EPA contender who met with Trump last week. She also is a fierce critic of the agency, and is fighting not only the Clean Power Plan but also regional haze rules that would curb power plant pollution. Another regulatory critic and loyal Trump supporter, former Alaska Gov. Sarah Palin, is rumored for a number of positions, including the Interior Department and the Department of Veterans Affairs.

Environmentalists also were rocked by a rumor first reported Thursday by MSNBC Morning host Joe Scarborough that Trump was considering Exxon's chief executive, Rex Tillerson, as a possible secretary of state, fueling the controversy around that contentious post. Exxon has a long history of opposing climate action, despite a similarly long history of studying the reality of climate change, as detailed in an award-winning InsideClimate News series.

"It seems like a bad joke, but it's not funny at all," said Sittenfeld. "Any of those people would have no business running a federal agency, and certainly not one with the mission of EPA."

Sittenfeld, who said she was speaking for LCV only and not all of the groups who signed the letter in addressing particular candidates, also said that many of the cabinet nominees that Trump already has named to agencies that do not focus exclusively on the environment are troubling. Her list includes Rep. Mike Pompeo of Kansas, nominated as CIA director, who has a 4 percent lifetime voting record on environmental issues by LCV calculations; Tom Price, nominee for Health and Human Services, with a 5

percent LCV score, and Alabama Senator Jeff Sessions, nominee for Attorney General, with a 7 percent LCV score. "I think for someone to be enforcing our laws who has utter disregard for public health and the environment is alarming," Sittenfeld said.

Under the Constitution, appointing top government officials is a power shared by the president and the Senate. Nominees are typically referred to one or more committees for hearings, and then the decision is made by a full Senate vote.

Environmental groups decided it was important to air their concerns, despite the difficulties they might face in blocking any of the appointments.

"We wanted to make crystal clear the importance of climate change and protecting air, land, and water," said Sittenfeld. Among those signing the letter in addition to Gene Karpinski, president of LCV, were leaders of large groups like Michael Brune, executive director of Sierra Club, as well as small groups, like Mark Magaña, president of GreenLatino. The signers also spanned the political spectrum from Fred Krupp, president of the Environmental Defense Fund, a group known for working closely with industry on solutions, to Annie Leonard, executive director of Greenpeace USA, known for its anti-industry rhetoric and sometimes flamboyant actions.

There was no immediate response to the letter from members of the Senate, but Sen. Sheldon Whitehouse (D-R.I.), a vocal advocate of climate action did urge Trump to discredit climate denial.

"A strong majority of Americans want their government to act on the climate crisis," Whitehouse said in an email to InsideClimate News. "In fact, not long ago, Donald Trump and three of his children went on record in a full-page ad in the New York Times calling climate change 'irrefutable' and its consequences 'catastrophic' and 'irreversible'. Instead of bowing to the Koch brothers and stocking his administration with fossil fuel insiders, he should listen to the Donald Trump from that ad, to his own children, and to the majority of Americans who expect agencies like the EPA to protect public health, not corporate profits."

Signs on Capitol Hill, however, are ominous for advocates of climate action. On Thursday, the official Twitter feed of the House Science, Space, and Technology Committee posted a climate denial commentary from the right-wing publication Breitbart News, "Global Temperatures Plunge. Icy Silence From Climate Alarmists."

In fact, 2016 has broken records for warmest on record, as did the two prior years.

Vermont Sen. Bernie Sanders shot back on Twitter: "Where'd you get your PhD? Trump University?"

In the past, it would have been unusual, to say the least, for government officials to cite Breitbart News, a publication known for its racist, anti-Semitic and sexist slurs, as well as misinformation on climate change. But the website's posts now are part of mainstream political discussion, since its former executive chairman, Steve Bannon, ran Trump's campaign and has been named his White House strategist. His post does not require Senate approval.

In their appeal to the Senate, it is clear that environmentalists are hoping to win over at least some GOP votes to block Trump nominees. "There is a broad and bipartisan acceptance among the American people of the scientific facts that climate change is real and that it is greatly impacted by human activities," they said.

Correction: An earlier version of this story misquoted Bernie Sanders' tweet questioning a House Science Committee tweet. He said PhD, not degree.

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Senator BARRASSO. I would also like to point out that Dan Patrick, the Lieutenant Governor of Texas, has written in support of Ms. White's nomination. He goes on to say, "Ms. White has over 30 years' experience on environmental issues, served as Chair of the Texas Commission on Environmental Quality and as Director of the Texas Water Development Board and the Lower Colorado River Authority." He goes on to say, "Her record is outstanding."

Unanimous consent to enter this into the record.

[The referenced information follows:]

The Senate of The State of Texas

DAN PATRICK
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November 7, 2017

The Honorable John Barasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC. 20510

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Dear Senators:

I am writing to express my strong support for the nomination of Kathleen Hartnett White to become Chair of the White House Council on Environmental Quality. I share President Trump's confidence that she will effectively implement his environmental policies based on her extensive experience and commitment to conservative principles.

Ms. White has over 30 years' experience in environmental issues, including a long tenure serving the great state of Texas. She served as chair of the Texas Commission on Environmental Quality (TCEQ) and as a Director at the Texas Water Development Board and the Lower Colorado River Authority (LCRA). Her record is outstanding.

Please don't hesitate to reach out to me if your Committee has questions.

Sincerely,

Dan Patrick
Lieutenant Governor

Senator BARRASSO. Senator Ernst.

Senator ERNST. Thank you, Mr. Chair.

And thank you to our witnesses and nominees today.

While campaigning, then-candidate Trump made numerous pledges to support biofuels and the Renewable Fuel Standard. You see it has been a topic that has been brought up a lot this morning. And he had reiterated those commitments as President, as well. He understands the value of an all of the above approach to energy production that helps our nation unlock all of our bounty—regardless of where that comes from—from oil and gas to wind, solar, and biofuels.

Specifically, biofuels form the bedrock of our rural communities and support our farmers, while helping to further our domestic energy independence. We are producing and consuming more biofuels now than ever before, and yet the price of corn and soybeans, the primary feedstocks for producing biodiesel and ethanol, are at the lowest levels in decades.

Right now, at the Merc, in Red Oak, cash corn is right around $3 a bushel, and soybeans are under $9, and both of these numbers are well below our cost of production. So, today, as my husband sits in the tractor helping my sister and brother-in-law with harvest, they are finding that their return on the investment is very, very low. The prices are so low that farmers working around the clock to bring in this huge crop are losing money on every acre. And I think this should put the food versus fuel debate to rest for good.

EPA Administrator Pruitt has already done so much to help our farmers and ranchers, including rolling back the onerous WOTUS rule. He has also committed to me on several occasions, including in front of this Committee, to uphold both the spirit and the letter of the law, and I want to thank both of you for making that commitment, as Senator Fischer had asked, in front of this Committee today. So thank you for doing that.

Ms. White, during our meeting last week, I had the chance to ask you about your qualifications for this role, as well as your past criticisms of the RFS and biofuels, particularly the food versus fuel argument, which is something I believe Senator Rounds also addressed. In light of the current market forces at work in the ag economy, which I touched on in my opening, has your position on this changed?

Ms. WHITE. On the food?

Senator ERNST. Food versus fuel.

Ms. WHITE. Yes. This data, you know, is great news, because the ethanol program doesn't somehow create some problem with meeting global food demand.

Senator ERNST. Thank you. And if confirmed, you will be working closely with the President in your advisory role at CEQ. The President has made clear on numerous occasions that he intends to uphold both the spirit and the letter of the RFS. Do you envision any scenarios out there in which you would offer advice to the President or support policies that run contrary to his agenda or campaign promises?

Ms. WHITE. There is none that comes to mind, but you know, matters change, so I couldn't, you know, exactly predict what would be the variables involved.

Senator ERNEST. Should those variables change, though, you will do your best to work with varying points of view to make sure that the information is accurate and presented appropriately to the President?

Ms. WHITE. Absolutely.

Senator ERNST. OK, thank you.

And also for Mr. Wheeler, the primary concern that many of the opponents of the RFS have raised is the price of compliance credits, or the RINs, and one way we have suggested to mitigate that is to address the Reid vapor pressure, or RVP, issue, which would make E15 and higher blends of ethanol available year round nationwide. There is some debate as to whether or not this RVP issue can be addressed administratively or whether it requires legislation, such as the bill that was introduced by Senator Fischer.

If confirmed, would you commit to issuing a determination on whether the EPA can do this administratively?

Mr. WHEELER. Yes. I just want to make sure that I am not committing to predetermine what the outcome would be.

Senator ERNST. Exactly.

Mr. WHEELER. But if I understood your question correctly, then, yes.

Senator ERNEST. Yes or no, yes, that you could do it administratively. We need to know that.

Mr. WHEELER. Not prejudging that yes or no, yes, I could commit to providing one of those at the appropriate time.

Senator ERNST. Thank you. I appreciate that, because we need that determination from the EPA. If you are not able to handle the RVP issue administratively, then we need to turn to a bill or do it legislatively, such as Senator Fischer has presented, so we would need to work that issue through Congress. And I do look forward to working with you on this issue. I think we do need to make E15 available year round, and again, work on our energy independence, as the President has made this one of his goals.

So, with that, Mr. Chairman, I thank you for my time.

Senator BARRASSO. Thank you, Senator Ernst.

Senator CARPER. Mr. Chairman, can I make another unanimous consent request?

Senator BARRASSO. Senator Carper.

Senator CARPER. If I could submit for the record a November 7, 2017, letter from the Delaware Riverkeeper Network to members of our Committee. The letter urges the Committee to reject Ms. White's nomination on the basis that her record is of loyalty and bias in favor of the fossil fuel industry. The letter states, "Someone who claims that 'there are no major environmental problems' facing our country has no business developing and implementing environmental policy at a time when our nation is facing the greatest environmental threats as ever encountered."

That is the end of the quote. I thank you, Mr. Chairman.

Senator BARRASSO. Without objection.

[The referenced information follows:]

November 7, 2017

The Honorable John Barrasso
Chairman
Senate Committee on Environment and Public Works
United States Senate
Washington, DC 20510

The Honorable Tom Carper
Ranking Member
Senate Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Re: Opposition to the Nomination of Kathleen Hartnett White as Chair of the Council on Environmental Quality

Dear Chairman Barrasso, Ranking Member Carper,

On behalf of our 20 thousand members through the Delaware Watershed, including Pennsylvania, New Jersey, New York, and Delaware, we write in strong opposition to the nomination of Kathleen Hartnett White to be the Chair of the Council on Environmental Quality (CEQ). At a time when the U.S. should be redoubling its efforts to address the myriad of threats facing our environment, we cannot allow a climate change denier and loyal friend of the fossil fuel industry to direct federal environmental efforts. Ms. White's nomination would mark a devastating reversion of the progress our nation has made in addressing climate change and many other important environmental issues.

The CEQ was established by Congress as a part of the National Environmental Policy Act (NEPA) of 1969 for the purpose of overseeing NEPA implementation, coordinating with agencies and the White House to develop environmental and energy initiatives, and advising the president on important environmental policy. Given her history and prior experience, Ms. White is clearly unfit to fulfill the critical responsibilities of the head of this important council. In her current position as a Fellow at Texas Public Policy Foundation—a conservative think tank funded by fossil fuel interests that include Koch Industries, ExxonMobil and

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Chevron, and whose board of directors includes oil industry executives[1]— Ms. White has consistently denied scientific findings and proven facts that conflict with their interests. Having spent her professional career defending the fossil fuel industry and promoting the interests of big corporations over public health and the environment, Ms. White cannot be expected to direct federal U.S. environmental policy in a manner that is consistent with the best interests of this country and the priorities of the CEQ.

The Chair of the CEQ is entrusted with the important responsibility of overseeing federal agency implementation of environmental impact reviews, as required by NEPA. As a consistent climate-change denier, Ms. White is not fit to perform the Chair's duty of ensuring that federal agencies are fulfilling their legal responsibility to accurately analyze and disclose the impacts of federal projects on climate change as well the impacts of climate change on federal projects. These reviews are an integral part of deciding when, how, where, and sometimes if, to build roads, approve energy projects, construct water systems, and construct energy infrastructure that protect the communities in which they are built. Fully understanding the climate changing ramifications of a project allows project design and location to include elements that ensure resiliency in the face of catastrophic storm events such as hurricanes, floods and wildfires. It also ensures that there is not an overinvestment in infrastructure construction, thereby inflicting avoidable harms on communities. Fracked gas pipelines are significant contributors to climate change – releasing pollution through leaks, compressor operations, and the inducement of fracking that is devastating communities. The mass proliferation of pipelines cutting across this nation, and taking private and public property rights through the misuse of eminent domain authority, is devastating communities for an energy source that is discharging significant quantities of methane, one of the most dangerous greenhouse gases when looking at the next 20 years, the short time frame we have to prevent our world from hitting the devastating tipping point of global warming and climate change.

As head of the Texas Commission on Environmental Quality (TCEQ), Ms. White adopted a pro-industry approach in her environmental policy decisions. Not only did she vote to allow a new coal plant 150 miles south of Dallas while arguing that the owner of the plant "was under no obligation to prove its pollution controls would work,"[2] but she also prioritized industry profits over Endangered Species Act (ESA) protections. Ms. White has falsely claimed that ESA protections inhibit development projects. Ms. White fails to recognize the economic, environmental and moral value of protecting endangered species. Many species on the brink of extinction, when at healthy levels, supported vibrant ecotourism, food, and agricultural benefits to our nation. We also owe a duty to future generations to allow them to enjoy the beauty of the birds, bees, plants, bats and animals that enrich our lives – to take actions that will knowingly decimate a species is, quite simply, selfish and immoral. Given her work at TCEQ, Ms. White's industry-focused approach would likely follow her to CEQ.

As a trusted advisor who develops and recommends national environmental policies to the President, the Chair of the CEQ should be someone whose decisions are rooted in science and are consistent with scientific consensus on environmental issues. However, Ms. White's blind loyalty to carbon and the fossil fuel industry have led to her contradict overwhelming scientific consensus on several important environmental issues. She has challenged the scientific conclusion of the Intergovernmental Panel on

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[1] *See* Forrest Wilder, *Revealed: The Corporations and Billionaires that Fund the Texas Public Policy Foundation*, The Texas Observer (2012) *available at*: https://www.texasobserver.org/revealed-the-corporations-and-billionaires-that-fund-the-texas-public-policy-foundation/

[2] Sadasivam, Naveena. "Texas Environmentalists: Kathleen Hartnett White Would Be 'Disaster' as EPA Chief." Texas Observer, 30 Nov. 2016.

Climate Change (IPCC) that there is 95% certainty that human activity is causing climate change,[3] and she has denied that there are any negative environmental impacts associated with fracking.[4] Additionally, Ms. White has repeatedly demonstrated her loyalty to carbon by consistently asserting that carbon dioxide is neither a pollutant nor an environmental hazard.[5] At a time when we should be moving away fossil fuels and towards renewable energy sources, Ms. White has also argued that renewable energy "remains diffuse, unreliable, and parasitic."[6] These repudiations of scientific facts are a concerning departure from the scientific insight one would expect from the Chair of the CEQ.

Ms. White is not fit to head one of the most important environmental agencies in the country. Given her clear hostility to scientific fact, her loyalty to the fossil fuel industry, and her denial of mainstream climate science, Ms. White's work as chair of the CEQ would be inconsistent with goals and purpose of the agency. Someone who claims that "there are no major environmental problems"[7] facing our country has no business developing and implementing environmental policy at a time when our nation is facing the greatest environmental threats it has ever encountered.

We strongly urge you to oppose Ms. White's nomination as Chair of the CEQ.

Sincerely,

Maya K. van Rossum
the Delaware Riverkeeper

[3] Kathleen Hartnett White. "Fossil Fuels: The Moral Case" (PDF), Texas Public Policy Foundation, June 2014. Archived .pdf on file at DeSmogBlog.
[4] "Fueling Freedom: Exposing the Mad War on Energy Hardcover – May 23 2016," Amazon.ca. Archived November 3, 2016.
[5] "LIVE from Conservative Political Action Conference (CPAC) When Politics Meets Climate Forecasting with Tony Heller, Kathleen Hartnett White, and Craig Idso," Facebook post by Energy & Environment Legal Institute, February 24, 2017.
[6] Kathleen Hartnett White, Fossil Fuels: The Moral Case, Texas Public Policy Foundation (2014) available at: https://www.texaspolicy.com/library/doclib/2014-06-RR03-FossilFuelsTheMoralCase-KathleenWhite-ACEE.pdf
[7] Americans for Prosperity Forum (November 2011), video available at: https://vimeo.com/31646143.

Senator BARRASSO. Also for the record, I would like to introduce by Dr. Bryan Shaw, the Chairman of the Texas Commission on Environmental Quality, that was written in support of Ms. White's nomination. Dr. Shaw explains, "As the current TCEQ Chairman, I have a unique perspective on her contribution to this agency. Serving as the TCEQ chairman is no easy feat, and she served the State of Texas with grace and poise." He goes on to say, "As evidenced by her career and background in environmental regulations, Kathleen is more than capable to serve as the Chairman of the Council on Environmental Quality."

Ask unanimous consent. Without objection.

[The referenced information follows:]

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 7, 2017

The Honorable John Barrasso
United States Senate
307 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, D.C. 20510

Chairman Barrasso, Ranking Member Carper, and Members of the U.S. Senate Committee on Environment & Public Works,

Please let this letter serve as my endorsement of Kathleen Hartnett White's appointment as the next Chairman of the White House Council on Environmental Quality.

Kathleen served as the Chairman of the Texas Commission on Environmental Quality (TCEQ) for approximately 6 years. As the current TCEQ Chairman, I have a unique perspective on her contribution to this agency. Serving as the TCEQ Chairman is no easy feat, and she served the state of Texas with grace and poise.

During her time at the TCEQ, Kathleen played a role in the management of the Texas Emission Reduction Program, and she contributed to the development of State Implementation Plans for the state of Texas. As one of the largest environmental agencies in the world, the TCEQ had approximately 3,000 employees and an operating budget of over $500,000,000. As both the Chairman and as a Commissioner she had a wide range of responsibilities, including oversight of multiple interstate river compacts and streamlining the permitting process.

Additionally, I have had the pleasure of working with Kathleen in her current role at the Texas Public Policy Foundation (TPPF), where she plays an integral part as a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy and Environment. Her contribution to policy development at TPPF is invaluable and appreciated.

As evidenced by her career and background in environmental regulation, Kathleen is more than capable to serve as the Chairman of the Council on Environmental Quality. I respectfully encourage you to swiftly confirm her appointment.

Sincerely,

Bryan W. Shaw

Bryan W. Shaw, Ph.D., P.E.
Chairman

Senator BARRASSO. Senator Markey.

Senator MARKEY. Thank you, Mr. Chairman, very much.

Ms. White, your positions are so far out of the mainstream that they are not just outliers, they are outrageous; and from my perspective, you have a fringe voice that denies science and economics and reality. So I would like to turn to a subject here that you have commented on, and that is the renewable industry. You said in 2016, "Renewables are a false hope that simply won't work." In the same piece you said, "Intermittent renewables are parasitic on backup power from reliable fossil fuels."

Well, wind power is now up to 7 percent of all of our electricity. In 2020 we are projected to have 120,000 megawatts of wind, and we now have over 100,000 Americans working in the wind industry. By 2020 we are going to have half a million Americans working in the wind and solar industry—half a million Americans. Most of them are good paying, blue collar jobs. These are roofers, they are electricians, they are steel workers, they are people who are going to be engineers working on the turbines.

Are you saying that these 500,000 people are parasitic, that they are working for an industry that is parasitic and harming America?

Ms. WHITE. I would like to make two points of clarification. The false hope phrase comes from one of the several engineers hired by Google to come out with a plan where you could really be powered by 90 percent by renewables when that was their conclusion, that as a matter of physics renewables——

Senator MARKEY. Do you think the wind and solar blue collar workers are working for a parasitic industry?

Ms. WHITE. In using the word parasitic, I was only referring to the fact that when you have an intermittent energy source, you have to have a backup with a steady state reliable source. I was not talking about any employees.

Senator MARKEY. Well, the impression you leave is that this is not a real industry, that wind and solar are not actually playing a vital part in producing new energy in our country, whether it be in Iowa, which is now upwards of 35 or 40 percent of all electricity with wind, and State after State. So I just think it is an unfortunate and cruel characterization of all of these workers, and it will be a half a million by 2020, at the current pace, most of them blue collar.

If it was 50,000 coal miners, you would never say that about coal miners. But why would you say it about the 500,000 blue collar workers who are in the renewable energy? It is just absolutely wrong, and calling them inconsequential is even more wrong in terms of your economic analysis. It is a very real addition, and it is growing, and that is what is most fearful in the hearts of the coal industry. But you can't characterize them in a way, these workers; that is so painful, I am sure, to hear them be described as working in industries that aren't contributing dramatically to American economic growth.

Mr. Wheeler, as a former lobbyist for Murray Energy, you have made a career working on behalf of the fossil fuel industry to eviscerate regulations designed to protect public health and the environment. Murray Energy has sued EPA to stop clean air and water protections. Five of those cases are ongoing. As EPA Deputy Ad-

ministrator, you would be in a position to serve as plaintiff, defendant, judge, and jury of these ongoing five lawsuits.

Will you agree to recuse yourself from these lawsuits which Murray Energy brought against the EPA not just for 1 year, but for the entirety of the time that you are the Deputy Administrator of the EPA? Will you commit to recusing yourself from any of those matters?

Mr. WHEELER. Two points. First of all, I am not sure which of the five. My law firm did not represent Murray in any of the litigation against the EPA. I have talked to the career ethics officials at the Agency, and I have had preliminary discussions with them on my recusals, what I would have to do, and I am going to follow the guidance that they have given me, and I will not be meeting with my former clients or my former law firm, in following the advice and guidance of the career ethics officials at the Agency.

Senator MARKEY. Will you recuse yourself from the lawsuits, which are still ongoing, that have been brought by the interest that you were representing before you were nominated for this position?

Mr. WHEELER. Again, Senator, I will abide by the guidance and requirements given to me by the career ethics officials at the Agency on what I would have to recuse myself from. At this point, in discussions with them, I don't anticipate needing any waivers. I will be recusing myself from any work where there is a conflict going forward.

Senator MARKEY. I am just afraid you are going to wind up as the plaintiff, defendant, judge, and jury in one of these five matters, and I just think it would be wrong.

Thank you, Mr. Chairman.

Senator INHOFE [presiding]. Thank you, Senator Markey.

First of all, right now I don't think I will ask any questions of Andrew Wheeler since he worked with me and for me for 14 years. There is nothing I could ask that I don't already know. You will be a great, great help to the EPA.

I would like to make one observation though. All the discussion on this side has discussed the RFS. The RFS, in fact, is really in the jurisdiction of the EPA and not the CEQ. Actually, Andrew, that is your problem and not hers.

Let me say to Ms. White, I understand several of the extremists are driving a narrative that you hate the environment and worked to give cover to polluters when you were at Texas Commission CEQ. However, I was looking at the enforcement numbers of the Texas CEQ during your tenure. To me, it looks like a number of administrative orders and amounts of penalties increased significantly. I think that is very important because you had a job to be agnostic in terms of who you were criticizing and blaming and so forth. Would you address that?

Ms. WHITE. I would be happy to. I might share with you an example of my commitment to environmental protection. I really think totally in terms of fundamental protection of human health and welfare. Risk to children particularly motivates me.

In response to an environmental justice issue, we had a program where we went to key plants within the vast Houston industrial petrochemical complex and really increased the amount of air monitors so we could really know what we were dealing with. We re-

quired that operators of the industries in question had fence line monitors, very expensive things to do. We got the data. We had sensors on the families who were most concerned or who had demonstrable health impact so we could get that information. We worked back to the industry to operate in a way that minimized or eliminated the troubling pollution.

Senator INHOFE. How about penalties?

Ms. WHITE. Yes, and a lot of those were following Federal Clean Air Act, Federal Clean Water Act, very important and essential portions of environmental protection. I took that very seriously.

I think, regrettably, part of the reason why we were able to reduce emissions so much was that there was certain enforcement, if there was any departure from their permits that could possibly have been controlled.

Senator INHOFE. Information that I have, which I think needs to be in the record, is that you have penalized companies that did not comply with the very thing that has been emanating from the other side of the aisle.

Ms. WHITE. We have 16 regional offices in Texas, and almost all are devoted to investigations and enforcement actions if they are needed.

Senator INHOFE. Thank you very much.

We have had 8 years of an Administration that does not want fossil fuels, coal, oil, and gas, and does not want nuclear. Yet sometimes you just have to appeal to logic and ask the question. If well over 80 percent of the energy it takes to run America is either fossil fuels or nuclear, and you extract that from all of the above, how do you run the machine called America? Another way of putting it is, are there risks associated with solely relying on renewable energy?

Ms. WHITE. We have seen in other countries that is the case in Germany and the UK. I might qualify by saying I am not as current on these numbers as previously, but the average retail electric rates in Germany are two to three times higher than the average retail rates in this country in significant part for the reason that they are very aggressive.

Senator INHOFE. I would further say you have actually been criticized for some of the penalties that have come from your office in the State of Texas. I know that is true because I know some of the individuals.

As chair of the Texas CEQ, one of your responsibilities was to review applications for new electricity generation. Can you tell us about the process you used when deciding whether to permit new electricity generation?

Ms. WHITE. We followed the law, first of all, importantly, the Clean Air Act as interpreted by EPA. We required all kinds of maybe more data, meaningful modeling, and robust science as a part of that.

They are permits that derive from the Federal Clean Air Act, but we did the permits in a very, very strict way.

Senator INHOFE. I appreciate that very much. My time has expired.

I wanted to show and demonstrate what you, as the Administrator of the Texas CEQ, did in following the law regardless of who was responsible. Thank you.

Senator BARRASSO [presiding]. Thank you, Senator.

Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Mr. Chairman.

Mr. Chairman, there is another voice from Texas that has a rather different view of Ms. Hartnett White. That is the Dallas Morning News, the local newspaper which under the headline, Trump Errs in Naming Climate Denier and Former Texas Regulator to Environmental Post, went on to say, "Her performance as an environmental regulator in Texas suggests that she would lock step in dismantling vital environmental protections."

They described her record as, "abominable." They described her as "an apologist for energy interests." They concluded by saying, "The nation needs a White House advisor who respects science and seeks a reasoned balance between energy needs and environmental protections. Kathleen Hartnett White does neither."

They went on to put in a kind of special extra section with a list of bullet points on why Kathleen Hartnett White is wrong for the job. I would ask unanimous consent that the Texas editorial be put into the record.

Senator BARRASSO. Without objection.

[The referenced information was not received at time of print.]

Senator WHITEHOUSE. Mr. Wheeler, was anything happening when you climbed Kilimanjaro that relates to fossil fuel emissions?

Mr. WHEELER. The air was very thin, if you are referring to the glacier.

Senator WHITEHOUSE. I am asking you, was anything happening on Kilimanjaro?

Mr. WHEELER. The glacier is still there on top.

Senator WHITEHOUSE. That is not answering my question.

Mr. WHEELER. I did not understand your question, then.

Senator WHITEHOUSE. Was there anything going on that you are aware of, did you learn anything about what was happening on Mt. Kilimanjaro that relates to fossil fuel emissions?

Mr. WHEELER. No, sir.

Senator WHITEHOUSE. Nothing. OK.

You are a lobbyist for Murray Energy?

Mr. WHEELER. Yes, Murray Energy is one of my clients.

Senator WHITEHOUSE. The head of Murray Energy, Bob Murray, has said that he has a 3-page plan that is being implemented by Scott Pruitt at the EPA. He said they are already through the first page. What can you tell us about Bob Murray's 3-page plan that he claims Scott Pruitt is implementing at the EPA?

Mr. WHEELER. I did not work on that, and I do not have a copy of that memo.

Senator WHITEHOUSE. Would you be able to get your hands on one?

Mr. WHEELER. I also have client confidentiality concerns with my clients as well. I don't have a copy of the memo, no.

Senator WHITEHOUSE. We also have disclosure interests when you are a candidate for a significant Federal position. Are you as-

serting that there is attorney-client privilege between you and Murray Energy Corporation with respect to the 3-page plan?

Mr. WHEELER. I have deregistered representing him as of August. I don't have one in my possession.

Senator WHITEHOUSE. Have you seen it?

Mr. WHEELER. I saw it briefly at the beginning of the year, but I don't have a copy of it.

Senator WHITEHOUSE. Do you recall anything about it?

Mr. WHEELER. No. I don't even know how many pages it was. I think you said it was three pages?

Senator WHITEHOUSE. That is what Bob Murray said it was. I have never seen it, so I would not know, but he said he had a 3-page plan that Scott Pruitt is implementing for him at the EPA and that he is through the first page for Bob Murray already. I am trying to inquire about that.

You said you have seen it. Does it look like three pages, two pages, or four pages? You are the one who saw it.

Mr. WHEELER. Somewhere around there. I did not have it in my possession. I looked at it and handed it back to him.

Senator WHITEHOUSE. Do you remember where you were when you looked at it and what the context was for that conversation?

Mr. WHEELER. No, actually, I don't. It may have been in our offices, but I don't remember.

Senator WHITEHOUSE. "Our offices" meaning your law firm?

Mr. WHEELER. Yes.

Senator WHITEHOUSE. I guess I will try to follow that up further with questions for the record because I think it is something of a significant situation if the CEO of a regulated industry is saying he has given his regulator a 3-page plan and takes credit for having gotten through the first page of it already. We have a candidate for Deputy Administrator who said he has seen it and confirm that it exists.

I think the American people are entitled to an EPA that is not following a coal company's 3-page plan but is following wherever the best interests of the American people lead, wherever the best interests of real science leads.

I hope the Chairman will allow us to consider pursuing how we get our hands on this 3-page plan that Mr. Wheeler has seen and that evidently, according to Mr. Murray, is now driving what happens at EPA.

I have one question for Ms. Hartnett White. Are you aware of anything that is happening in the oceans that relates to fossil fuel emissions?

Ms. WHITE. There are probably a number of them.

Senator WHITEHOUSE. Name a few.

Ms. WHITE. I have a very superficial understanding as far as that. Acidification issues are one. I have not read widely or deeply. I have read some with different perspectives, some of which suggest that it is a very, very fragile set of changes in acidification and others that say for long eons in geological history, there are certain places where certain oceans may have changes in acidification levels but not others.

Changes up or down are not inherently a problem, but no, I cannot speak as an authority on that. I am aware it is one of the mul-

tiple key issues as far as potential impacts of manmade global warming.

Senator WHITEHOUSE. My time has expired, Mr. Chairman. Thank you for letting me go over about 50 seconds.

Senator BARRASSO. Senator Boozman.

Senator BOOZMAN. Thank you, Mr. Chairman.

Thank you all for being here and your willingness to serve.

I just came back from the floor of the Senate. I was speaking about a veterans' bill that myself and Senator Wyden had worked on together and were successful in getting it eventually put into another bill and passed. It is an important thing that really will make a difference for several individuals in the military.

Over the years, Mr. Wheeler, you have been an integral part of helping this Committee pass many important pieces of legislation. Like the Veterans Committee, this Committee has areas where we do not have a lot of agreement, but we have other areas where we have tremendous agreement. You have played a big part in helping us put those together.

A lot of people don't understand how difficult it is getting a comprehensive, bipartisan piece of legislation passed. How do you feel your role as a staff member at the EPW Committee has prepared you to bring people from all walks of life to the table to develop and implement important EPA regulations?

Mr. WHEELER. Working here for 14 years, I worked on a number of different bipartisan bills, including three different highway bills, several WRDA bills, the Diesel Emissions Reduction Act with Senators Carper and Inhofe, and brownfields legislation.

Throughout the time I spent here, I met with a wide variety of people with concerns and problems before the Federal Government that needed help from Congress, not just legislative help but help with agencies.

It ties back to my time when I worked at the EPA at the beginning of my career. I think between my time here working on the different bipartisan bills and trying to work across the aisle, there were a number of bills that we tried to work across the aisle that we just were not able to get over the finish line over the years.

I learned lessons not only from our accomplishments but also from some of our failures. I think what I learned most of all is that both sides come to the table with strong views sometimes, but wanting to do the right thing.

It is important to try to work past some of the politics to get to solutions that help the American people.

Senator BOOZMAN. Very good.

You mentioned just now your time at EPA and EPW and got some good environmental outcomes that also provided regulatory certainty for the country. Can you talk about the benefit to the environment and economic benefits when you have regulatory certainty?

Mr. WHEELER. Absolutely. I think regulatory certainty is very important. In my time working with a number of different clients and different industries, it is not that people are out there trying to figure out what to do wrong or how to break a rule or regulation. They want to know what the rules are and want to know with cer-

tainty as they move forward with projects, what they have to do and what the requirements are.

I think it is incumbent upon the EPA to make sure that is clear for anyone trying to do business in the United States. I don't think we would have as many violations if everyone understood what the requirements were and what they had to do.

Senator BOOZMAN. A criticism of EPA during the previous Administration, in fact I would say Administrations in general, was the Agency's disconnect with rural America. Many hardworking Americans in rural States felt they did not have a voice with past Administrations and that their opinions did not matter.

If confirmed, what would you do to facilitate a stronger level of trust between EPA and rural America?

Mr. WHEELER. I have an absolute respect for rural America. In my first year working for Senator Inhofe, I went out to Oklahoma and put 1,000 miles on a rental car driving all over the State and a lot of small communities. I understand the problems they face.

I understand the need for EPA to work with the States, through the regions with the States and the local communities to make sure everyone understands what the environmental priorities are, what the environmental requirements are, and to work with people to make sure we can have a clean and safe environment, protect the public health and environment, and have job security and economic growth.

Senator BOOZMAN. Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Boozman.

Senator Merkley.

Senator MERKLEY. Thank you, Mr. Chairman.

Mr. Wheeler, you noted that your client, Murray Energy, showed you a 3-page plan on how to dramatically change the EPA. At the time you saw that plan, were you already a nominee for this position?

Mr. WHEELER. No, I was not.

Senator MERKLEY. Did the client express interest that he hoped you would be able to help advance that plan?

Mr. WHEELER. No.

Senator MERKLEY. Why did your client show you that plan?

Mr. WHEELER. This was back in either December or January, almost a year ago.

Senator MERKLEY. Was it in the interest of having your help to promote it?

Mr. WHEELER. No, it was just to look at it, to see what they had put together.

Senator MERKLEY. Ms. White, you said "There is no environmental crisis. In fact, there is almost no environmental problem." Do you still believe that?

Ms. WHITE. I would not put it that way.

Senator MERKLEY. You did put it that way. Do you still agree with that statement you made previously?

Ms. WHITE. I would qualify it. That is not what I intended to say.

Senator MERKLEY. What do you consider to be the top three environmental problems?

Ms. WHITE. Air quality, and I think a very current one, increasing risk from failing wastewater or drinking water treatment infra-

structure, and I would say for the importance of an issue, climate change.

Senator MERKLEY. You are telling us today that you believe that air quality is an issue even though you previously said you don't think particulates are a problem and that the ozone problem is solved?

Ms. WHITE. I don't know from what documents you are finding those statements but they may be out of context. I said or have intended to say, talking about the very significant improvement and the positive trends.

Senator MERKLEY. You do believe that lead and arsenic in the water, mercury in the air, particulates in the area are significant problems that need to be improved?

Ms. WHITE. At certain exposures.

Senator MERKLEY. But currently, there is pollution that needs to be reduced?

Ms. WHITE. Again, given that I have not been inside.

Senator MERKLEY. No, no, you are an expert on air quality. Do you believe there is air around the country that has pollutants that need to be reduced?

Ms. WHITE. There are certain areas.

Senator MERKLEY. Particulates, fine particulates, do you believe that?

Ms. WHITE. Different pollutants implicated in different places.

Senator MERKLEY. Fine particulates, do you believe they need to be reduced?

Ms. WHITE. At certain exposures.

Senator MERKLEY. Coral reefs around the world are dying. Do you consider that an environmental problem?

Ms. WHITE. If they were.

Senator MERKLEY. You said if they were?

Ms. WHITE. If they were, I have no knowledge of those issues. I know it is an issue, but I have no specific knowledge.

Senator MERKLEY. Of course, you are not a scuba diver, you haven't gone to the coral reefs yourself, but you are asking us to confirm you for an environmental position. When we talked in the office, I raised the issue of coral reefs, and you said, "I am not a scientist." You are not a doctor either, but you go to the doctor, right?

Ms. WHITE. Right.

Senator MERKLEY. Scientists are telling us coral reefs are dying, and you say, if it is happening. Don't you believe it is happening based on the reports from around the world?

Ms. WHITE. I would need to read some statement of that science.

Senator MERKLEY. Are you familiar with the dramatic drop in ice in the Arctic and the impacts on the environment there?

Ms. WHITE. Yes.

Senator MERKLEY. In that case, you do believe what scientists are reporting?

Ms. WHITE. No.

Senator MERKLEY. You do not believe what scientists are reporting?

Ms. WHITE. I need to study and learn and look at that. It is from multiple science.

Senator MERKLEY. Do you believe the scientists when they talk about the melting permafrost?

Ms. WHITE. Yes, but I would like to finish my sentence. I am aware of the shrinking ice sheet in the Arctic, but the expanding ice sheet in the Antarctic.

Senator MERKLEY. Are you familiar with the Red Zone?

Ms. WHITE. Red Zone?

Senator MERKLEY. Red Zone of dying trees?

Ms. WHITE. Off coast, right.

Senator MERKLEY. Yes, dying because pine beetles are doing so much better in warm winters. When you say those who are concerned about global warming are paganists, totalitarianists, and Marxists, do you believe Oregon's farmers who are concerned about three worst ever droughts with the impact of climate changes are Marxists or totalitarians or pagans?

Ms. WHITE. I believe those words, Senator, with all due respect, have been taken out of context.

Senator MERKLEY. They are words directly from your writings. How about Oregon's timber workers who are very concerned about the pine beetles killing the forests? Are they pagans because they see the impact of climate change destroying the forests?

Ms. WHITE. To answer yes or no, no.

Senator MERKLEY. No, you don't. Why did you say these things then? It is not just one quote; it is multiple quotes calling environmentalists Marxists and those concerned about climate change as pagans?

Ms. WHITE. I think I submitted about 100 pages of either commentaries or research studies I have done in that entire purpose. There may be some mistakes.

Senator MERKLEY. Here is my summary. Do you believe the planet is getting warmer?

Ms. WHITE. Yes.

Senator MERKLEY. Because it can be measured. Do you believe carbon dioxide levels have gone up dramatically? It can be measured. Scientists measure it every day.

Ms. WHITE. No, I would not say they have gone up drastically. I know they have risen from pre-industrial times.

Senator MERKLEY. They went up from 295 ppm to over 408 ppm, and the rate of pollution has gone up from 1 ppm per year to 3 ppm or nearly 2.5 to 3 ppm per year. You are unfamiliar with the details of that?

Ms. WHITE. No, I am familiar with those.

Senator MERKLEY. I have a chart behind me.

Senator BARRASSO. We are going to have a second round, and your time has expired.

Senator MERKLEY. Thank you, Mr. Chairman. We will come to those.

Senator BARRASSO. Thank you.

We will head to the second round of questions.

Mr. Wheeler, before your time on Capitol Hill, I know you spent time working at the EPA as a career official. This fact caught the attention of my friend, Senator Carper, who said in a recent interview about you, "I think having worked in the agency, he actually

cares about the environment, the air we breathe, the water we drink, and the planet on which we live."

Can you talk a bit about how your time as a career official with the agency would shape your leadership style as deputy administrator at the EPA?

Mr. WHEELER. I would say my time at the agency, having worked with the career employees there, plus my legislative time here on how laws are drafted, and then my time over the last 8 years on how they are implemented, has really helped me understand a better, full picture.

I was very pleased with the work I did at the Agency. I worked on the Toxics Release Inventory and the Right to Know law, I worked on expanding that. I worked on getting TSCA information out to the public. I won a few awards while I was at the agency.

I understand the power of the data and information that the agency has and the importance of getting that out to the public for people to know about the chemicals released where they live and the impacts that could have on public health and the environment.

I think the time I spent in the Right to Know Program at the agency was very formative in my development as an environmental attorney.

Senator BARRASSO. Ms. White, different Administrations obviously have different priorities for the CEQ. Could you talk a bit about what you and the Administration you hope to join see as the CEQ's role in formulating environmental policy?

Ms. WHITE. Given the two Acts passed not long ago, the highway bills, I always get the acronyms wrong, I recognize a real problem we have with the links of permit timeframes, the cost of environmental reviews, and impediments they present to urgently needed infrastructure.

I think the infrastructure package, if you will, some of which has been created in new laws, some of which has been expressed in executive orders, most recently the mid-August executive order from President Trump about reducing permit timeframes with quite a bit of detail, this could well be a time, and I would welcome the challenge to make very significant changes in environmental review, mostly to shorten the process, reduce the cost and uncertainty, duplication and all those things.

I think that is not a small task. Lots of people have tried to do similar things in different Administrations. It is really hard to change the way agencies operate to move the ball forward, but I think that would be very important and could be of historical importance.

It takes 50 permits, 9 years, and $7 billion, and then the investors withdraw from the project. We are in trouble in this country if we cannot permit needed infrastructure in a timely manner.

Senator BARRASSO. Thank you.

Mr. Wheeler, during your over 25-year career, you have had an opportunity to work on environmental issues impacting lots of different areas of the country. Senator Boozman asked you about rural communities, and you talked about all the time driving around in rural areas.

Can you talk a bit about how you will work to ensure that the EPA treats rural States, like my home State of Wyoming, fairly

and equitably when developing and enforcing environmental policies?

Mr. WHEELER. Absolutely. First, I would say everyone I met in rural areas of our country cared deeply about the environment where they live. In fact, they are some of the best stewards of the environment we have.

Again, working with Administrator Pruitt on his cooperative federalism, working with the States, working with the local governments, I think is vital to going forward and making sure that everyone understands the need to protect the environment and what are the requirements from the EPA so we can work together.

Senator BARRASSO. Senator Merkley.

Senator MERKLEY. Thank you, Mr. Chairman.

Ms. White, I was about to show you a chart which I will show you now. That chart shows the information that has come from the fourth National Climate Assessment put forward by the Trump administration, by the combined work of the EPA, NOAA, the Department of Energy, and several other agencies within the Government.

It shows their estimate of the best work of their scientists of the impact of human activity versus natural activity on climate change or climate disruption. Can you see that OK?

Ms. WHITE. Yes.

Senator MERKLEY. The first red column is a human caused impact from the Trump administration's EPA and fellow agency report, solar flare activity which is often raised, and volcanic activity, which is often raised. Which of these bars, the red, orange, or the green, is the highest?

Ms. WHITE. Obviously, the red.

Senator MERKLEY. The red, the human caused activity. Is it dramatically different from the impact of solar caused activity?

Ms. WHITE. Could you briefly summarize what methodology was used to measure that increment of human activity?

Senator MERKLEY. Yes, I can, but as an expert on the atmosphere, I would think you actually have a better command of that. The scientists looked at the carbon dioxide and its impact on raising temperatures and how much was created by volcanic activity or how much temperature indirectly was caused by solar activity, solar flares, and so forth, and then human activity.

The primary function, there are some other global warming gases, and I am sure you are familiar, but the primary activity is the burning of fossil fuels and the production of carbon dioxide. Is there a dramatic difference between the human caused impact and the solar impact?

Ms. WHITE. Yes.

Senator MERKLEY. I know you said before you are not a scientist, but this is the Trump administration's report. Do you accept the results of this report?

Ms. WHITE. I view this report really as the product of the past Administration and not of the present. It was, I think, up for a certain draft of it before.

Senator MERKLEY. When you told me that you would look to the scientists for insight and the scientists produced these numbers, you are now rejecting them?

Ms. WHITE. There are all different types. There are many differences, a credible difference of opinion among climate scientists.

Senator MERKLEY. This is the combined work of the Administration released by the Trump administration that you are asking to work for, but you are rejecting their findings?

Ms. WHITE. I think we need more of a precise explanation of the role of the human contribution.

Senator MERKLEY. Mr. Wheeler, how about you? Do you reject the findings of the Trump administration scientists?

Mr. WHEELER. No, I do not reject it, Senator. I believe, though, the report issued on Friday was put out for notice and comment. I would not want to prejudge anything. I agree with you that the red bar is much higher than the other two.

Senator MERKLEY. Does that generally reflect your understanding of the impact of human activity versus solar or volcanic activity?

Mr. WHEELER. Looking at this chart, it appears that human causes is much greater. Again, I don't want to go too much into the report since it is open for notice and comment at this point.

Senator MERKLEY. Does that generally reflect your viewpoint, or is this radically different than your viewpoint?

Mr. WHEELER. I would have to look at the information.

Senator MERKLEY. I know but I am asking about your viewpoint. Do you believe human activity is driving the temperature increases on the planet?

Mr. WHEELER. I believe man has an impact on the climate, but what is not completely understood is what the impact is.

Senator MERKLEY. You don't accept, if you will, the general finding of the Trump administration scientists that it is dramatically more the impact of human activity than solar or volcanic activity? You are not sure of that?

Mr. WHEELER. I have not read the report yet. Since it is open for notice and comment at this point, I don't think I should comment.

Senator MERKLEY. No, there are many other sources for this information.

Mr. Wheeler, you have been working as a lobbyist for a company, for a private company?

Mr. WHEELER. A number of different companies.

Senator MERKLEY. Yes, sir, but significant activity on behalf of the coal industry. You were shown the secret 3-page plan on how to destroy the EPA when you were lobbying for them.

When candidate Trump said he was going to drain the swamp, did he mean to take the lobbyists and put them in charge of policy? Is that what he meant by "drain the swamp"?

Mr. WHEELER. First of all, I believe there are a number of lobbyists that worked in the Obama administration.

Senator MERKLEY. I am not asking about the Obama administration; I am asking about candidate Trump's argument that he is going to "drain the swamp" and get rid of the powerful special interests and the lobbyists running things. Is that what you think he meant by that? Or what did he mean by that?

Mr. WHEELER. I am not sure what he meant by that.

Senator MERKLEY. My time is up but I do think there is quite a contrast in that. I do think when the Trump administration's sci-

entists put out this information, boy, it bears paying attention to it.

Ms. White, you said you are going to look to what the scientists say. This is what they say, and yet you reject it. I don't see how that makes you possibly qualified to serve in this capacity.

Thank you.

Senator BARRASSO. Thank you, Senator Merkley.

I would point out for the record, a story dated November 2, 2017, an op-ed in the Wall Street Journal under the headline, A Deceptive New Report on Climate. This is by Dr. Steven E. Koonin who had served as the Under Secretary of Energy for Science in the Obama administration.

He goes on in his op-ed to report, "The world's response to climate changing under natural and human influences is best founded upon a complete portrayal of the science. The U.S. Government's Climate Science Special Report does not provide that foundation." Instead, he goes on to say, "It reinforces alarm with incomplete information and highlights the need for more rigorous review of climate assessments."

I would ask unanimous consent that this be entered in the record. Without objection, it is done so.

[The referenced information follows:]

THE WALL STREET JOURNAL.

A Deceptive New Report on Climate
True, the U.S. has had more heat waves in recent years—but no more than a century ago.
Wall Street Journal
By Steven E. Koonin
Nov. 2, 2017

The world's response to climate changing under natural and human influences is best founded upon a complete portrayal of the science. The U.S. government's Climate Science Special Report, to be released Friday, does not provide that foundation. Instead, it reinforces alarm with incomplete information and highlights the need for more-rigorous review of climate assessments.

A team of some 30 authors chartered by the U.S. Global Change Research Program began work in spring 2016 on the report, "designed to be an authoritative assessment of the science of climate change."

An early draft was released for public comment in January and reviewed by the National Academies this spring.

I, together with thousands of other scientists, had the opportunity to scrutinize and discuss the final draft when it was publicized in August by the New York Times .While much is right in the report, it is misleading in more than a few important places.

One notable example of alarm-raising is the description of sea-level rise, one of the greatest climate concerns. The report ominously notes that while global sea level rose an average 0.05 inch a year during most of the 20th century, it has risen at about twice that rate since 1993.

But it fails to mention that the rate fluctuated by comparable amounts several times during the 20th century.

The same research papers the report cites show that recent rates are statistically indistinguishable from peak rates earlier in the 20th century, when human influences on the climate were much smaller. The report thus misleads by omission.

This isn't the only example of highlighting a recent trend but failing to place it in complete historical context. The report's executive summary declares that U.S. heat waves have become more common since the mid-1960s, although acknowledging the 1930s Dust Bowl as the peak period for extreme heat.

Yet buried deep in the report is a figure showing that heat waves are no more frequent today than in 1900. This artifice also appeared in the government's 2014 National Climate Assessment, which emphasized a post-1980 increase in hurricane power without discussing the longer-term record.
The National Oceanic and Atmospheric Administration recently stated that it has been unable to detect any human impact on hurricanes.

Such data misrepresentations violate basic scientific norms. In his celebrated 1974 "Cargo Cult" lecture, the late Richard Feynman admonished scientists to discuss objectively all the relevant evidence, even that which does not support the narrative.

That's the difference between science and advocacy.

These deficiencies in the new climate report are typical of many others that set the report's tone. Consider the different perception that results from "sea level is rising no more rapidly than it did in 1940" instead of "sea level rise has accelerated in recent decades," or from "heat waves are no more common now than they were in 1900" versus "heat waves have become more frequent since 1960."

Both statements in each pair are true, but each alone fails to tell the full story.

Several actions are warranted. First, the report should be amended to describe the history of sea-level rise, heat waves and other trends fully and accurately.

Second, the government should convene a "Red/Blue" adversarial review to stress-test the entire report, as I urged in April.

Critics argue such an exercise would be superfluous given the conventional review processes, and others have questioned even the minimal time and expense that would be involved.

But the report's deficiencies demonstrate why such a review is necessary.

Finally, the institutions involved in the report should figure out how and why such shortcomings survived multiple rounds of review.

How, for example, did the National Academies' review committee conclude that the chapter on sea level rise "accurately reflects the current scientific literature on this topic"?

The Academies building prominently displays Einstein's dictum "one must not conceal any part of what one has recognized to be true."

Mr. Koonin was undersecretary of energy for science during President Obama's first term and is director of the Center for Urban Science and Progress at New York University.

Senator BARRASSO. Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman.

I would like to thank both our witnesses today.

Ms. White, I will start with you. Let me start by apologizing in not getting here earlier. I was over on Commerce where we were having another hearing, so I did not get to hear your statement and the questions. If this has been asked before, I apologize.

We have had, over the last several years, particularly during the last Administration, a real battle between State regulators and the EPA and the policies emanating from the White House with a lot of our State regulators suing in court, adding comments to potential court decisions in opposition to the direction the Administration was going, some successful, some not. Then somewhere the State regulators would be invited in to help craft a decision and then basically being ignored when they would weigh in.

Where do you see the cooperation between the State and what your office of Environmental Quality would do and how you might be able to bridge some of those bridges that have been burned over the last several years?

Ms. WHITE. As I understand it, CEQ has been used as an entity that can convene local agencies, State agencies, and Federal agencies and try to coordinate and resolve conflict. I actually think that process, which CEQ has used, I don't know whether it has ever been done on a State-Federal authority issue, but I think there has been some meaningful use of the convening story of CEQ.

On the other hand, we are still at the beginning of this Administration, challenging decisions from the last Administration which some construe as maybe assisting the agency in reforming the agenda.

Senator CAPITO. Thank you.

Mr. Wheeler, I was very pleased to see that the EPA announced their hearings on the Clean Power Plan. I think one of the first, if not the first, meeting is to be convened in Charleston, West Virginia, my hometown and obviously in the heart of coal country in the State of West Virginia and that region.

For the last years, from this dais, I have asked that our voices be heard at the EPA. The last time they went around the country, the closest we could get them was Pittsburgh, but they could go to San Francisco, Boston, Chicago, and cities that might not be quite so friendly or have the same voice.

I would like to ask you, in the position you would assume at EPA, to keep all voices at the table. I would not advocate that you only come to coal country to talk about coal. You have to go everywhere.

I would say to Administrator Pruitt, thank you for that, for being willing to come and listen. It is going to be a rollicking hearing, I can tell you that. I would like to know your perspective on that because I know you have done some work in the coal area and how you perceive that.

Mr. WHEELER. Thank you, Senator.

As you know, my family is from West Virginia. I go there every year, so if you would like me to come to West Virginia, I will be there next June, the third weekend in June, I know for sure.

I think it is important for EPA to get out and meet with the people, particularly those they are regulating. I am glad one of the first meetings will be in Charleston, West Virginia. I think it is a sign that Administrator Pruitt means what he says when he wants to work with the States and the communities. I look forward to working with him going forward.

Thank you.

Senator CAPITO. Thank you.

Let me ask you this. I know you are familiar with the bureaucracies. I noticed in your statement, in terms of EPA, that you did take some time to appreciate the long term service of many people in EPA and many of the hard workers. I think we have a tendency to think all the bureaucrats are just running amok.

How do you see that in terms of EPA, in terms of the power more bureaucratic people have over the political winds that change every 8 years, or how do you bridge that gap?

Mr. WHEELER. I do think the career employees at the agency are very dedicated. I think you go to work at the EPA because you are concerned about the environment. I applaud them for their work and what they have done.

My criticisms in the past have been directed at some of the political people at the agency and not the career people. I am looking forward to returning to the agency to work with them again.

Senator CAPITO. Thank you.

Senator BARRASSO. Thank you, Senator Capito.

Senator Carper.

Senator CARPER. Mr. Wheeler, I spent a little time in the Boy Scouts, raised a couple of boys, as the Chairman said here, who became Eagles and learned a lot from it. When I was a Scout growing up in Virginia, we would go on camping trips. We took our own sons and their Scout troop on any number of those over the years.

I have here the Scout laws. A Scout is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean, and reverent. I don't know you well enough to know if you measure up on all of those. I would like to think I do and my colleagues and I do. I hope we do, but it is a high standard to set.

One of the things we always tried to teach our Scouts was that we had an obligation to this planet. It was given to us by God. We are its stewards, and we have a moral obligation to turn it over from one generation to the next in as good shape or maybe better shape. How do you feel about that?

Mr. WHEELER. I completely agree with you, sir. I was saying them, while you were saying them, quietly to myself. I try to live up to those ideals of scouting every day of my life. I agree with you that we have a responsibility in the stewardship of the planet to leave it in better shape than we found it for our children, grandchildren, and nephews.

Senator CARPER. It is possible to actually make the actually make the air and water cleaner, preserve our natural resources, and do so in a way that does not diminish jobs or employment but actually enhances it. You know how much I loved George Voinovich and his bride. We were Governors together and Senators here for many years.

Now the Republican banner on the Diesel Emissions Reduction Act is carried by Senator Inhofe. I will never forget the day George Voinovich came to me and said, we have all these diesel emissions. The great thing about diesel engines is they last a long time; the bad thing is they last a long time, and the older ones are terribly polluting.

We can actually use American technology to clean up the emissions and do so in a cost effective way and get a lot of partners involved and not only create jobs but tens of thousands of jobs. We can also use American technology and export the technology across the world. I hold that out as an example of the way we ought to work and work together for the common good.

I want to talk with Mr. Wheeler about EPA employees breaking the law. Ms. White served on the Texas Commission on Environmental Quality. The commission staff was told to under-report the levels of radiation in drinking water, violating the EPA's rules. She later defended these actions telling the reporter, "We did not believe the science of health effects justified EPA setting the standard where they did."

I would just ask, Mr. Wheeler, do you agree it is appropriate or inappropriate to direct staff to violate Federal law, regulations, or reporting requirements?

Mr. WHEELER. I am not sure where the quote came from and what Ms. White would say about that quote today. I do not think it is appropriate to direct staff to ignore laws, no.

Senator CARPER. In our personal meeting, you noted that you were once an EPA career official.

Mr. WHEELER. Yes.

Senator CARPER. During your time there, you found the EPA career staff are dedicated employees who want to make a difference with their lives on behalf of other people on the planet on which we live. In materials you submitted for the record, you also stated, "If I am confirmed, I hope to earn their respect."

My question is, do you agree that censoring, disregarding, or excluding career staff views would actually earn their respect? Would you describe some steps you plan to take, if you are confirmed, to improve the manner in which EPA career staff is respected in a way that shows them respect?

Mr. WHEELER. I will turn to the career staff and ask their advice and listen to them. I think I have to best answer that question by saying they will see it in my daily actions, how I interact with them, and how I go forward with them.

Senator CARPER. I have one last one, if I can, Ms. White.

In congressional testimony and articles, you have referred to EPA employees as "Federal mandarins brandishing their scientific credentials"—as "Federal mandarins brandishing their scientific credentials." Those words suggest you may not agree with Mr. Wheeler that EPA career staff are dedicated employees who want to make a difference in the environment.

I always try to treat other people the way I want to be treated. What would cause you to describe people like Andy Wheeler, when he was working at the EPA, as a Federal mandarin brandishing scientific credentials? What would make you talk that way about him?

Ms. WHITE. A rather exaggerated way to reflect the anger that I see in people and the amount of power that Federal employees have garnered as opposed to all of you, our Congress, that is where that came from.

Senator CARPER. I am sorry, my time has expired. Thank you.

Mr. Chairman, I have one last unanimous consent request to submit additional materials for the record pertaining to Ms. White's views on public health and the environment that would include a letter from 56 members of the House, parties to the nomination and a letter signed by many environmental organizations who also oppose her nomination. I ask unanimous consent.

Senator BARRASSO. Thank you.

[The referenced information follows:]

Congress of the United States
Washington, DC 20515

November 1, 2017

The President
The White House
Washington, DC 20500

Dear Mr. President:

We write to express our concerns with your nomination of Ms. Kathleen Hartnett-White to head the White House's Council on Environmental Quality.

The Council on Environmental Quality was created by President Richard M. Nixon to coordinate the development of environmental policies and initiatives among the federal agencies. The Chair of this Council, who is also the chief environmental advisor to the President, should rely on well-supported science and facts when implementing decisions that impact the safety and well-being of American citizens. As such, we question her qualifications to head the Council on Environmental Quality.

As an example of Ms. Hartnett-White's dismissal of science, she is on record as denying the negative impacts associated with the growing levels of carbon dioxide on our planet. In her June 2014 paper, "*Fossil Fuels: The Moral Case,*" Ms. Hartnett-White summarily concludes:

> Global warming alarmists are misleading the public about CO2 emissions. Whether emitted from the human use of fossil fuels or as a natural (and necessary) gas in the atmosphere surrounding the earth, carbon dioxide has none of the attributes of a pollutant. The Environmental Protection Agency's (EPA)'s increasing characterization of man-made CO2 as 'dirty carbon pollution' is absurd.
>
> And contrary to claims of global warming alarmists from inside and outside federal agencies, the world has become less vulnerable to extreme weather events. [1]

Science has proven that too much carbon dioxide in the atmosphere is a dangerous thing. NASA, for example, continually recognizes carbon dioxide as a contributor to global warming and climate change:

> While rising carbon dioxide concentrations in the air can be beneficial for plants, it is also the chief culprit of climate change. The gas, which traps heat in Earth's atmosphere, has been increasing since the industrial age due to the burning of oil, gas, coal and wood for energy and is continuing to reach concentrations not seen in at least 500,000 years.

[1] Kathleen Hartnett-White, "Fossil Fuels: The Moral Case," *Texas Public Policy Foundation,* June 2014, available at https://www.texaspolicy.com/library/doclib/2014-06-RR03-FossilFuelsTheMoralCase-KathleenWhite-ACEE.pdf.

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> The impacts of climate change include global warming, rising sea levels, melting glaciers and sea ice as well as more severe weather events.[2]

Thus, even with our plants absorbing some carbon dioxide, half of the atmosphere's carbon dioxide remains,[3] contributing to increased global temperatures, rising sea levels, melting glaciers, and other changes to our planet's ecological systems. During a recent study, NASA found that the Earth experienced the largest annual increase in atmospheric carbon dioxide concentration seen in at least 2,000 years, and the levels of concentration are only expected to rise.[4]

In addition, at an event hosted by Americans for Prosperity, Ms. Hartnett-White stated that chemicals released from burning fossil fuels have "no impact on human health even at very high levels."[5] However, the National Research Council, the operating arm of the National Academies of Sciences, Engineering, and Medicine, concluded that chemicals and byproducts of fossil fuel use have negatively affected air quality, contributed to the spread of diseases, and impacted our ability to produce food, clothing, and shelter in light of changing weather.[6]

Ms. Hartnett-White's unwillingness to objectively consider peer-reviewed reports and studies in the energy community also risks our country's future investments in energy diversification and supply. In a 2016 interview with the Orlando Sentinel, Ms. Hartnett-White disparaged alternate energy sources as "largely useless for tackling the main power challenges for the world's poor" and opined that there are "no commercially feasible technologies to directly reduce CO2 emissions."[7]

As of May 2017, over 260,000 people work in the solar industry in the United States[8] and employment in solar and wind energy jobs increased by 25 percent and 32 percent, respectively, from the previous year.[9] Renewable energy remains one of the fastest-growing job sectors of our economy. The growth of these industries should be supported at the highest levels to complement existing and emerging energy infrastructure. To dismiss the progress of these industries is not only short-sighted, but detrimental to our economy.

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[2] Samson Reiny, "Carbon Dioxide Fertilization Greening Earth, Study Finds," *NASA,* April 26, 2016, https://www.nasa.gov/feature/goddard/2016/carbon-dioxide-fertilization-greening-earth.

[3] Dwayne Brown and Alan Buis, "NASA Pinpoints Cause of Earth's Recent Record Carbon Dioxide Spike," *NASA,* October 12, 2017, https://www.nasa.gov/press-release/nasa-pinpoints-cause-of-earth-s-recent-record-carbon-dioxide-spike.

[4] Reiny, "Carbon Dioxide Fertilization Greening Earth, Study Finds."

[5] Kathleen Hartnett-White, "Extreme Power Abuse," posted by Americans for Prosperity, November 2011, https://vimeo.com/31646143.

[6] "Advancing the Science of Climate Change," *National Academies of Sciences, Engineering and Medicine,* 2010 *available at* https://www.nap.edu/catalog/12782/advancing-the-science-of-climate-change.

[7] Michael Joe Murphy, "A defense of fossil fuel: Renewable energy doesn't hold a candle to it," *Orlando Sentinel,* October 7, 2016, http://www.orlandosentinel.com/opinion/os-ed-oil-qa-front-burner-2-20161007-story.html.

[8] Matt Egan, "Solar Jobs Growing 17 times faster than US Economy," *CNN,* May 25, 2017, http://money.cnn.com/2017/05/24/news/economy/solar-jobs-us-coal/index.html.

[9] 2017 U.S. Energy and Employment Report, *Department of Energy,* January 2017, https://energy.gov/downloads/2017-us-energy-and-employment-report.

The American people need a Council on Environmental Quality that objectively reviews and considers scientific facts and evidence to formulate effective policy that will positively impact the health of our planet and our lives for years to come. In the wake of natural disasters such as the hurricanes that ravaged the Caribbean and Southeast United States, as well as the wildfires in California, it is clear that our planet's climate is changing. Absent leadership that recognizes these changes and is able to take immediate action, millions of lives and our nation's economic security will be negatively impacted in the immediate future.

As such, we urge you to rescind Ms. Hartnett-White's nomination and put forth a nominee who considers scientific evidence and the health, safety and well-being of the planet and the American people.

Sincerely,

Colleen Hanabusa
Member of Congress

Madeleine Z. Bordallo
Member of Congress

Salud O. Carbajal
Member of Congress

Niki Tsongas
Member of Congress

Betty McCollum
Member of Congress

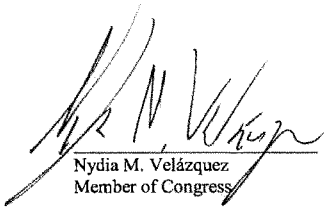
Bill Foster
Member of Congress

Emanuel Cleaver, II
Member of Congress

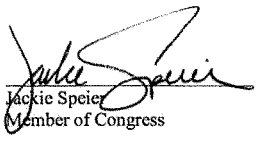
Keith Ellison
Member of Congress

Mark Pocan
Member of Congress

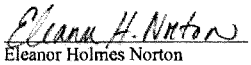
Jared Polis
Member of Congress



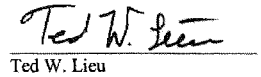
Nydia M. Velázquez
Member of Congress



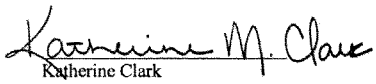
Jackie Speier
Member of Congress



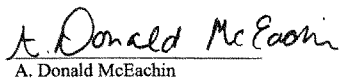
Eleanor Holmes Norton
Member of Congress



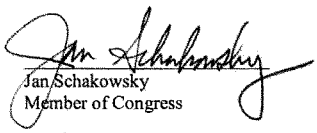
Ted W. Lieu
Member of Congress



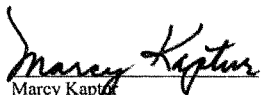
Katherine Clark
Member of Congress



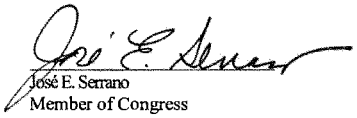
A. Donald McEachin
Member of Congress



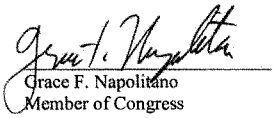
Jan Schakowsky
Member of Congress



Marcy Kaptur
Member of Congress



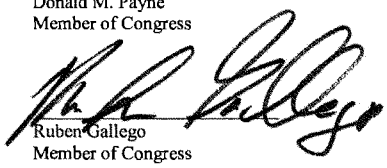
José E. Serrano
Member of Congress



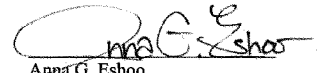
Grace F. Napolitano
Member of Congress

Donald M. Payne
Member of Congress

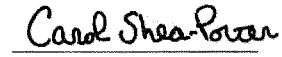
Judy Chu
Member of Congress



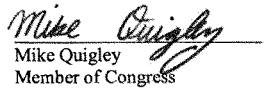
Ruben Gallego
Member of Congress



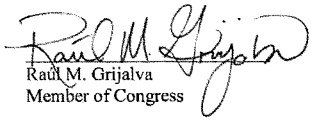
Anna G. Eshoo
Member of Congress



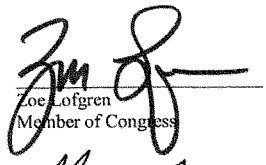
Carol Shea-Porter
Member of Congress



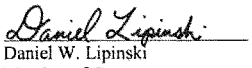
Mike Quigley
Member of Congress



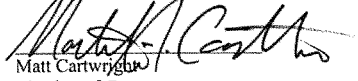
Raul M. Grijalva
Member of Congress



Zoe Lofgren
Member of Congress



Daniel W. Lipinski
Member of Congress



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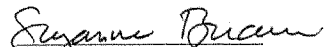

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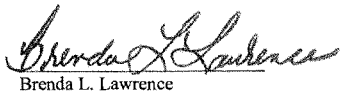

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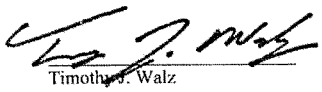

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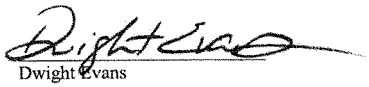

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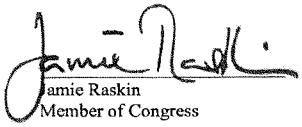

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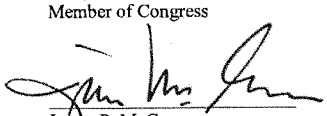

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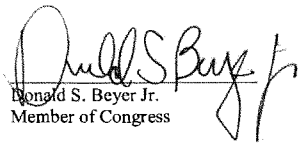

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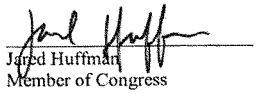

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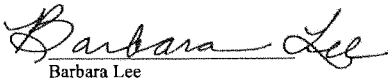

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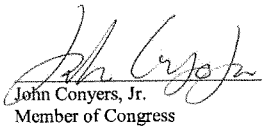

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CC: The Honorable John Barrasso, Chairman, U.S. Senate Committee on Environment and Public Works

The Honorable Thomas R. Carper, Ranking Member, U.S. Senate Committee on Environment and Public Works

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Trump taps climate change denier White as environmental adviser
BY DENIS SLATTERY
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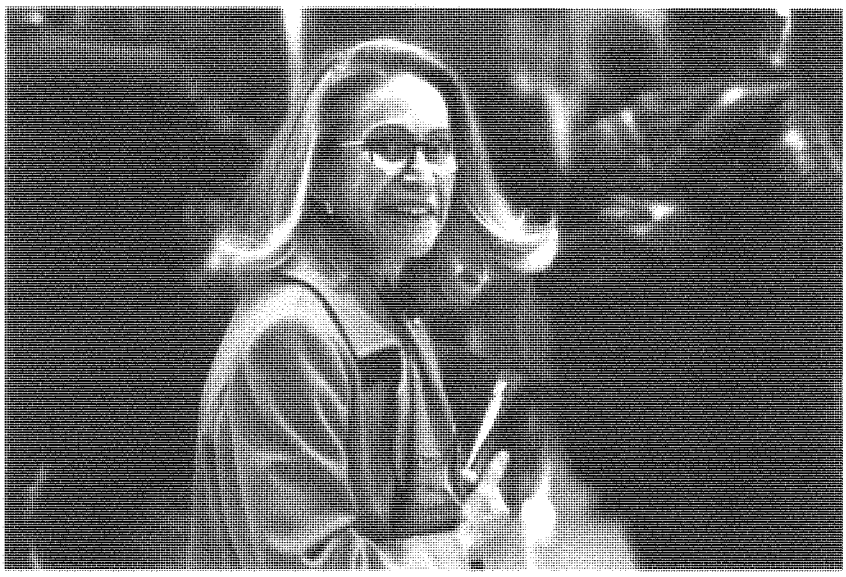
NEW YORK DAILY NEWS
Saturday, October 14, 2017, 3:45 PM



Kathleen Hartnett White said that in the U.S. "there is no environmental crisis — in fact, there's almost no major environmental problems." (DREW ANGERER/GETTY IMAGES)

A climate change denier who believes carbon dioxide is a harmless gas and once said there are "almost no major environmental problems" has been nominated by President Trump to serve as a top environmental adviser.

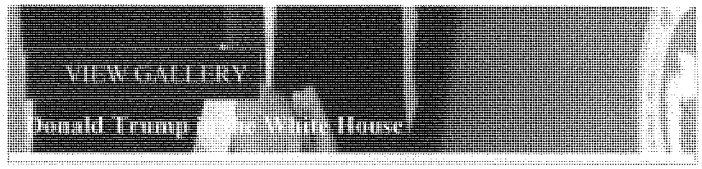
Kathleen Hartnett White served under former Texas Gov. Rick Perry, now Trump's energy secretary, for six years on a commission overseeing the state environmental agency.

She is a senior fellow at the Texas Public Policy Foundation, a conservative think tank that has received funding from fossil-fuel companies that include Koch Industries, ExxonMobil and Chevron.

Speaking at a Americans for Prosperity forum in 2011, White said that in the U.S. "there is no

environmental crisis — in fact, there's almost no major environmental problems."

Robert De Niro to Trump: Don't sit on my bench



The Kansas native, who studied East Asian studies and comparative literature at Stanford University, has praised the burning of coal and petroleum for "vastly improved living conditions across the world" and blasted renewable energy as "a false hope that simply won't work."

White House spokeswoman Kelly Love said White is "eminently qualified."

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Tags: DONALD TRUMP CLIMATE CHANGE

Send a Letter to the Editor

Obama's deluded and illegitimate battle against climate change

BY KATHLEEN HARTNETT WHITE, CONTRIBUTOR - 04/09/16 11:39 AM EDT

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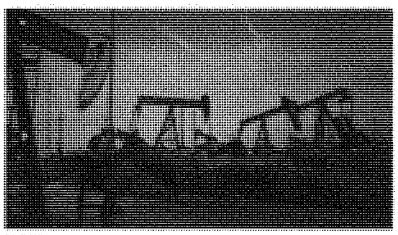

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Rarely and only superficially discussed among the current raging policy debates is the proliferation of federal measures "to battle climate change."

Without much scrutiny, this Administration keeps ratcheting up the scope and stringency of executive "climate action" now institutionalized across the federal government. Step-by-step, these "climate actions" are dismantling the energy systems on which modern economic growth and improving human welfare is

utterly dependent.

The rubric "climate change" is so vague and the culprit—carbon dioxide—so ubiquitous that government actions to "tackle climate change" are limitless. For example, a single action with huge ramifications, EPA in July declared that the entire aviation sector will be now subject to carbon cuts.

After the failure of the massive cap and trade bill to pass the Senate in 2013, the President noted "there is more than one way to skin a cat," and has proceeded to execute almost every item in the White House's Climate Action Plan. He is now accelerating radical actions to the expanding climate edifice.

To name a few items that have already engaged the United States in the mad decarbonizing project, consider the following executive actions: EPA's seizure of the authority to regulate carbon dioxide under the tight-fisted Clean Air Act; rejection of the Keystone Pipeline; regulatory initiatives to kill coal, leading to closure of over 244 coal plants and bankruptcies of the major coal companies; a mandatory plan to re-engineer the national electric system known as the Clean Power Plan (CPP); a crackdown on methane—the primary component of natural gas, the first global Paris agreement to decarbonize; and an overlooked but extremely broad trilateral effort known as the Three Amigos (U.S., Canada and Mexico), a climate plan to include a perplexing "gender responsive approach" to climate action.

Some of the more radical climate policies currently being discussed mirror the Three Amigos' agreement, including generation of fifty percent of electricity from renewables within ten years; meeting one-hundred percent of residential energy needs with clean sources by 2030 and installation of 500 million solar panels within four years.

Data from the Energy Information Administration would enrich the public's understanding of the futility of those policies. After receiving subsidies since 1992, wind power generated only 4.7 percent of total U.S. electricity in 2015. Solar power accounted for only 0.6 percent. Globally, wind produced only 2.6 percent of generation. Wind and solar hardware may be rapidly growing on the ground, but as a share of total power, actual generation increases at a snail's pace. The installed generating capacity of wind and solar is only 88.6 gigawatts (GW) of total U.S. capacity (1065 GW). If actual generation is calculated according to EIA's average capacity factor, wind only contributed 26 GW of actual generation.

Installing 500 million solar panels within a few years with a goal to meet all residential demand with zero-carbon energy by 2030 is an exorbitant pipe

dream. The cost of fabricating and installing that many solar panels could approach one trillion dollars. How many voters would support such a public investment with a national debt of almost $18 trillion, declining middle-class incomes, and the weakest economic recovery since 1949?

The global goal of the grand climate plan is to displace eighty percent of fossil fuels with zero-carbon energy sources by 2050. The main tactic is massive, subsidized deployment of wind, solar and biomass. Unless modern societies will accept a regression to the level of energy consumption in the early 18th century with a much smaller food supply, a much larger population and far more centralized government, the decarbonizing project is simply not feasible.

These wildly brief time frames are issued by would-be planetary managers who refuse to acknowledge the economic damage following the rush to renewables in Germany, Britain and Spain. The day after Britain's new Prime Minister Theresa May assumed office, the Department of Energy and Climate Change was dissolved. Within the same week, Germany announced an end to major renewable subsidies and put a cap on renewables to avoid a meltdown of the grid.

Without an "energy miracle," as Bill Gates and Google concluded, current renewable technology simply cannot replace fossil fuels at the scale envisioned. Yet, the U.S. accelerates the climate crusade.

Unlike European countries, the U.S. never enacted new laws to authorize a sweeping energy revolution. Yet, the Administration is handily implementing a comparable plan on the basis of strategy and tactics formulated without input from Congress. The "fight against climate change" will not merely increase electric bills by a modest amount as EPA contends. This is an epochal issue that demands far more substantial discussion in the public square.

The cautious right is typically reticent about the climate issue and when questioned often switches the topic to more low-risk issues like job creation. The left, meanwhile, spews bombastic propaganda about saving "the one planet that we've got." Secretary of State John Kerry's recent statement that "air-conditioning is a greater threat to civilization than ISIS" may have backfired. Such absurd, climate hype at the highest levels of government is offensive to a wide swath of the electorate.

The basic data compiled by the U.S. Energy Information Administration deserve the light of day to ensure Americans are well informed on how these policies will affect them. Crucial are the voices of the engineers who make energy work. Michael Kelly, Prince Philip Professor of Engineering and Technology at the

University of Cambridge, offers sound advice. "the scale and the different engineering challenges of the decarbonization project are without precedent in human history.... An altogether more sophisticated public debate is urgently needed on appropriate actions that consider the threats to humanity and weigh more carefully both the upsides and downsides of taking any action [on climate] and of not taking any action."

Current renewable technologies cannot replace the goods and services now delivered by the concentrated, abundant, cheap, reliable, versatile, and controllable energy in fossil fuels without major damage to economies, major reduction of the global food supply, major decline in basic human welfare and major disruption of global geopolitics. The climate crusade is no longer a peripheral, aspirational matter. Executive action without popular consent has enlisted our country in this mad "battle against climate change." It's time to be upfront and engage in a battle against deluded energy policies.

Hartnett White is Distinguished Senior Fellow-in- Residence and Director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation and former Chairman of the Texas Commission on Environmentel Quality. She is co-author of the new book Fueling Freedom: Exposing the Mad War on Energy (Regnery, 2016). Follow her on Twitter @FuelingFreedom

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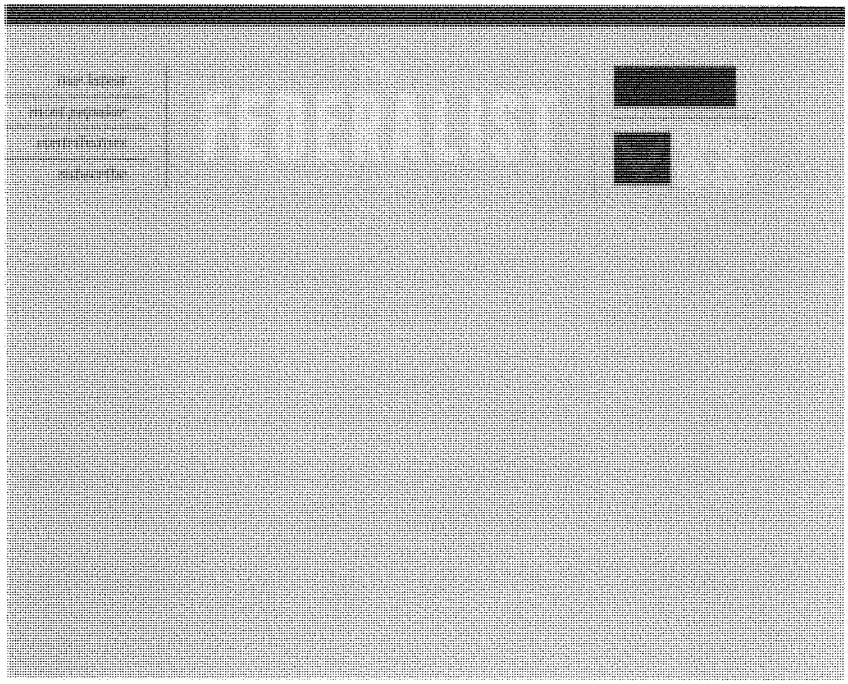


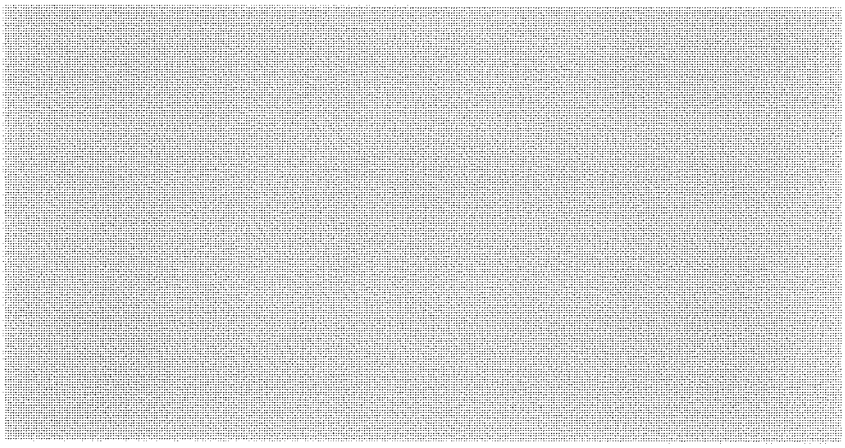
ENVIRONMENTALISM

Signing The Paris Agreement Is The Worst Way To Celebrate Earth Day

What will be labeled a global triumph will in reality likely be a tragedy for rich and poor countries alike, and especially for the poor.

Friday marks the forty-sixth Earth Day, but this year will be different. This year the United Nations has decided to hold an elaborate ceremony to gather the signatures of the countries who endorsed the Paris climate agreement last December. Of the 196 countries that attended the Paris confab, more than 130 countries and 60 heads of state are expected to sign the pact at the UN's headquarters in New York City.

Signing The Paris Agreement Doesn't Celebrate Earth Day



By Kathleen Hartnett White

APRIL 22, 2016

Alarmists will herald Earth Day 2016 as the moment all humanity joined together to save the planet from man-made global warming—also known as human profligacy wrought by high energy consumption, individual liberty, and economic freedom. That a majority of the world's nations would sign an agreement "recognizing that climate change represents an urgent and potentially irreversible threat" requiring an accelerated, "deep reduction" in global greenhouse gas emissions is, indeed, an unprecedented but tragic event in mankind's history.

What will be labeled a global triumph will in reality likely be, if actually implemented, a tragedy for rich and poor countries alike and especially for the poor wherever they reside. The Paris agreement represents the first energy regression in mankind's history. It's a regression imposed by the ruling elites of the world's most prosperous and educated countries, abetted by legions of UN functionaries and their kin in non-governmental organizations (NGOs).

Multiple public opinion polls in developing and developed countries, however, show that action to combat alleged global warming is last on a list of a dozen genuine public priorities such as employment, education, and health.

A Return to Pre-Industrial Days

Accelerating a transition from fossil fuels to renewables means subsidizing and mandating a return to pre-industrial energy scarcity when the energy upon which fundamental human welfare depended was far more expensive but less efficient, versatile, and reliable. The grand delusion of climate policy is the assumption that renewable energies can now supplant fossil fuels and still affordably provide the myriad of services, goods, and food handily provided by the highly concentrated and controllable energy in hydrocarbons. As Google's engineers concluded, renewables are a "false hope."

As Google's engineers concluded, renewables are a 'false hope.'

For decades, the UN's Convention on Climate Change (UNCCC) has unsuccessfully tried to forge a globally binding agreement to curb man-made greenhouse gases. The poorer countries of the world have understandably refused to jeopardize the energy availability necessary to reduce poverty and power economic growth while richer countries have refused to cede sovereignty and shackle their prospering economies with onerous carbon cuts.

The Paris agreement evidently overcame this impasse by making the carbon cuts each country pledges *voluntary*. Yet this change from a binding to a voluntary plan makes the Paris agreement futile if avoiding the wrath of the weather gods is the real goal of the enterprise. The aggregate reduction of greenhouse gas emissions each nation pledges through what the agreement calls "Intentional Nationally Determined Contributions" is not at all enough to avoid the dangerous warming predicted by the reigning science of the Intergovernmental Panel on Climate Change. "Much greater emission reductions will be required," states the agreement, if catastrophic warming is to be averted.

Developing and developed countries finally united to support the agreement because prosperous countries, for the first time, caved to the demands of the poor countries. In the Paris agreement, rich countries agreed to undertake "economy wide absolute emission reduction targets," while poorer countries promised to develop less economically onerous programs for adaptation to climate change.

Developing Countries Get a Free Pass, Others Handicaps

Unlike mandatory carbon cuts enforceable under the rule of law as in the U.S. Environmental Protection Agency's (EPA's) Clean Power Plan, the developing countries' individual pledges to reduce greenhouse gases are conditional. Most developing countries pledged carbon reductions only if such measures do not constrain economic growth.

While EPA rules drive major U.S. coal companies into bankruptcy and destroy thousands of U.S. jobs, China is now building 368 coal plants.

On that note, the likelihood of actual implementation of developing countries" pledges is slim. While the media extols the Paris Agreement as a global agreement to end the era of fossil fuels, more than 2,400 coal-fired power plants are under construction or planned, according to a study by four institutes for climate research. While EPA rules drive major U.S. coal companies into bankruptcy and destroy thousands of U.S. jobs, China is now building 368 coal plants; India has 297 coal plants under construction.

The prosperous countries even acceded to another developing-bloc demand that had long been an insuperable barrier: climate payola from rich to poor countries. The Paris agreement institutionalizes a Green Climate Fund to be financed by annual contributions of $100 billion from developed countries. Given weak economic growth and increasing geopolitical tensions across the world, the likelihood of contributions reaching $100 billion every year is also slim.

It's Not about Climate, But Redistribution

Everybody loses on the path laid out in the Paris agreement, both the rich countries embracing the decarbonizing but awash with energy or those beginning the grand energy transformation without full access to electricity. Man-made energy scarcity will stymie existing economic growth in developed countries and constrain if not preclude economic growth in developing countries.

There is nothing inviolable about fossil fuels. Who knows what energy innovations creative human minds will achieve? At the moment, however, there is no comparable substitute for fossil fuel or the massive, seamlessly operating energy infrastructure built around these rich hydrocarbons across the world.

'One has to free oneself from the illusion that international climate policy is environmental policy. … We redistribute de facto the world's wealth by climate policy.'

The Paris agreement formalizes wealth redistribution on several levels: from rich countries to poor countries and from poor people to rich people. Former UN climate official Ottmar Edenhofer candidly reveals the endgame: "One has to free oneself from the illusion that international climate policy is environmental policy. ... We redistribute de facto the world's wealth by climate policy." Subsidizing and mandating still far more expensive renewables forcibly redistributes the earnings of the poor to the rich elites who can afford higher energy prices.

UN Climate Program chief Christina Figueres admits her program now creates the political and organizational wherewithal to replace the economic system that made modern economic growth possible. As she nonchalantly comments: "This is the first time in the history of mankind that we are setting ourselves the task of intentionally within a defined period of time, to change the economic development model that has been reigning for at least 150 years, since the Industrial Revolution."

If fully executed, the Paris agreement would slow or arrest the still-growing advances of the last century that have extended the average human lifespan and increased per capita income 10 to 20 times over. The Paris agreement may be futile, but this climate chimera is dangerously political and morally offensive.

Kathleen Hartnett White is director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation. White also sits on the editorial board of the Journal of Regulatory Science, the Texas Emission Reduction Advisory Board, and the Texas Water Foundation.

Photo UN Climate Change

China | Climate Change | Cost Policy | developing countries | Earth Day | fossil fuels | Paris Agreement

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The Fracas about Fracking

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by KATHLEEN HARTNETT WHITE *June 30, 2011 5:00 PM*

From the June 20, 2011, issue of NR

A major boom in domestic oil and gas production is under way, brought about by breakthrough refinements of a 1940s technology known as hydraulic fracturing, or "fracking."

Hydraulic fracturing involves pumping water, sand, and some trace chemicals under high pressure into a completed wellbore to create fissures in relatively impermeable geologic formations such as shale. The fissures allow oil or natural gas to flow into the well. The sand props the fissures open, preventing the resealing of pathways. Combined with horizontal drilling at depths of one to more than two miles below the earth's surface, hydraulic fracturing has unlocked vast stores of natural gas.

Fracking is also now widely used in vertical and horizontal drilling in oil reservoirs with low permeability. Conventional oil reservoirs with permeable geologic formations allow oil to flow to the wellbore as a result of natural pressure. But in many wells, as much as 75 percent of the oil and gas may be left in place. Fracking is one of several new ways

to get at the ample resources remaining after natural pressure subsides.

In these ways, human ingenuity, catalyzed by market dynamics, has foiled predictions of irreversible decline in domestic oil and natural-gas resources. Official estimates of the amount of recoverable oil and natural gas have soared. Last year, global natural-gas supplies rose 40 percent. From 2010 to 2011, the U.S. Energy Information Administration (EIA) doubled its estimate of recoverable natural gas in the U.S. The EIA increased its estimate of Texas's natural-gas reserves by 70 percent between 2005 and 2008, and Texas also is doing prolific fracking in oil: Producers now have access to 2 billion barrels in the Wolfberry formation in the Permian Basin. The Eagle Ford fields in South Texas increased oil production fourfold in the first ten months of 2010. And the Haynesville-Bossier fields, straddling Texas's border with Louisiana, increased reserves of natural gas by 9.4 trillion cubic feet while increasing production twelvefold.

The EIA also believes that natural gas in the Marcellus formation of New York, Pennsylvania, and West Virginia contains more BTUs of energy than do the oil reserves of Saudi Arabia. Drilling is well under way in Pennsylvania, where 141,000 new jobs in the "gas patch" have been created in the last few years. New York has declined to accept its energy wealth and instead imposed a de facto moratorium on fracking, pending the completion of an environmental-impact statement — thus deferring the creation of hundreds of thousands of high-paying jobs.

Enormous new oil production is opening up in the Bakken fields of

the Williston Basin, covering the Dakotas and Montana. In 2008, the U.S. Geological Survey estimated that the Bakken contained up to 4 billion barrels of technically recoverable oil. Current estimates range as high as 24 billion barrels.

Oil production made possible by fracking is not now as prodigious as that of natural gas, but this could change, especially if the federal government allows oil-shale development in the Rocky Mountain West, where 70 percent of recoverable oil shale lies beneath federal land. Most of the currently surging oil and gas production is on private land, where federal permission is not required and state governments are supportive.

A rapid increase of domestic supplies of oil and gas at a time of painful gas prices; high-paying new jobs; expansion of thousands of businesses; increased federal, state, and local tax revenues: What's not to like? And the lion's share of the fracking boom has been in natural gas — the so-called bridge fuel to the green-energy economy that President Obama promotes at every turn.

A fierce anti-fracking movement is nonetheless growing. According to its most zealous critics, fracking may even kill you. They claim that the technology may transform the water from your faucet into fire, make your house explode, cause earthquakes, or poison you with toxic chemicals. Just watch the Oscar-nominated documentary film *Gasland*, shown on HBO and sure to join the canon of sensationalist

environmental documentaries of which Al Gore's *An Inconvenient Truth* is the classic.

Gasland is packed with major errors, half-truths, distortions, and exaggerations. The narrator explains that the fracking process "blasts a mixture of water and chemicals 8,000 feet into the ground. The fracking is like a mini-earthquake . . . [with] a mix of over 596 chemicals." This is a serious mischaracterization. The hydraulic fracturing, in fact, creates small fissures with an average thickness of 1 millimeter — as a result not of blasts, but of carefully engineered electric pulses.

As mentioned above, the fracking material is a mix of water, trace chemicals, and sand. Of the fracking fluid, over 99.5 percent is water and sand. Perhaps 0.5 percent is a mix, not of "596 chemicals" but of just a few, such as guar gum, an emulsifier commonly used in ice cream. And remember: These chemicals are diluted in millions of gallons of water.

The list of environmental perils attributed to hydraulic fracturing is long: contamination of drinking water, wastewater pollution of rivers, groundwater depletion, air emissions of toxic pollutants and greenhouse gases, radiation, and even earthquakes. But, with the exception of groundwater depletion, no causal connection between hydraulic fracturing itself and any of these environmental problems has been demonstrated. Faulty well construction, breaches in cemented and heavy-steel-encased wellbores, and accidents could, of course, lead to adverse environmental impacts. But there is no evidence that fracking itself is inherently damaging.

Highly audible critics of fracking have attributed all of the environmental risks noted above to natural-gas production in the Barnett shale area around Dallas–Fort Worth, now the most productive fracking effort in the country. Al Armendariz, the regional administrator of the EPA — an Obama appointee and an environmental activist — has amplified public alarm through his heavy-handed actions against a natural-gas company called Range Resources. Steven Lipsky, a Dallas landowner, complained of natural-gas (methane) contamination of his water wells to state authorities (who have primary regulatory jurisdiction on the matter) and to the nearby regional office of the EPA. State officials already were investigating, but the regional EPA opted to issue a rarely used emergency order of "imminent endangerment" against Range Resources, whose fracking wellbore was 4,000 feet below Lipsky's wells. Most well water comes from groundwater no more than 1,000 feet below the surface. Migration of contaminants from an oil or gas well often over a mile deeper is practically impossible. The Society of Petroleum Engineers estimates that over the last 60 years, more than 1 million oil and gas wells in the U.S. have used hydraulic fracturing. During this time, it has never been connected to groundwater contamination.

At a televised press conference, Armendariz claimed he had to act fast because two houses could explode at any moment. In fact, Lipsky and the owner of the other house had disconnected their drinking-water well from their houses, eliminating any potential that methane in the water might, under pressure in the water pipes, cause explosions in the houses.

Extensive testing proved that the natural gas produced by Range Resources had a different chemical signature than that of the natural gas

in Lipsky's wells, which came from a shallow formation immediately below them. Local water-well drillers and residents testified that there always had been noticeable natural gas in the wells. Texas authorities have fully exonerated Range Resources — but the EPA hasn't. The company is challenging the EPA's action in federal court but remains subject to fines of $16,500 per day.

Worries about some other dangers are equally unfounded. Air emissions from drilling sites have been the most persistent public concern in the Barnett shale area. Studies by the Texas Department of Health and the Texas Commission on Environmental Quality have confirmed that the emissions do not exceed levels protective of human health, but this conclusion has not allayed public fears because one of the pollutants involved is benzene — a widely known carcinogen at certain levels and exposures. In fact, the monitored benzene levels attributed to natural-gas drilling in the Barnett shale are not harmful to human health, but, pressured by state legislators, the usually pragmatic state environmental regulators adopted a 1,000-page rule imposing onerous controls on the drilling sites that would be more appropriate for a large refinery.

The one credible concern is the extremely high volume of water used in the fracking process. Quantities vary, but 2 million gallons per day appears to be an average use. Drawdown of aquifers used for drinking water occurred in the Haynesville shale area in Louisiana, but the problem was resolved by shifting to water sources not used for drinking. Methods are now under development to reduce freshwater use by recycling wastewater after treatment.

The practice of fracking has also been put at risk by recent academic studies. Headlines claim that Duke University researchers "prove[d]" that hydraulic fracturing in Pennsylvania has contaminated domestic water wells with high levels of methane. Even the relatively cautious *Wall Street Journal* reported on May 10 that the study shows that fracking "appears to be allowing potentially explosive methane gas to seep into drinking-water wells." Closer review shows that the study did not reach this conclusion at all. It found a correlation between proximity to drilling activity and higher levels of methane in water wells, but did not attribute this to subsurface migration of natural gas from hydraulic fractures.

The study's primary author, Rob Jackson, concluded that the methane in the water wells tested in the study was far more likely to have come from faulty construction of the natural-gas well than from hydraulic fracturing. A major weakness in the study was its lack of baseline data. What was the level of methane in the wells before hydraulic fracturing? The authors also acknowledged that methane is naturally present in almost every private well used for drinking water, livestock water, and irrigation in the region. Geologists point out that comparatively higher levels of methane are usually found in the soil and groundwater of areas with oil and natural-gas resources.

In deciding on a policy on fracking, we should not wait for a congressionally mandated EPA report on the impacts of hydraulic fracturing on drinking water, due in 2012. A congressional hearing held in May revealed fatal flaws in what was supposed to be a definitive, vigorously peer-reviewed study. For one thing, it will be an inside job from the EPA; the study's review panel excludes anyone with

professional expertise in current industry practices or the technology of hydraulic fracturing. Under the current administration, industry experts, like highly credentialed professors of petroleum engineering, are assumed to be shills for greedy enterprises.

The EPA study has some other serious defects. It will cherry-pick only four wells, out of hundreds of thousands, for full forensic analysis, and it has excluded representatives of state regulatory agencies — which have six decades of experience in regulating this practice, which began in 1948 — from its review panel. Nor do the researchers seem aware of the difference between, on one hand, models of the assumed effects of hydraulic fracturing and, on the other, physical measurements of the results of hundreds of actual fracking treatments. To learn the fundamentals of this issue, the EPA would have to bother to speak with experts on the technology.

The study seems designed to substantiate a predetermined conclusion: that hydraulic fracturing poses grave risks. Therefore the EPA must either assert regulatory control on all drilling using this technology, or issue a "temporary" moratorium — as in the aftermath of the 2010 Gulf spill — until further study is complete. If fracking is delayed or discontinued, massive resources will remain untapped, hundreds of thousands of jobs will not be created, and billions of dollars of potential federal, state, and local tax revenues will be lost.

Risk can be managed and reduced, but never eliminated. Over the last 30 years, the on-shore oil and gas industry has had a sound environmental record. The many risks — more uncertainties than palpable dangers —

attributed to hydraulic fracturing have not occasioned serious environmental harms. But, in only a few years, fracking has allowed recovery of approximately 7 billion barrels of oil and 7 trillion cubic feet of natural gas. Vast stores remain, and almost all new wells will need hydraulic fracturing.

The U.S. has far more energy resources than any other country, yet no other country so limits and blocks access to its own energy supply. The opposition to fracking displays this unfortunate mentality.

— Kathleen Hartnett White is director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation. She previously served, for six years, as chairman of the Texas Commission on Environmental Quality, the second-largest environmental regulatory agency in the world. This article originally appeared in the June 20, 2011, issue of National Review.

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The Ruse of Regulatory Reform

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by KATHLEEN HARTNETT WHITE *February 16, 2011 4:00 AM*

Obama assures business leaders that he feels their pain. They don't believe him.

President Obama's speech to the U.S. Chamber of Commerce last week did anything but signal a rapprochement with America's demoralized private sector. The Chamber has tirelessly assailed the Obama EPA's many new rules, which burden industries with onerous regulations and could cost more than a trillion dollars yearly. Obama's attempts to mollify the organization — chiefly by touting a review of federal regulations that is not likely to bring relief from any of them — fell flat.

Most of the president's speech to the Chamber was typical: He scolded businesses for not being thankful that he had preserved existing tax rates, and berated them for not investing precisely where and how he wanted them to. The only tangible relief he offered was the delay of new EPA greenhouse-gas rules for "biomass" — which affect probably far fewer than 1 percent of private businesses.

This speech to the Chamber was one in a series of what appear to be

carefully designed, symbolic overtures to the private sector — overtures along the not-so-economically-astute lines of "I really like business and I get it that you must have profits." A revealing item in this series is the president's January 18 executive order on "Improving Regulation and Regulatory Review," which ordered the aforementioned review of business regulations. The order begins with the usual rhetoric that that "our regulatory system must protect public health, welfare, safety and the environment while promoting economic growth . . . and job creation" — but it also says the system must use the least burdensome tools and "take into account benefits and costs" to avoid chilling job creation. This language is reminiscent of Ronald Reagan, who first required cost-benefit analysis of proposed rules in 1981. In presenting the order to the public, Obama echoed Reagan even more closely, writing in the *Wall Street Journal* that America's free markets are "the greatest force for prosperity the world has ever known." He directed his agencies to find the "proper balance between free commerce" and necessary regulations.

The order reads as if an ardent champion of limited government wrote it, *except for one glaring caveat.* When calculating costs and benefits, the order instructs, agencies should consider "values that are difficult or impossible to quantify, including equity, human dignity, fairness and distributive impacts." This loophole swallows the entire review. How might the amorphous, politically charged value of "fairness" figure into a debate about a proposed rule for industrial boilers that would cost $1.2 billion and put 798,0000 jobs at risk? The injection of "values" into cost-benefit analyses replaces reasoned analysis with the preferred policy of the executive branch. This is especially true because the order tasks the agencies themselves with conducting the reviews. If Congress will not

redistribute income according to this administration's preferred formula, then "redistributive impacts" evidently can be addressed through agency rulemaking.

Notions of fairness and redistributive impacts already have reared their head in some of EPA's rulemakings of the last two years. In a July 2010 memo, EPA administrator Lisa Jackson issued new regulatory guidance directing EPA to integrate environmental justice "into the fabric of EPA process" so that each EPA action has "a particular focus on disadvantaged or vulnerable groups." Indeed, social justice was part of EPA's justification for the endangerment finding that greenhouse gases are pollutants harmful to human health. Climate change, EPA claimed, will "add further stress to an existing host of social problems in cities" that "accentuate disparities . . . in the American health care system." With this progression from carbon dioxide to inner-city problems to health care, EPA creates a smooth, extra-legal path to unlimited federal jurisdiction, with values as the impetus.

The ruse in the president's "Regulatory Review" is transparent among EPA decisionmakers. Shortly after the president signed his order, EPA expressed confidence that the agency would not need to change any current or pending rules. Because the Clean Air Act requires exclusively health-based regulatory standards independent of cost, EPA can readily claim

that most of its rules are immune to restraints based on economic impact. In addition, much as the Obama administration estimated "jobs created or saved" to defend the stimulus, EPA regularly estimates comically huge macroeconomic "cost savings" from the public-health benefits of its regulations: "In fact, EPA's rules consistently yield billions in cost savings that make them among the most cost-effective in the government."

Although they are regrettably now accepted by the Office of Management and Budget, EPA's methods of estimating the economic benefits of its rules are pitifully vague and speculative. For example, EPA calculates the dollars "saved" from a heightened ozone standard by estimating how much air quality will improve under the new standard, estimating the effects that better air will have on health, and then assigning dollar values to the number of work days and lives "not lost" as a result of the new standards under these estimates.

But their methods of estimation are remarkably flawed. To estimate the effect of air quality on health, EPA collects hospital records from a sample of cities and then counts the number of patient treatments or deaths that can be vaguely tied to pulmonary or cardiological conditions. EPA then conflates causation with murky correlation: It assumes that if these visits and deaths are more prevalent in areas with higher ozone levels, the disparity must be *caused* by the higher ozone levels. Among the glaring flaws in this approach is that EPA assumes people breathe the highest monitored ozone level 24 hours per day. In fact, indoor ozone levels, in which most people live and work, are 90 percent lower than the outdoor values monitored by the EPA.

And sometimes the science EPA relies on undermines its own conclusions. One of the major epidemiological studies that EPA is using to justify the proposed new ozone standard (as low as 60 parts per billion) looked at hospital records in 95 cities over 14 years. Of those 95 cities, only six had both unusually high ozone levels and unusually high premature mortality. Los Angeles, the city with the worst ozone problem, was not among the six. Such flimsy science prompted a former chairman of EPA's Scientific Advisory Committee to testify before Congress that EPA's decision to lower the ozone standard "is a policy judgment based on a flawed and inaccurate presentation of the science that should inform policy decisions."

Meaningful, rigorous cost-benefit analysis of EPA rules could deter environmentally unnecessary and overly burdensome regulation — which is just what Obama claims he's trying to do. The parameters and metrics of such analyses, however, must be objective. The president's formal addition of "values" into the matrix for analysis of cost, benefit, and effectiveness defeats the entire purpose of such an analysis.

— Kathleen Hartnett White was commissioner and chairman of the Texas Commission on Environmental Quality from 2001 to 2007 and is senior fellow and director of the Armstrong Center for Energy and Environment at the Texas Public Policy Foundation.

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For EPA's ozone standard, no cost is too high, no risk too low

BY KATHLEEN HARTNETT WHITE - 10/07/15 06:30 AM EDT

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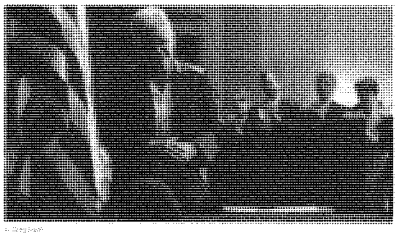

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The Environmental Protection Agency's (EPA) expanding regulatory dominion apparently knows no bounds. The science behind the EPA's current crusade, however, is a statistical house of cards. Although less stringent than anticipated, the new national ambient air quality standard (NAAQS) for ozone, set at 70 parts per billion (ppb), may be the straw that breaks the back of our struggling economy.

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The newly adopted standard, which has been pending since 2011 when the White House yanked back the rule at a cost of $90 billion annually, joins at least 20 other EPA rules of unprecedented scope, stringency and cost promulgated under the Obama administration. Long considered the most burdensome of the EPA's air quality programs, the new ozone standard will substantially add to the burgeoning costs already imposed by the EPA's torrent of rules. The need, however, for a tougher ozone standard is highly questionable.

The impact the agency has on the economy is no longer confined to pricey yet marginal costs of production. In previous administrations, the EPA's big rules carried costs in the several millions — now, it is in the tens of billions. The result of the agency's infeasible demands are business closures and job losses. No longer a meddler but a force, look to the EPA to understand why the economy has stalled at 2 percent growth and labor force participation rate approaches a record low not seen since 1977.

Perhaps worse than increasing the costs of doing business, the rising stack of EPA rules cumulatively smothers the fundamental dynamics of profitable enterprise. The EPA's regulatory regime makes businesses operate more like bureaucracies rather than efficient, creative and productive enterprises. Only massive bureaucracies like the EPA could design such labyrinthine, inefficient systems. Under the EPA's chain mail, business activity must defer to the compliance process. This typically requires spending as much or more time on paperwork than actual compliance with the rule.

The EPA's new ozone standard and the other new dictates come at an odd time in the history of environmental regulation. Although rarely acknowledged, air quality in the U.S. has dramatically improved over the last 30 years while the economy grew by 200 percent. Tailpipe emissions — a major source of ozone precursors — have been reduced by more than 95 percent from 1980 to 2013 while vehicles' miles traveled have increased by 178 percent. Pollutants have fallen across the board. A few of the many examples: Ambient levels of sulfur dioxide declined by 82 percent between 1980 and 2010. Emissions of lead have fallen by 96 percent. Benzene — a well-known carcinogen — has declined by 88 percent.

After air quality improvements of this magnitude, on what basis does the EPA justify the need for all these aggressive rules to protect us from "early death"? The EPA maintains the it reviewed 1,000 scientific studies in determining the ozone NAAQS. Yet the ozone standard ultimately relied on two weak, outdated epidemiological studies and an implausible methodology that imputes health risks at pollutant levels below natural background levels to zero! By use of this methodology, known as "no-safe-threshold" statistical analysis, the EPA

extrapolated health risks four times higher than previously established.

Such no-safe-threshold methodology is also a way to mask the EPA's primary agenda to "end the era of fossil fuels." If the costs of the new ozone standard outweigh the estimated health benefits, the EPA simply conjures some coincidental benefits from reducing other pollutants that might occur while reducing ozone. Such "co-benefits" account for approximately 70 percent of the health benefits that the EPA claims for the new ozone standard.

The EPA maintains that the new ozone NAAQS will reduce the rising incidence of asthma, a widely accepted claim. Yet, even at face value, the EPA's claims about asthma are dubious. Over the last 30 years, while ozone and other pollutants were declining, incidence of asthma has risen 100 percent. So how will further reduction of ozone reduce asthma? Data from Texas hospitals show that asthma-related admissions are much higher in winter than in summer, when ozone levels are the highest. Consider exposure. Ozone levels decline by roughly 90 percent when indoors but the EPA assumes people are exposed to the highest monitored ozone level 24 hours per day — an implausible worst-case scenario.

Our country has demonstrated that robust economic growth and environmental quality are not only compatible, but interdependent. The prosperity achieved in this country has made possible a successful investment in improved air quality under the highly protective terms of the Clean Air Act. The EPA's manipulation of science, however, denies policymakers and the public the information needed to weigh the many trade-offs involved in societal decisions about unacceptable environmental risks.

Protection of air quality is an essential and ongoing responsibility, but the impacts of this EPA's expanding universe have become a substantial but unjustified drag on our economy. EPA action is now killing jobs. Economic impact does matter and it matters to health. Income and employment strongly correlate with human well-being and lifespan.

Several years ago, a National Academy of Sciences review of the EPA's risk assessments concluded that the EPA's science "was on the rocks." Sound science and objective scientists abound. If the EPA was required to utilize more rigorous science, air quality would continue to improve, but at a far lower cost.

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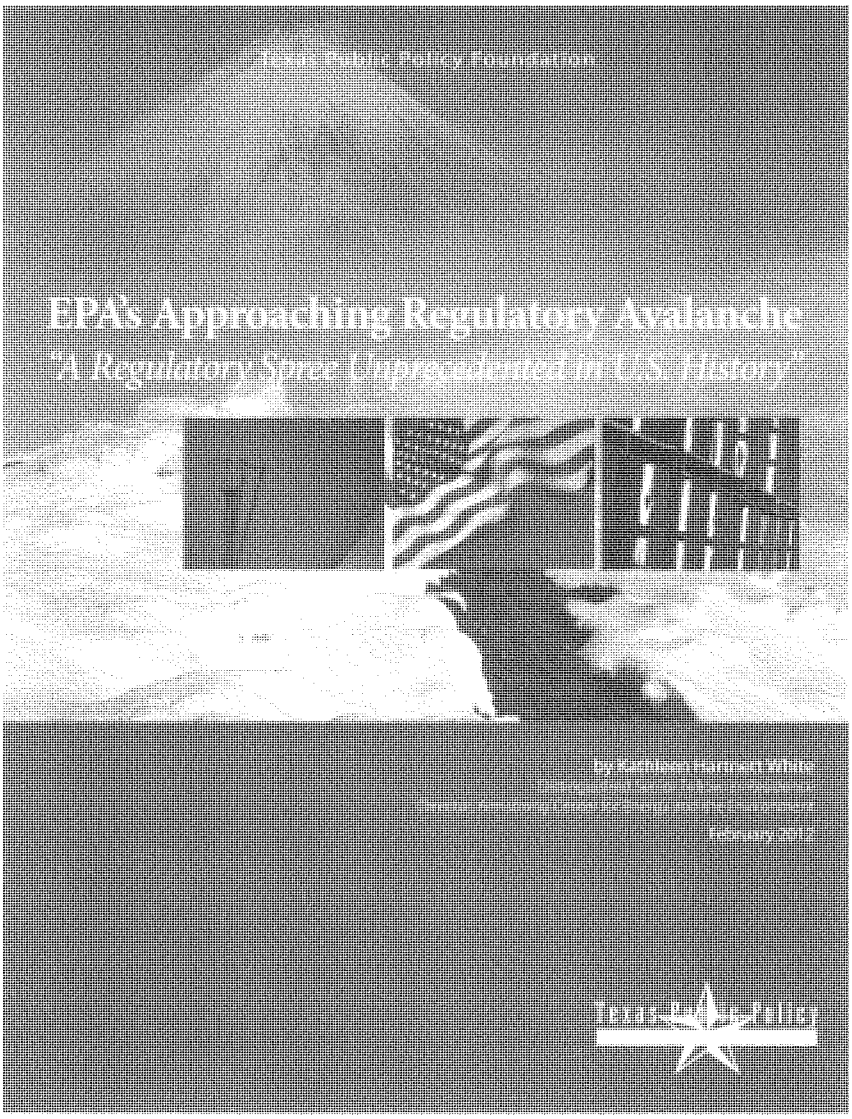
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EPA's Approaching Regulatory Avalanche
"A Regulatory Spree Unprecedented in U.S. History"
By Kathleen Hartnett White
Texas Public Policy

February 2012

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by Kathleen Hartnett White

Table of Contents

Executive Summary 3
EPA's Regulatory Onslaught 4
Ten Mega-Major New EPA Rules 5
SIDEBAR: Where Is FERC? 8
SIDEBAR: Mercury Facts and Figures 9
Conclusion 15
Endnotes 16

EPA's Approaching Regulatory Avalanche
"A Regulatory Spree Unprecedented in U.S. History"

by Kathleen Hartnett White

Executive Summary

The U.S. economy, struggling to find a path back to sustained growth, stands in the cross-hairs of the Environmental Protection Agency's heavy-handed regulatory onslaught. EPA, under the Obama administration, is churning out new rules unprecedented in speed, number, scope, stringency and costs. Yet the new rules have marginal, if indeed measurable at all, health benefits. Nor are they supported by credible science. The National Academy of Science and the EPA's own scientific advisory panels have sharply criticized regulations they see as framed on the basis of weak, manipulated scientific evidence.[1]

For most of its 40-year history, EPA has promulgated regulatory standards in a relatively incremental manner, allowing some balance between environmental goals and economic reality. Huge environmental improvements have followed. Regulation played a role, but market-driven efficiencies and creative technologies drove the dramatic reductions in pollutants. Current EPA Administrator Lisa Jackson, however, irresponsibly enflames public fears with public statements such as "Don't breathe the air. It may kill you."[2] After decades of improvements, air quality is healthier than it has ever been.[3]

Cumulatively, EPA rules scheduled to become effective in the next three years could cost more than $1 trillion and destroy hundreds of thousands of jobs. Four of the rules, directed at electric generation, threaten the fundamental viability of continued coal-fired generation—now the mainstay of the nation's electric power. The Federal Energy Reliability Commission (FERC), the National Electric Reliability Council (NERC), and multiple studies conclude that these four EPA rules risk the involuntary retirement of over 80 gigawatts (GW) of electric capacity by 2015.[4]

The possibility of losing up to 8 percent of the country's current 1,010 GW of electric generating capacity should be a wake-up call as to the magnitude of EPA's regulatory agenda. On EPA's current schedule, there is not sufficient lead time to replace this amount of the nation's electric power supply.

Power outages, higher electric rates, job losses, sharply regressive impacts on families with low or fixed incomes, and the relocation of U.S. industries to foreign countries are highly likely outcomes under EPA's regulatory plan.

The current EPA is misusing the Clean Air Act (CAA)—enacted to protect human health—to force an anti-fossil fuel energy policy repeatedly rejected by Congress. Under cover of the broad law-like authority delegated to EPA in the CAA, the EPA increasingly acts like a fourth branch of government—one unaccountable to the three constitutional branches.[5] By ironic coincidence, innovative technologies now provide access to historically game-changing stores of domestic fossil fuels.

This paper reviews 10 EPA rules now adopted, proposed, or scheduled for proposal:

1. Cross-State Air Pollution Rule (CSAPR);
2. Electric Utility Maximum Available Control Technology Standards for Hazardous Air Pollutants (Utility MACT);
3. Industrial Boiler MACT;
4. Portland Cement Kiln MACT;
5. Cooling Water Intake Structure Rule (CWIS);
6. Coal Combustion Residuals Rule (CCR);
7. Ozone National Ambient Air Quality Standard (NAAQS);
8. Particulate Matter (PM) NAAQS;
9. Greenhouse Gas (GHG) Regulation of Stationary Sources;
10. GHG Regulation of Mobile Sources.

RECOMMENDATION: Reform the CAA to accommodate air quality improvements and to prioritize future challenges, to restore the state's primary authority in air quality management, to restore congressional accountability for major policy decisions now made by EPA, to establish clear, minimal criteria for health-effects science, risk assessment, and regulatory impact analyses, to utilize performance standards, and to establish integrated multi-pollutant strategies.

EPA's Regulatory Onslaught

Never in its 40-year history has EPA simultaneously promulgated so many major environmental rules characterized by converging effective dates, massive compliance costs, and mandates exceeding existing technological controls. Nor has EPA before relied on such speculative, manipulated science to justify this most aggressive regulatory agenda to date.

EPA also has asserted more control over state authorities, particularly in Texas, than in the past. The Agency's bid to force an automatically effective Federal Implementation Plan on Texas in December 2010 was without precedent in EPA history. Furthermore, the final decision-maker of the EPA, Administrator Lisa Jackson, grossly misleads the public. In comments on HBO, Administrator Jackson said, "We are actually at the point in many areas of this country where on a hot summer day, the best advice you can give is don't go outside. Don't breathe the air. It may kill you."[6] This, while EPA's own website documents remarkable, nationwide improvements in air quality.[7]

An assessment of the current EPA's aggressive regulatory agenda must begin with recognition of the remarkably successful record of air quality improvement in the U.S. As EPA itself documents, over the last 40 years, and particularly over the last 20 years, the quality of U.S. air has dramatically increased.[8]

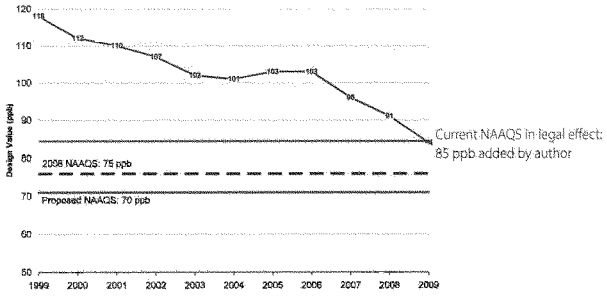
Change in National Average Ambient Levels and Emissions 1980-2008

	Ambient	Emissions
Carbon Monoxide (CO)	-79%	-58%
Ozone (O3)	-25%	-49%
Lead (Pb)	-92%	-96%
Nitrogen Dioxide (NO2)	-46%	-40%
Particulates (PM10)	-31%	-46%
Fine Particulates (PM2.5)	-21%	-36%
Sulfur Dioxide (SO2) 1985-2008	-71%	-56%

Source: Environmental Protection Agency

Since 1970, aggregate emissions of the six criteria pollutants regulated under the CAA have decreased 53 percent. This environmental achievement occurred while the U.S. Gross Domestic Product (GDP) increased over 200 percent. Virtually the entire country has attained the NAAQS for four of the six criteria pollutants. Urban areas in some states continue to exceed the NAAQS for ozone and particulate matter but the levels of exceedance and the number of these non-attainment areas is rapidly falling. In 1997, EPA classified 113 metropolitan areas as non-attainment for ozone. That number has fallen to below 30 areas. Once on the list of the most polluted areas, the huge urban region around Houston, Texas—home of the world's largest petro-chemical industrial complex—attained the federal ozone standard in 2009 and 2010.[9]

Eight-Hour Ozone Design Values for the Houston-Galveston-Brazoria (HGB) Area



Note: 2009 design values based on average of 2007 to 2009 data. Design values are as of November 13, 2009 and are subject to change.
Source: TCEQ Emission Inventory, Air Quality Division, AMDA: 2010

Emissions from cars and trucks, now the predominant source of particulate matter and ozone precursor emissions in most areas have been reduced over 90 percent while vehicles miles traveled increased 165 percent. Ambient concentrations of lead decreased 97 percent between 1976 and 2008, largely a result of eliminating lead in transportation fuels. Hazardous or toxic pollutants have also undergone dramatic reduction. EPA's Toxics Release Inventory documents a 65 percent reduction since 1988. And mercury emissions have declined by 58 percent between 1990 and 2008.

Ten Mega-Major New EPA Rules

This paper reviews ten of the major rules now promulgated by EPA. The first two rules will be covered in more depth because of the magnitude of their near-term impacts. A federal rule is called "major" when compliance cost estimated by the rulemaking agency is $100 million or more per year. All of the EPA rules examined in this paper are major rules involving projected annual costs in the billions of dollars and thus worthy of being called "mega-major" rules.

1. Cross-State Air Pollution Rule (CSAPR)
2. Maximum Available Control Technology (MACT) Standards for Mercury and Hazardous Air Pollutants (NESHAP) from Electric Utilities (Utility MACT)
3. MACT for Industrial Boilers
4. MACT for Portland Cement Kilns
5. Coal Combustion Residual Rule (CCR)
6. Cooling Water Intake Structure Rule (CWIS)
7. National Ambient Air Quality Standard (NAAQS) for Ozone
8. NAAQS for Particulate Matter (PM)
9. GHG Regulation for Stationary Sources
10. GHG Regulation for Mobile Sources

Most of the EPA regulations reviewed in this paper were scheduled for adoption by the end of 2011. EPA has nevertheless delayed several rules as the deadlines approached and federal court has stayed implementation of two rules pending the court's full review on the merits. In a highly unusual move, President Obama announced at the White House his request that EPA delay a new federal standard for ozone until 2013. New standards for industrial boilers were administratively delayed soon after adoption in response to intense opposition from hundreds of congressmen, industries, and a coalition of labor unions. In late November, 2011, EPA announced delay of the first hard-edged emission limits for GHG until 2012. Environmental groups have challenged the legality of these delays in federal court. On December 9, the D.C. Court of Appeals stayed a portion of the rule for Portland cement kilns. Less than 48 hours before the effective date of January 1, 2012, the same federal court enjoined EPA from implementation of CSAPR on December 30, 2011.

Presently, the GHG rules and the Utility MACT have full legal force. CSAPR and EPA's GHG rules are challenged in the courts by 20-30 states. These 10 rules would have convergent effective dates within the 2013-2016 timeframe, with the highest impacts in 2015. EPA has not considered their duplicative requirements or cumulative impacts.

1. Cross-State Air Pollution Rule (CSAPR)

"This rule represents another case where EPA has inadequately rationalized the need for a complex regulatory scheme to solve a non-existent problem," said the chairman of the Texas Commission on Environmental Quality, Brian Shaw, in testimony before the U.S. House Energy and Commerce Committee.[10] The Cross-State Air Pollution Rule (CSAPR), finalized in July 2011, was to become effective on January 1, 2012—less than six months after adoption, in contrast to the normal timetable of two to three years.[11] Under this brief timetable for compliance, CSAPR's aggressive mandates jeopardize electric reliability and would likely lead to power outages in 2012. NERC recently reiterated its finding that EPA rules pose the greatest threat to electric reliability for the next five years.[12]

Public Utility Commissions and regional entities managing electric grids from 10 states claim that CSAPR likely will increase electric rates by 20 percent while leading to rolling blackouts.[13] CSAPR, in combination with the Utility MACT rule, are the two EPA regulations most threatening to the viability of coal-fired electric generation, which presently provide 50 percent of net electric generation in the U.S. Some 20 states have challenged CSAPR in the First Circuit Court of Appeals, Washington, D.C. The court's last hour stay of this rule on December 30, 2011 has, at least temporarily, eased the risk to electric reliability in 2012.

The objective of CSAPR is to reduce the transport of pollutants from "upwind" locations that cross state lines and affect air quality in "downwind" states. Specifically, the rule mandates steep reductions of sulfur dioxide and/or nitrogen oxides in 27 upwind states deemed by EPA's models to adversely affect the downwind states' attainment or maintenance of the federal standards for fine particle matter (PM 2.5) and ozone. EPA considers SO_2 a surrogate for PM. Nitrogen oxides are key precursor emissions in ozone formation. CSAPR has a program to reduce SO_2 and another to reduce NOx. For reasons of brevity, this analysis focuses exclusively on the SO_2.

Since 1980, emissions of SO_2 have declined by 56 percent nationwide, partly as a result of the 20-year EPA program created by Congress to reduce acid-rain and a previous rule to reduce interstate transport of emissions.[14] In CSAPR, EPA now mandates a 20-46 percent reduction in remaining SO_2 emissions within two years. With SO_2 emissions already reduced by more than half through three decades of work, reductions of 20-46 percent within two years are practically unachievable for many coal-fired power plants.[15]

EPA stresses the environmental urgency of this rule intended to help the downwind states attain the federal standards for PM and ozone. Oddly, however, the downwind states targeted in the rule violated the 24-hour fine PM standard less than one-half percent of the time from 2007-2009.[16] In fact, more than 80 percent of the downwind areas that CSAPR considers as now violating (or in risk of violation) the federal standards for ozone or PM already attain the air quality standards in question. EPA, however, still finds risks and calculates the monetized health benefits at emission levels below the federal standards set to protect public health.

At the proposed stage of the rule, EPA did not find that emissions from Texas reached a threshold to trigger impacts on downwind states. At adoption, EPA decided Texas emissions affect just one monitor in Madison County, Illinois. That monitor, however, is in attainment of the relevant federal standard and is projected to maintain the standard under existing regulation! Furthermore, Texas attains the federal standard for the emission in question. Such is the "non-existent problem" created by unrealistic assumptions in EPA's model as identified in Chairman Shaw's testimony.

Originally adopted as the Clean Air Interstate Rule (CAIR) under the Bush administration, the rule was remanded to EPA by a federal court. The original rule (CAIR) to reduce interstate transport of emissions operated as a kind of cap and trade system. In the new CSAPR rule, EPA not only tightened the emission caps but also nominally disallowed trading of the previously banked emission credits, rendering the utilities' billion dollar investments worthless.

Riddled with data errors and unrealistic worst-case assumptions, EPA's complex modeling posits air quality problems that are inconsistent with the actual state of air quality as physically measured at monitors. The multiple errors are concealed in the rule's thousands of pages of numeric codes for individual computer runs of the model. EPA, however, has mandated emission limits with a stringency, and timeline unprecedented in the four decades of the Clean Air Act regulation.

In response to more than 30 petitions for reconsideration of the rule, and to lawsuits from over 20 states to enjoin implementation of CSAPR, EPA proposed to make selective "technical adjustments" to the rule. These adjustments, however, would not carry the full force of law that the adopted language of the rule alone holds. EPA, to date, has refused to reconsider CSAPR or to provide time for a period of new notice and comment for states such as Texas not included in the proposed rule. EPA's technical adjustments do not offer legal assurance, guarantee the proposed flexibility, correct the many data errors in CSAPR or provide sufficient time for compliance. EPA says in so many words: "try to comply with the rule and if you can't, come talk to us; we might work something out." This is a troubling departure from the rule of law.

Many of the large coal-fired power plants impacted by CSAPR have already installed state-of-the-art emission controls. Coal-fired generators have already invested as much as $95 billion to meet EPA requirements.[17] Since 1970, $S0_2$, NOx and PM from coal plants have been reduced by 84 percent per kilowatt-hour.[18]

EPA's assumption that generators can quickly install additional controls, switch to lower sulfur coals, or build natural gas-fired power plants overnight are wholly unrealistic. On September 12, 2011, Luminant, the largest generator in Texas, announced it would idle 1,200 MW of generating capacity, closing three Texas lignite coal mines, and laying-off 500 employees.[19] On June 9, 2011, American Electric Power announced permanent closure of five coal-fired plants and

reduced operations at eight plants, actions affecting seven states.[20] Similar announcements have been made in other states affected by CSAPR and the Utility MACT. EPA claims that the industries are crying wolf. Public disclosure, however, of plans to idle power plants or reduce generation are typically required by state and regional reliability organizations as well as by the Securities Exchange Commission for merchant generators.

EPA apparently believes that power plants designed to burn one kind of coal can readily switch to another kind. Yet Texas power plants that now burn lignite, a coal native to Texas, cannot merely switch. The plants have first to be redesigned, re-permitted, and re-constructed—a process requiring two to four years. And the supply of lower sulfur coals may be limited by increased demand created by the new rules. EPA assumes that Wyoming's Powder River Basin could increase production of low sulfur coal by 40 percent next year and perhaps 100 percent in 2013. On the basis of this and other unrealistic projections, EPA dismisses any threat to electric reliability.

The regulatory record, however, does not support this position. A recent review of the hundreds of thousands of pages in the rule docket revealed a section in the preamble sent to the Office of Management and Budget on February 19, 2011, that stated: "this regulation may detrimentally affect the reliability of the electric grid."[21]

This section was missing in the final version of the proposed rule signed on March 16, 2011. And Administrator Jackson persistently states that EPA "doesn't require shutting down of any plant."[22] Her statement echoes the frequently quoted statements of presidential candidate Barack Obama that his energy policy would not force closure of coal-fired power plants but would make it so expensive to operate the plants that there would be no alternative to closure.[23]

A closer look at EPA's reliability modeling reveals fundamental errors and apparent ignorance of the local and regional constraints in which transmission and the electric grid operate.[24] In modeling impacts in Texas, EPA assumed that the state's 10,000 MW of installed wind capacity would translate to 10,000 MW of actual electric generation. In glaring contrast, the U.S. Department of Energy assigns a generous capacity factor to wind of 25 percent to 30 percent of installed capacity. The Electric Reliability Council of Texas (ERCOT) derates wind to 8.7 percent of capacity because Texas wind is unpredictable and weak during summer's peak demand. EPA calculated the total generating capacity in Texas at roughly 90,000 MW, whereas ERCOT calculates approximately 72,000 MW.

Unlike EPA, both the Federal Energy Reliability Commission (FERC) and the National Electricity Reliability Council (NERC) have voiced concern that CSAPR, in conjunction with other EPA rules aimed at power plants, could lead to rolling black-outs in many states. FERC initially informed Congress that CSAPR and the other rules, could lead to "40 GW of coal-fired generating capacity likely to retire, with another 41 GW 'very likely' to retire."[25] This total 81 GW at risk amounts to 8 percent of the nation's installed generating capacity and 25 percent of the coal-fired fleet. A NERC study in 2010 reached a comparative, if somewhat more modest, conclusion.[26] In Fall 2011, NERC identified EPA regulation as the greatest threat to electric reliability over the next five years.[27]

The operators of regional electric grids are well placed to evaluate the real-world impacts of EPA's regulatory control of electric generation. Such entities as the Southern Power Pool (SPP) and ERCOT conclude that compliance with CSAPR could cause cascading outages and rolling black-outs within a year. Reliability modeling conducted by SPP found up to 11 GW of electric generation within SPP's footprint would be unavailable. "In those cases, SPP cannot be compliant with NERC's planning standards without placing its generation owners in violation of EPA standards," wrote SPP.[28]

ERCOT, the operator of Texas' electric grid, which carries 85 percent of the state's electric load, found that under the mandates of CSAPR, ERCOT could incur a reduction in generation capacity of up to 3,000 MW in the spring, 1400 MW in the summer peak load months and 5,000 MW during the fall. "The implementation timeline," noted the ERCOT study, provides ERCOT an extremely truncated period in which to assess the reliability impacts of the rule and no realistic opportunity to take steps that could even partially mitigate the substantial losses of available operating capacity. "It is clear that had the EPA rules been in effect [during the record hot temperatures in the summer of 2011] Texans would have experienced rolling outages and the risk of massive load curtailment."[29]

Where is FERC?

As concern grows that EPA's new rules could jettison 8 to 10 percent of the nation's electric capacity, regional power entities, utility commissions, and state governments have looked to FERC as the federal authority with the primary responsibility of ensuring an adequate, reliable, and accessible supply of electricity.

FERC Chairman Jon Wellinhoff initially concurred with FERC's Office of Electric Reliability that it is "very likely" or "likely" that 8 percent (or 81 gigawatts) would be "involuntarily" retired over the next few years under EPA's new regulations.[30] Chairman Wellinhoff has since discounted this staff assessment as an incomplete, informal analysis. He now contends that FERC is not obliged to analyze the impacts on reliability before EPA's rules are implemented.

Memos from FERC staff obtained by Senator Lisa Murkowski (R-AK), ranking member of the Environment and Public Works Committee, reveal concern among FERC staff about the fundamental flaws in EPA's reliability modeling. Yet Chairman Wellinhoff says FERC will not interfere with EPA's rulemaking but will act to protect reliability if problems occur.[31]

FERC Commissioner Phillip Moeller disagrees with Chairman Wellinhof's conclusion and held a technical conference on December 9, 2011 about the EPA rules' risk to electric reliability.[32]

EPA estimates the annual cost of compliance with CSAPR at $7 billion. EPA's speculative estimate of monetized health benefits, based on "statistical lives and work days" not lost, is $111 billion to $294 billion annually. EPA's claims that CSAPR annually will prevent 34,000 deaths, 15,000 non-fatal heart attacks and 400,000 cases of aggravated asthma are unsupportable and implausible. There is not one dot of empirical evidence supporting these billion-dollar health benefits and thousands of saved lives. Federal regulation which imposes annual compliance costs of $7 billion, risks power outages, and threatens thousands of jobs merits justification far more rigorous than EPA now offers.

Congress, in multiple hearings during 2011, took note of EPA's exaggerated claims. EPA arrives at such staggering financial benefits by assuming that emergency room visits (morbidity) or hospital deaths (premature mortality) related to pulmonary and cardiological conditions were *caused* by the current or speculatively predicted future level of the pollutant in question. EPA then assigns a dollar figure to the value of the work days or lives lost and asserts that the regulation will prevent this loss in the future. A death certificate from a hospital noting cause of death as heart failure—without any medical records or patient history—has no meaningful connection to ambient levels of particulate matter or ozone. EPA also double or triple counts the same hospital visits or deaths by using the same data in cost-benefit analyses for different pollutants.[33]

A former faculty member of the Harvard School of Public Health testified to Congress that indoor levels of PM can be far higher than outdoor levels.[34] And while childhood asthma has sharply increased in recent times, air quality has dramatically increased.[35] The issue has become highly polarized. EPA Administrator Jackson claims that a stricter standard for PM would be more valuable for human health than a cure for cancer! EPA's saved lives are statistical fictions with no accompanying demonstration that PM has ever caused a single death.

Nationally accredited scientific bodies, medical experts and toxicologists increasingly question the credibility of EPA's grandiose declarations about health benefits. The National Academy of Sciences (NAS), the National Research Council, EPA's scientific advisory bodies, and a growing number of experts now harshly criticize EPA's misuse of science. Dr. Thomas Burke of the Bloomberg School of Puhlic Heath at John Hopkins University and Chairman of a recent NAS review of EPA's chemical risk assessments stated, "EPA's science is on the rocks … if you fail, you become irrelevant and that is kind of a crisis."[36]

2. *Electric Utility Maximum Achievable Control Technology Standards for Mercury and Hazardous Pollutants (NESHAP) (Utility MACT)*

On December 21, 2011, EPA adopted a more than 1,000 page regulation to reduce mercury (Hg) emissions from Electric Generating Units (EGU's) by 91 percent and to control a wide range of metals and gases listed as hazardous air pollutants (HAPs).[37] The Utility MACT carries far higher costs and risks to the country's electric power supply than the other new EPA rules. The value of this rule to human health is highly questionable. Since 1990, mercury emissions associated with electric generation in the U.S. declined by 60 percent. Emission controls required for the six criteria pollutants under the NAAQS coincidentally reduce emissions of mercury and many hazardous air pollutants to be regulated under the Utility MACT.

EPA acknowledges that the Utility MACT is the agency's most expensive rule to date, admitting at the same time that benefits of controlling mercury in this rule are marginal to non-detectable. The agency finds that direct reduction of mercury accounts for only $6 million—just 0.004 percent —of EPA's estimated $140 billion in health benefits.[38] EPA attributes the remaining 99.996 percent of benefits to co-incidental reduction of fine particulate matter (PM2.5)—already regulated for 15 years as a criteria pollutant under the NAAQS and a questionable surrogate for reducing the health risks associated with mercury.

The most expensive rule in EPA's history not only lacks measurable health benefits but threatens the continued viability of coal—the energy source that now provides 50 percent of net electric generation in the U.S. and thousands of jobs.

EPA openly justifies the rule on the basis of an absolutist version of the precautionary principle. As EPA stated in the preamble to the proposed rule, "[W]e may determine it is necessary to regulate under section 122 even if we are uncertain whether [the rule] will address the identified hazards. ... We believe it is reasonable *to err on the side of regulation* of such highly toxic pollutants in the face of such uncertainty."[39] (emphasis added)

The Center for Disease Control's (CDC) National Health and Nutrition Examination Survey actively monitors evidence of mercury exposure. The CDC's current study shows that from 1999-2008, blood mercury levels steadily decreased to an average level now well below EPA's extremely conservative safe limit known in toxicology as the "reference dose."[40] EPA, however, used outdated information from the previous CDC survey in 2000 to exaggerate the current risk to exposure. EPA's statements to the contrary seriously mislead the public.[41] A well-known neurotoxin at certain levels, mercury can retard brain development of children and in vitro.

Mercury Facts and Figures

Atmospheric deposition of mercury is a global phenomenon to which emissions from U.S. power plants contribute less than 1 percent. Of mercury present in the ambient air covering the U.S., only 0.5 percent derives from coal-fired plants. And natural sources of mercury dwarf man-made sources. Volcanoes, sub-sea vents, geysers, and other sources release 9,000 to 10,000 tons per year. And 60 percent of the mercury associated with U.S. power generation is non-soluble elemental mercury that enters the global atmosphere instead of forming methyl mercury in water bodies. Today coal-fired plants annually emit roughly 30 tons of mercury while Chinese plants annually emit approximately 400 tons.

Human exposure to mercury typically occurs through consumption of fish tissue in which mercury has accumulated after airborne elemental (or oxidized) mercury (from natural or man-made sources) enters water bodies and becomes methyl mercury. And although methyl mercury is a well-known neuro-toxin that at certain levels of exposure can affect brain development, the comparatively low levels of mercury emitted from U.S. power plants alone would have virtually no effect on human health in this country.

The stringent emission limits in the Utility MACT are based upon a standard (called a reference dose) of EPA's own devising—a standard of risk that is two to three times more restrictive than those of the leading national and world health organizations. EPA's mercury limits dismiss the toxicological studies on which the World Health Organization, the U.S. Agency for Toxic Substances and Disease Registry, and the U.S. Food and Drug Administration have established a safe limit for mercury.

EPA bases its exceptionally low reference dose on a single study in the Faroe Islands, located in the North Atlantic Ocean, halfway between Iceland and Scotland.[43] The small island population studied eats pilot whale meat and blubber that contains mercury and other toxic chemicals. EPA, then, established a mercury limit that is 10 times lower than the subtle health-effects level found in the Faroe Island study. This diet, and thus this study, is irrelevant as a measure of the exposure risks to the U.S. population.

After major studies in 1998 and 2005, EPA concluded that the levels of non-mercury hazardous air pollutants from power plants did "not pose hazards to human health" and thus direct regulation was not warranted. And these studies included projections of hazardous pollutant levels in 2010 (wrongly) assuming far more coal-fired power plants than in fact came on line.

The emission controls now in place to reduce criteria pollutants such as ozone, particulate matter, and sulfur dioxide also reduce mercury and HAPs. The baghouses and electrostatic precipitators, already installed on many EGUs, have a removal efficiency of 99 percent.

EPA estimates that compliance with the Utility MACT rule will annually cost approximately $11 billion. Edison Electric Institute estimates compliance costs approaching $100 billion. Generators of coal-fired electricity have invested as much as $95 billion through 2010 to meet current regulation under the CAA.[44] Such investment has decreased emissions of the three major criteria pollutants (sulfur dioxide, nitrogen oxides, and particulate matter) by 84 percent per kilowatt hour.

The costs of the Utility MACT rule extend much farther than the regulated entities. A study by the National Economic Research Association (NERA) found that average retail electric rates could increase by 12 to 24 percent accompanied by annual job losses of 180,000 between 2013 and 2020.[45] The Utility MACT will impact approximately 1,300 electric generating units and require a wide range of extremely expensive control technologies—if compliance is achievable at some electric generating units. Full compliance with this rule is statutorily required within three years of adoption. This time frame is inadequate for completion of upgrades affecting over 1,000 generating units.

NERC conservatively estimates this rule could force premature retirement of 15 GW of U.S. generating capacity—more than under any of the other train wreck rules.[46] NERA Economic Consulting and others recently estimated that the Utility MACT rule, in conjunction with CSAPR, will force involuntary retirement of up to 48 GW of coal units.[47]

In comments submitted to EPA, the Texas Commission on Environmental Quality (TCEQ) notes that the Utility MACT rule is unlawfully using the CAA as a "mechanism to drive national energy policy."[48] Under the CAA, emission limits must be technologically feasible. TCEQ concludes that "the proposed rule is not technologically feasible for coal-fired units. Based on the current state of technology, the TCEQ anticipates that no new coal-fired EGU's will be built in the country if the EPA adopts the rule as proposed and that many existing coal-fired EGUs will be shut down."[49]

3. *Maximum Achievable Control Technology (MACT) for Industrial Boilers (Utility MACT)*[50]

The four inter-related rules under this heading could lead to the highest job loss among all EPA's current rulemakings.[51] The original proposed rule covered approximately 200,000 boilers. As adopted in February 2011 with minor cost-saving modifications, the regulation imposed the maximally stringent emission limits and monitoring requirements on a range of potentially hazardous air pollutants from 13,800 boilers and heaters widely used by industries, manufacturers, mining, and refining, as well as from some commercial boilers in malls, laundries, apartments, restaurants, hotels, hospitals, and universities.[52]

In response to opposition from hundreds of congressional members, industry and organized labor, EPA again narrowed the scope of the new rule to cover only the ap-

proximately 13,000 largest boilers. EPA estimates the cost of compliance with the final rule at $3.8 billion. By contrast, the Council on Industrial Boilers puts the cost at over $14 billion, with potential loss of 230,000 jobs across 26 sectors.[53]

In contrast with emission controls based on Best Available Commercial Technology—understood as well-established and commercially used technology—the new EPA rule dictates Rolls Royce-like technology supposedly based on the "best performing" units in existence. Yet many of the businesses identified as the "best performing" claim the emission limits—set at barely detectable levels—are not achievable. The United Steel Workers and other unions claim the rule could send 700,000 current U.S. jobs to other countries. The pulp and paper industry contends that this rule will force closure of 30 mills and end 17,000 U.S. jobs.[54]

After final issuance of the rule, pressure from Congress and organized labor increased. EPA accepted a petition for reconsideration of the rule. In early December 2011, EPA proposed a new version of the rule further narrowing the scope of the new standards to the largest 5,500 industrial boilers. EPA estimates the cost at $2.3 billion.[55]

4. Portland Cement Kiln Maximum Achievable Control Technology (MACT) Standards

The U.S.' economically essential cement industry competes with low-cost cement from China, produced with far fewer, if any, environmental restraints. Finalized in September 2010, EPA's harsh new dictates would bind 165 of the 181 Portland cement kilns operating in the U.S.[56] Many in the cement industry argue that no cement kiln in the U.S. has ever actually achieved the level of control EPA now mandates as MACT.[57] Weaknesses in EPA's justification of the Utility MACT equally apply to these MACT standards for industrial boilers and cement kilns.

The Portland Cement Association finds that, under the new rule, up to 18 plants may close, causing Chinese cement imports to increase from a current 20 million tons to 48 million. Even EPA admits the rule will decrease U.S. cement production by 8 to 15 percent.[58] This is an example of an EPA regulation that may not only cost many American workers their jobs, but which will actually be worse for the global environment in the long run, by moving industrial production to the countries without strictly enforced emission controls.

On December 9, 2011, the D.C. Circuit Court of Appeals stayed a portion of the new regulation.[59] The cement kiln rules are the first of the cluster of new EPA rules to be reviewed on the merits by the federal courts. The court found EPA's failure to give adequate notice to the cement manufacturers was an "arbitrary and capricious" violation of the Administrative Procedures Act governing federal rulemaking. As the court noted in overturning the cement rule, "reasonable decision-making is not a dispensable part of the administrative machine that can be blithely discarded even in pursuit of a laudable goal. EPA badly needs to be reminded of this fact."[60]

5. Power Plant Cooling Water Intake Structure (CWIS) Rule

Many coal, nuclear, oil, and gas steam power plants use cooling systems that withdraw surface water to condense steam, allow cooling in holding ponds, and then return the water to the river or stream. EPA plans to require far costlier closed-cycle technology such as cooling towers for all steam-generating power plants to replace the cooling ponds and other site-specific facilities now authorized by state agencies.[61] EPA's new one-size-fits-all performance standards may cost an estimated $64 billion, affect 444 plants (30 percent of the existing U.S. electric generating capacity), and reduce net generation up to 4 percent. The new requirements would force major retrofits of those 444 plants.[62]

There are no human health impacts involved. Acting under the Clean Water Act, EPA's concern is "impingement" mortality of fish and "entrainment" of their eggs and larvae, reduction of which, according to EPA's dictated methods, may cost $64 billion and jeopardize electric reliability. An offer by the electric power industries to replenish fish numbers fell upon deaf ears at EPA. Adoption of this rule is anticipated in the spring of 2012.

6. Coal Combustion Residual Rule

This rule covers fly ash, bottom ash, boiler slag and synthetic gypsum—all valuable residuals after coal combustion. EPA proposed a rule in June 2010 but has not yet decided whether the fly ash remaining after coal-fired generation should

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continue to be recycled as a commercially valuable material in cement, road surfacing, and dry wall or whether EPA should mandate disposal as a solid or hazardous waste.[63]

Estimated compliance costs in the event of a solid waste classification are about $43 billion; in the case of a hazardous waste classification, more than $80 billion. These costs do not reflect the lost revenue from sale of the residuals, a recycling that reduces electric rates, and the purchase price of road and building materials. EPA has scheduled adoption of this rule in July 2012.

7. New National Ambient Air Quality Standard for Ozone[64]

To date, regulatory obligations to meet the federal ozone standards have affected more states and cost businesses, states, and local governments far more than any other EPA regulatory program. No sooner do states near compliance with one standard than EPA strengthens the standard. Under a White House directive to revisit rules adopted by the George W. Bush administration, EPA proposed a new ozone standard in January 2010, reversing the standard adopted less than two years earlier by reinterpreting existing data.[65]

After multiple delays, EPA sent the final ozone rule package to the Office of Management and Budget (OMB) for final review in the summer of 2011. Adoption of the rule was anticipated in late August 2011. On September 2, 2011, President Obama, against general expectations, asked EPA to withdraw the pending ozone standard until 2013—the year after the presidential election.[66]

EPA later stated that the agency would begin implementation of the 75 parts per billion (ppb) ozone standard adopted in 2008 under the Bush administration that was never implemented. The legal authority for EPA's withdrawal of the proposed standard after the final rule was sent to OMB is questionable. Environmental organizations now challenge in federal court EPA's withdrawal of the standard.

Many states, business associations, industries and a coalition called Unions for Jobs and the Environment commented that the proposed standard "would lead to significant job losses during a period of high unemployment." EPA estimated the implementation costs of the proposed standard at $90 billion.[67]

Many toxicologists and physicians challenge EPA's scientific justification for an ozone standard lower than the current 85 ppb.[68] As with the Utility MACT and other new regulations, EPA relies on inconsistent, cherry-picked, and vague epidemiological studies and on a reinterpretation of a clinical trial to justify tightening the ozone standard. Dr. Roger McClellan, former chairman of EPA's Clean Air Scientific Advisory Committee (CASAC), testified before Congress that lowering the standard below 85 ppb "is a policy judgment based on a flawed and inaccurate presentation of the science that should inform policy decision."[69]

According to the Congressional Research Service, EPA's current proposal for a standard as low as 60-70 ppb would increase the number of federally shackled non-attainment counties from currently 85 to as many as 650 (out of 3,000 American counties).[70] A federal ozone standard as low as 60 ppb could mean as many as 12 non-attainment areas in Texas. Yet states lack the legal authority to control the remaining emissions driving ozone formation from mobile sources such cars, trucks, and construction equipment. After imposing strict controls on stationary industrial sources of ozone emissions, it is the mobile—not industrial—sources that now predominate. Regulation of mobile sources through engine and fuel standards is a federally preempted power. EPA needs to accept responsibility for the mobile source emissions that are beyond state control.

After EPA adopts a new ozone standard, the agency designates certain counties—and more often entire Metropolitan Statistical Areas (MSAs)—as being in attainment or non-attainment of the standard. A federal ozone *non-attainment* designation shackles economic growth by establishing a ceiling on otherwise natural economic growth

by imposing a cap on ozone precursor emissions. These precursors are nitrogen oxides and volatile organic compounds—emissions resulting from combustion of fossil fuels.

The CAA requires that states develop and implement federally enforceable State Implementation Plans (SIPs) to attain the NAAQS. On pain of sanctions to the states—loss of highway funds, a freeze on road construction, or revocation of state authority through imposition of a Federal Implementation Plan (FIP)—EPA must approve the SIPs. EPA also uses its authority over SIPs to control any state program or regulation remotely connected to air quality. In late December 2009, EPA issued an automatically effective FIP on Texas because the Texas Commission on Environmental Quality refused to regulate GHG under what the state considered were EPA's unlawful terms and timetable. Promulgated as an "Interim Final Rule," without a process for notice and comment as required by the CAA, this automatic FIP is the first in EPA history.[71]

Continually expanded by EPA, the SIP process has become an expensive and administratively formidable burden on states, without much corresponding benefit in air quality. A 2004 study by the National Research Council concluded that the complexity of the SIP process is counter-productive. "The process now mandates extensive amounts of time and resources in a legalistic, often frustrating proposal and review process which focuses primarily on compliance with intermediate process steps. This process probably discourages innovation and experimentation at the state and local levels; overtaxes the limited financial and human resources available ... and draws resources away from the more germane issue of ensuring progress towards the goal of meeting the NAAQS."[72]

8. New Particulate Matter 2.5 (PM) NAAQS[73]

EPA may propose a new particulate matter (PM) standard that is twice as strict as the current standard. As the chief toxicologist for the TCEQ testified to the U.S. Congress: "There is no scientific basis for supporting a reduction of the current standard, let alone a two-fold reduction."[74]

EPA used a single study epidemiological study which "suggested" that exposure to PM at levels lower than the current standard had adverse health effects. EPA then assumes that PM levels below the current standard "caused" the health effects. EPA discounted or entirely disregarded the many other toxicological or clinical studies that found the current standard to be protective of human health.[75]

EPA calculates enormous benefits from stricter PM standards. EPA Administrator Lisa Jackson went so far as to claim that a new PM standard would "be more valuable than a cure for cancer."[76] In the last several years, U.S. deaths attributed to cancer have exceeded 500,000 per year. When asked by Congress to verify such a claim was based, Jackson said the data were not publicly available. Congress has since begun a series of hearings to question EPA about the science on which it relies to establish human health risks and to receive recommendations to reform EPA science. Since 2009, EPA has vastly magnified the level of health risks it correlates with lower and lower levels of pollutants. EPA has begun to calculate risks even below the background levels of pollutants, particularly for fine PM. This approach of assigning risk from ambient exposures way below the safe range established in the NAAQS is not credible.[77]

Significant controversy concerns whether EPA will regulate country dust—now called "coarse particulate matter"—under the new standard. Is this one infinitely wealthy country or what? EPA has long regulated PM 10 (particles of 10 microns or less) as a criteria pollutant but exempted country dust until a standard change in 2006 that also included a standard for fine particulate matter (particles of 2.5 microns or less). It looks as though public health soon will require the paving or watering every country road in the United States. EPA's rules for Portland Cement and fly ash will make that pavement much more expensive.

9. Greenhouse Gas Regulation under the Clean Air Act (CAA)-Stationary Sources

EPA's Endangerment Finding in December 2009 that GHG is harmful to human health and thus within the legal jurisdiction of the CAA triggers an unprecedented expansion of federal regulatory power.[78] Congress has repeatedly declined to pass law authorizing mandatory reduction of GHG.

EPA began regulation of GHG under the CAA last January 2011 after rushing six successive rules over the finish line within a year. To assert regulation of GHG so quickly,

EPA ran roughshod over basic restraints of the Administrative Procedures Act and rewrote the black letter language of the CAA. Because EPA concluded that regulation of GHG under the CAA would be absurd—increasing a current permitting universe of 14,700 to 6.1 million and adding $21 billion and 230,000 new employees in administrative costs—EPA "tailored" the applicability of law to narrow the scope.[79] EPA's Tailoring Rule triggers regulation only of large stationary sources like power plants and heavy industries annually emitting more than 100,000 tons of carbon dioxide equivalent. Current law mandates regulation of sources annually emitting more than 100 tons of traditional pollutants.

EPA didn't bother to estimate the costs involved because the agency deemed its "tailoring" to be a "deregulatory" action. These initial rules for the largest sources are only "Phase I" of what the relevant science dictates would ultimately be mandatory reduction of 80 to 85 percent of carbon dioxide—a level not seen since the late 1890s. If the federal court overturns EPA's Tailoring Rule and upholds the Endangerment Finding, EPA will have no choice hut to regulate those 6 million sources to include retail stores, hotels, hospitals, and large residences. The House of Representatives passed legislation blocking EPA regulation of GHG under the CAA, but the Senate is not so inclined. At least 25 states have already challenged the regulations in federal court.

Apparently to mute controversy, EPA designed the initial phase of GHG regulation to require relatively modest measures for energy efficiency based on Best Available Technology (BACT). EPA, however, retains the authority to dictate requirements on a case by case basis.[80] This includes forcing a fuel switching from, for example, coal to natural gas. This perspective conflicts with EPA's 40-year implementation of the CAA's directive to regulate the specific process selected by the private party according to the BACT.

The current EPA's regulatory method is tantamount to economic engineering—using CAA authority to protect public health in order to dictate the means of production. Although EPA has begun regulation of GHG with a light hand, it may soon be forced by the courts to up the regulatory ante with specific emission limits known as New Source Performance Standards (NSPS).

EPA's assertion of regulatory authority over GHG under the CAA generates regulatory uncertainty that is already chilling investment and job creation. The American Council of Capital Formation has estimated that for 2011 this first phase of EPA's GHG regulation would decrease business investment between $97 billion and $290 billion.[81] Much of that capital investment—and the jobs associated with it—will now move to countries without comparable environmental constraints.

10. Green House Gas Emission under the Clean Air Act—Mobile Sources

In November 2011, EPA issued GHG emission standards for passenger cars and light trucks for model years 2017-2025.[82] The standards are designed as a "corporate average fuel economy (CAFE) standard" or fleet average for each automaker. These emission limits are tantamount to fuel economy standards, because reducing the amount of fuel consumed is the only way to reduce CO_2—that which remains after complete combustion of the transportation fuel.

Set at an average of 54.5 miles per gallon (mpg) by 2025, EPA's new tailpipe standard is twice as strict as the 27 mpg standard currently in effect. This new standard follows the first GHG standard issued in May 2010 for model years 2012-2017.

For 35 years, Congress, not a regulatory agency, has legislated specific fuel economy standards through a CAFE program and tasked the National Highway Traffic Safety Administration (NHTSA) with implementing the standard.[83] In 2007, Congress increased the CAFE standard to 35 mpg by 2020. Congress directed NHTSA to balance vehicle safety, consumer demand, and economic impacts with fuel economy in the CAFE program.

EPA issued the new GHG standards for vehicles in conjunction with NHTSA, but EPA apparently dominated the process, giving no consideration to safety, consumer preference, technological limits, or cost.

EPA calculates the cost of the GHG fuel standards at $157 billion, but this amount covers only the automakers' investment in developing new technology. This industry, already

struggling to meet the 35 mpg standard, predicts that EPA's new standard will increase the cost of a vehicle by $3,100 in 2025. Today's lower-priced vehicles may be priced out of existence. And safety will be compromised by the necessity of reducing the mass of a car by 15 to 25 percent.

The Obama administration's confidence that hybrids and electric vehicles will make compliance with a CAFE standard as high as 54.5 mpg readily achievable is increasingly dubious. The sale of hybrid vehicles reached a high point of 3 percent of new sales in 2008 and has been steadily declining. The outlook for increasing sales of electric vehicles is similarly grim.

Conclusion

Congress should reclaim its constitutional authority to control EPA's implementation of the CAA and return to the states the primary authority to implement the law. Under this now 40-year old statute, EPA keeps finding discretionary latitude to expand regulatory scope and to impose infeasible standards on the basis of weak science, with fewer legitimately measurable benefits for human health. In the CAA and other federal environmental laws, Congress delegated broad law-making authority to EPA.

Under the current administration, EPA is stretching that broad authority to drive an energy policy repeatedly rejected by Congress. Regulatory impacts of the magnitude likely under EPA's agenda—compliance costs in the billions, loss of coal-fired electric generation threatening the sufficiency of the nation's bulk power supply and job loss in the hundreds of thousands—are ultimately policy choices, certainly not purely scientific decisions. The elected members of Congress, not unelected federal employees at EPA, should make these momentous decisions. Federal legislation passed by the U.S. House of Representatives in the fall of 2011 offers a simple but game-changing means of restoring congressional accountability within the federal system. The Regulations from the Executive in Need of Scrutiny Act (REINS Act) requires that a major rule of the executive agencies "shall have no force or effect unless a joint resolution [of approval] is enacted into law."[84]

Regulatory impacts of the magnitude likely under EPA's agenda—compliance costs in the billions, loss of coal-fired electric generation threatening the sufficiency of the nation's bulk power supply and job loss in the hundreds of thousands—are ultimately policy choices, certainly not purely scientific decisions.

The CAA also could be strategically amended to establish more rigorous scientific standards and regulatory impact analyses, to utilize performance standards, to require multi-pollutant regulatory coordination, and to reaffirm the CAA's original federalist structure.[85] The CAA clearly stipulates that EPA will set national environmental standards and that the states will make the decisions on how to implement and attain the standards. This division of authority has eroded over the years and in the last 24 months discarded. EPA treats states as regional offices of the federal government.[86] The states' primary authority to manage air quality needs to be restored and strengthened.

EPA's multi-pronged regulatory assault is too much, too fast and lacks sufficiently robust science and measurable benefits to justify this "regulatory spree unprecedented in U.S. history."[87] ✯

Endnotes

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About the Author

Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2008. She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and disposal of waste, TCEQ's staff of 3,000, annual budget of over $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She is now serving in her fifth gubernatorial appointment as an officer and director of the Lower Colorado River Authority.

White is also co-owner of White Herefords and a partner with her husband in a 125 year-old ranching operation in Jeff Davis and Presidio counties. She also is Vice-Chairman of the Texas Water Foundation and sits on the board of the Texas Natural Resource Foundation. She recently received the 2007 Texas Water Conservation Association's President's award, the Colorado River Foundation's Friend of the River Award and the Texas Chemical Council's Leadership Award.

A writer and consultant on environmental laws, free market natural resource policy, private property rights, and ranching history, White received her bachelor cum laude and master degrees from Stanford University where for three years she held the Elizabeth Wheeler Lyman Scholarship for an Outstanding Woman in the Humanities. She was also awarded a Danforth National Fellowship for doctoral work at Princeton University in Comparative Religion and there won the Jonathan Edwards Award for Academic Excellence. She also studied law under a Lineberry Foundation Fellowship at Tech University.

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The nation's most powerful regulatory agency, the Environmental Protection Agency, is on a collision course with America's still-fragile economic recovery. As I outline in a report published Monday by the Texas Public Policy Foundation, 10 to 25 major EPA rules are scheduled to take effect over the next few years, each with a multibillion-dollar price tag and highly debatable benefits for public health.

In 2010, EPA regulations accounted for $23 billion of the estimated $26 billion total cost of new federal regulation. Expect a far higher tab from this new batch.

Consider the mercury rule restricting emissions from power plants, finalized last Dec. 21. At $11 billion, the rule is the EPA's most expensive ever.

An independent analysis by the National Economic Research Association found that the rule could increase average retail electric rates between 12 and 24 percent and lead to 180,000 annual job losses through 2020. The National Electricity Reliability Council concluded that the rule, in conjunction with other EPA rules, could force the closure of 8 percent of the nation's total electric generation.

For such a costly rule to be justified, common sense begs for commensurate benefits. Although the EPA claims huge benefits from the rule, only $6 million, or 0.004 percent of the $140 billion of alleged health benefits, comes from reducing mercury. The rest supposedly derives from coincidental reductions in fine particulate matter (i.e., dust) long regulated by the EPA at a level fully protective of human health.

Even total elimination of mercury emissions from U.S. power plants would not decrease the risk of mercury exposure at harmful levels. Deposition of mercury is a global phenomenon to which U.S power plants contribute less than 0.5 percent. Natural sources such as volcanoes and fires dwarf all man-made releases.

Nevertheless, the EPA devised a safe mercury limit two to three times stricter than the World Health Organization and the federal Food and Drug Administration.

The mercury rule is just the beginning. Using the same faulty analysis, the EPA has cranked out new restrictions on everything from cement kilns to industrial boilers and new federal ozone standards approaching or below natural levels that would exist without human activity.

The EPA has also asserted authority to regulate carbon emissions. It is now treading lightly on greenhouse gases, but federal courts may force the EPA to regulate as the law requires. This means, by the EPA's own estimate, regulation of more than 6 million facilities — including hotels and schools — and the need for 230,000 additional EPA employees.

The sheer volume, stringency and speed of EPA's new regulations might suggest that America has an air

quality crisis. Indeed, this is exactly the impression that the agency's top brass conveys. On HBO's *Real Time With Bill Maher*, Administrator Lisa Jackson said: "We are actually at the point in many areas of this country where on a hot summer day, the best advice you can give is don't go outside. Don't breathe the air. It may kill you."

The reality is quite different. As the EPA's own data indicates, the last several decades have seen remarkable improvements in air quality in the United States. Since 1970, aggregate emissions of the six criteria pollutants regulated under the Clean Air Act have decreased 53 percent. The EPA's Toxics Release Inventory documents a 65 percent reduction since 1988. And mercury emissions have declined by 58 percent between 1990 and 2008.

The EPA's actions over the past three years represent a disturbing departure from the relatively balanced incremental, scientifically justified regulations evolving over the 40-year history of the Clean Air Act. The act, however, no longer furthers cost-efficient regulation based on rigorous science. And its broad delegation of authority to the EPA is easily manipulated by activist regulators determined to impose energy policies repeatedly rejected by Congress.

Absent decisive congressional action, it may be many years before our economy digs out from the crushing cost of the EPA's regulatory avalanche.

Kathleen Hartnett White is director of the Armstrong Center for Energy and Environment at the Texas Public Policy Foundation. She was commissioner and chairman of the Texas Commission on Environmental Quality from 2001 to 2007. She may be contacted at khwhite@texaspolicy.com.

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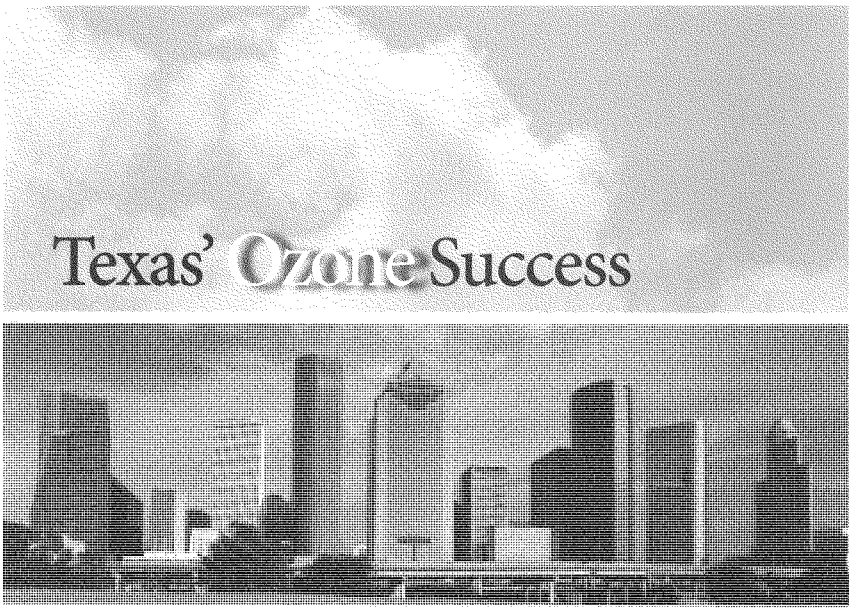
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Table of Contents

Executive Summary 3
Introduction 4
SIDEBAR: What Is Ozone? 5
Ozone Levels Dramatically Reduced Across Texas: 1999-2009 6
Federal Ozone Standards: A Constantly Moving Target 10
Consequences for Texas: EPA's Proposed New Ozone Standard 60-70 ppb 10
The Quality of Science Matters 12
Conclusion 14
Endnotes 16
Appendix: Texas Ozone Reduction Efforts 17

Texas' Ozone Success: Changing Standards Mask Texas' Air Quality Achievements

"Establishing a new more stringent air quality standard for Ozone will significantly increase the number of ozone non-attainment areas nationwide and many counties within these areas will, for the first time, experience the stigma and compliance challenges of being Ozone Non-Attainment areas, including restrictions on growth, jobs and sustained economic development."

The National Conference of Black Mayors, Resolution of May 4, 2007.

Executive Summary

In January 2010, the United States Environmental Protection Agency (EPA) announced plans to change the ozone standard for the third time in the last six years. The agency's proposal of an ozone standard from 70 parts per billion (ppb) to 60 ppb would, if adopted, have widespread impacts across Texas and the nation. Among the 3,000 counties in the United States, 85 violate the current federal standard. Under an ozone standard as low as the EPA's proposed 60 ppb, that number would likely increase to 650 counties—every county with an ozone monitor.

To meet the new standard, the state must develop and submit an elaborate State Implementation Plan (SIP) to demonstrate attainment by the requisite date. Failure to develop an approvable SIP and to meet the standards at the attainment date can trigger multiple sanctions imposed on the state including loss of federal highway funds, federal regulatory controls, and a freeze of road construction.

Although the federal Clean Air Act (CAA) gives the EPA broad technical discretion to evaluate science and set standards, the weaknesses in the science behind the January 2010 proposal merit judicial review. To avoid litigation is a dangerous precedent, conceding unlimited scope to the EPA's regulatory jurisdiction.

Ozone non-attainment status shackles state authority and economic growth. The scientific justification of the EPA's actions must be thoroughly reviewed and legally challenged if necessary.

The CAA should be amended to set minimal criteria for scientific rigor and risk assessment. Cost-effectiveness analyses must be a factor in establishing the National Ambient Air Quality Standards (NAAQS). Equally important, the process for developing State Implementation Plans must be streamlined.

Introduction

America is a rare nation, prosperous enough to impose federal air quality standards protective of human health regardless of cost. However, the question remains, what ozone level provides adequate protection? The EPA can't quite decide where to set the federal ozone standard and so keeps raising the bar.[1] Many prominent scientists and medical doctors maintain that the standard currently in effect provides requisite protection of human health.

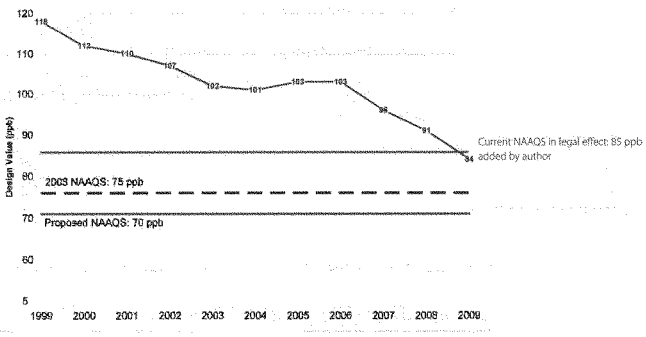
The federally binding ozone limit remains the eight-hour, 85 ppb standard. On the basis of 2009 monitored data, all but one Texas urban area now meet this standard. Texas has achieved an extraordinary improvement in air quality.

Ozone (O3), one of six federally regulated criteria pollutants, has long been the greatest air quality challenge in Texas urban areas. **(See Sidebar: What is Ozone?)** Ozone is a not a directly emitted pollutant but is the result of a photochemical reaction between oxides of nitrogen (NOx) and volatile organic compounds (VOCs). Tailpipe emissions and common industrial processes produce NOx and/or VOCs. At certain levels and exposures, ozone is a respiratory irritant for sensitive groups.

Texas, however, has improved ozone levels across the state. Against formidable odds, Texas has achieved a rare "win-win"—one for the environment and one for the economy. Over the last 10 years, while Texas has enjoyed record-setting economic growth, ozone levels have declined far more than in most other states. Over the same period, ever-green California has declined economically *and* lags far behind Texas in reducing ozone.

From 1998-2008, the Texas economic growth rate of 38.8 percent out-performed the U.S. overall rate of 28 percent. Over the same period, ozone levels in the Houston region decreased from 120 ppb in 1999 to 84 ppb in 2009. Houston met the operative federal ozone standard for the first time—an accomplishment few predicted. **(See Figure 1)** At the same time that Texans' incomes and numbers were increasing, Texas air quality was improving.

Figure 1: Eight-Hour Ozone Design Values for the Houston-Galveston-Brazoria (HGB) Area



Note: 2009 design values based on average of 2007 to 2009 data. Design values as of November 13, 2009 and are subject to change.
Source: TCEQ Emission Inventory, Air Quality Division, AMDA: 2010

Sidebar: What is Ozone?

Ozone is one of six criteria pollutants regulated by the EPA under the federal Clean Air Act (CAA). The criteria pollutants are ozone (O3), carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxides (NO2), particulate matter (PM), and lead. The CAA directs the EPA to develop numeric National Ambient Air Quality Standards (NAAQS) for the criteria pollutants. The EPA must use the "latest scientific knowledge" to set the NAAQS at levels protective of public health (a primary standard) and welfare (secondary standard). Primary NAAQS are to protect the health of sensitive groups. Secondary NAAQS are to protect soils, water, vegetation, animals, visibility, etc. In establishing the primary NAAQS as exclusively health-based standards, the EPA cannot consider cost or practical viability. The EPA must review each NAAQS every five years to incorporate the latest science.

After setting the standard by final rule, the EPA designates those counties which fail to attain the standard. Counties are classified (e.g., moderate, serious, severe) by level of ozone exceeding the standard. The EPA imposes on each non-attainment area a date by which the NAAQS must be attained as measured at ozone monitors. Compliance with the attainment date is the legal responsibility of the state.

Under layers of the EPA strictures, the state must develop and submit an elaborate State Implementation Plan (SIP) to demonstrate attainment of the NAAQS by the requisite date. Failure to develop an approvable SIP and to meet the NAAQS at the attainment date can trigger multiple sanctions imposed on the state including loss of federal highway funds, federal regulatory controls, and freeze of road construction.

Ozone at certain levels can temporarily decrease lung function and aggravate pre-existing respiratory and cardiovascular infirmities like asthma and emphysema. Unlike other pollutants, ozone is not directly emitted. Ozone results from a photochemical reaction (light and heat) of nitrogen oxides (NOX) and volatile organic compounds (VOC)—byproducts of the combustion of fossil fuels. Combustion of transportation fuels (including ethanol) is now the major source of ozone-producing emissions (precursors). Ethanol produces slightly more NOX than petroleum based gasoline.

In 1997, the EPA adopted the eight-hour, 85 ppb ozone standard (equivalent to 0.080 parts per million with rounding). Legal attainment of the eight-hour, 85 ppb standard is based on a three-year average of each year's fourth highest daily maximum eight-hour average concentration. The EPA did not begin legal implementation of this standard until 2004. Until final adoption of the new standard the EPA proposed in January 2010, the 85 ppb standard remains in legal effect.★

The phenomenal Houston accomplishment, however, means much to air quality but nothing to the EPA. In January 2010, the EPA announced plans to change the ozone standard for the third time in the last six years. The agency's proposal of an ozone standard from 70 ppb to 60 ppb would, if adopted, have widespread impacts across Texas and the nation. Among the 3,000 counties in the U.S., 85 violate the current federal standard. Under an ozone standard as low as the EPA's proposed 60 ppb, that number would likely increase to 650 counties—every county with an ozone monitor.[2]

Ozone non-attainment status shackles state authority and economic growth. The scientific justification of the EPA's actions must be thoroughly reviewed and legally challenged if necessary.

Ozone Levels Dramatically Reduced Across Texas: 1999-2009

Consider the Houston-Galveston-Brazoria (HGB) region, home of the largest concentration of petrochemical industries in the nation and with an optimal climate for ozone formation. Ozone readily forms in the presence of heat and sunlight and, thus, is predominantly a summer phenomenon. The interaction of such factors in Houston as long hot summers, gulf wind trajectories, petrochemical industrial emissions, and a large population readily maximize ozone formation.

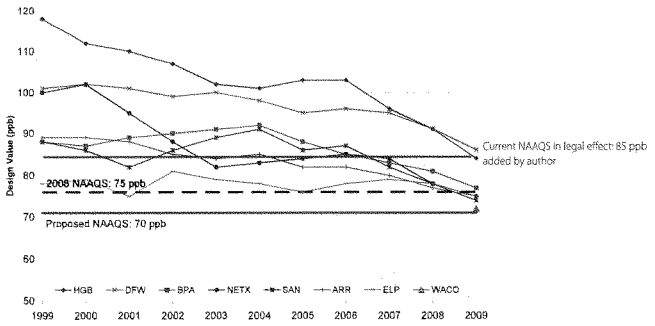
The magnitude of Houston's ozone-reducing accomplishment cannot be explained away by unusual weather and wind trajectories. For years, HGB vied with Los Angeles as the most ozone-polluted, i.e., dirtiest, city in the country. Complex and coordinated efforts, however, drove a dramatic improvement in Houston's air quality. With monitored ozone levels of 84 ppb in 2009, the HGB region attained the eight-hour, 85 ppb federal standard.

Over the last decade, Texas undertook a major effort to reduce ozone. Many elements worked together to produce this highly successful effort including: investment from industry and state and local governments; cutting-edge ozone science developed by the Texas Commission on Environmental Quality (TCEQ); multiple layers of stringent but creative TCEQ emission controls; and innovative technology and fine-tuned management. **(See Appendix: Texas Ozone Reduction Efforts)**

Although Houston's improvement is the most dramatic, ozone levels have steadily decreased across the state. In each of the seven Texas regions with a past exceedance of the standard, ozone levels have steadily declined. **(See Figure 2 and Table 1)** Indeed, all but one of the seven Texas regions with past ozone problems met the legally binding limit in 2009: an ozone design value under the eight-hour, 85 ppb standard.[3]

Although ozone in the Dallas-Fort Worth region (DFW) has decreased far more than in most Texas areas, DFW is still slightly above

Figure 2: Eight-Hour Ozone Design Values by MSA



Note: 2009 design values based on average of 2007 to 2009 data. Design values as of November 13, 2009 and are subject to change.
Source: TCEQ Emission Inventory, Air Quality Division, AMDA; 2010

Table 1: 2009 Ozone Design Values

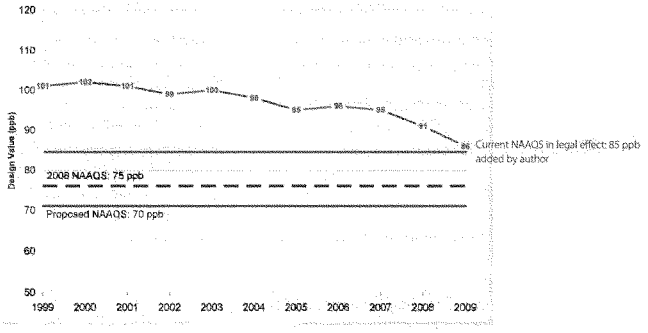
[illegible]	[illegible]	[illegible]
Houston-Galveston-Brazoria (HGB)	84 ppb	120 ppb
Dallas-Fort Worth (DFW)	86 ppb	101 ppb
Beaumont-Port Arthur (BPA)	77 ppb	92 ppb
Northeast Texas (NETX)	75 ppb	102 ppb
San Antonio (SAN)	74 ppb	91 ppb
Austin-Round Rock (ARR)	75 ppb	89 ppb
El Paso (ELP)	75 ppb	81 ppb

Source: TCEQ Emission Inventory

the standard, with a design value of 86 ppb in 2009. **(See Figure 3)** By lowering the ozone level from 96-86 ppb in less than four years, DFW remains an outstanding example of air quality improvement. The challenge for DFW is more intractable than other Texas areas. An area heavily dominated by mobile sources of ozone emissions and with relatively few major industrial sources, DFW has limited means of directly reducing the majority of ozone forming emissions.

The EPA distinguishes between stationary "point" source emissions (e.g., industrial facilities) and "mobile" source emissions (e.g., cars, trucks, and engines). Mobile sources include on-road tailpipe emissions from vehicles and off-road emissions from moveable equipment like cranes and bulldozers. Of critical importance, regulatory control of mobile sources is a federally preempt (i.e., exclusive) authority. The EPA regulates mobile sources largely through engine standards, tailpipe emission standards, and fuel specifications.

Figure 3: Eight-Hour Ozone Design Values for the Dallas-Fort Worth Area



Note: 2009 design values based on average of 2007 to 2009 data. Design values as of November 13, 2009 and are subject to change.
Source: TCEQ Emission Inventory, Air Quality Division, AMDA; 2010

Federal law gives Texas the authority to regulate emissions from stationary or "point" sources, but the federal government retains exclusive authority over mobile sources.

Federal law gives Texas the authority to regulate emissions from stationary or "point" sources, but the federal government retains exclusive authority over mobile sources. Although the state of Texas must comply with the ozone standard, the state does not have the legal authority to directly address the bulk of the problem. The engine and fuel standards are appropriately of national, not state, provenance. State-only "boutique" fuels, of which California is so fond, have limited environmental effectiveness and undermine market economics for refiners and automakers.

If a state cannot act to reduce emissions from the lion's share of the emissions creating ozone, the state is unlikely to attain a stricter standard in a short time frame. According to a 2008 TCEQ emissions inventory, 79 percent of NOx emissions in DFW derive from mobile sources; only 10 percent derive from point sources. However stringently the state might control those 10 percent of industrial emissions, the volume of reductions potentially realized falls short of the volume necessary for attainment of the ozone standards. How can Texas attain a stricter ozone standard when 79 percent of the problem is outside the state's authority?

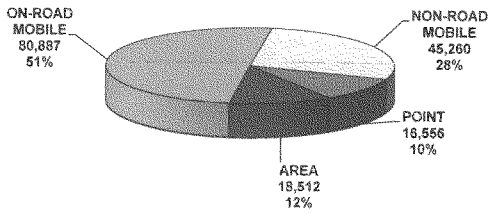
Even in HGB, with a far larger volume of industrial emissions than DFW, mobile sources now dominate at 72 percent of NOx emissions. Emissions from the massive industrial facilities in the Houston petrochemical complex already are so effectively controlled that industrial NOx emissions now comprise only 22 percent of regional NOx emissions. **(See Figures 4 & 5)**

However impossible, the state's attainment of the EPA standard is mandatory. If the state does not meet the federal limit by the prescribed date, the EPA can impose multiple sanctions including withdrawal of federal highway funds. To get around this legal impasse, the Texas Legislature, the TCEQ, and local governments throughout the nine-county DFW non-attainment region devised creative means to reduce mobile source emissions.

EPA had adopted cleaner engine standards but the effective dates were not aligned with key ozone attainment dates. Thus, TCEQ sought and received special exemptions from EPA to require Texas Low Emission Diesel (TXLED), a low-NOx fuel. By TCEQ rule, all diesel sold east of I-35 must meet the TXLED specifications. An expensive, complicated requirement for refiners, TXLED now provides limited, if any, emission benefits because a federal lower emission diesel is now in effect.

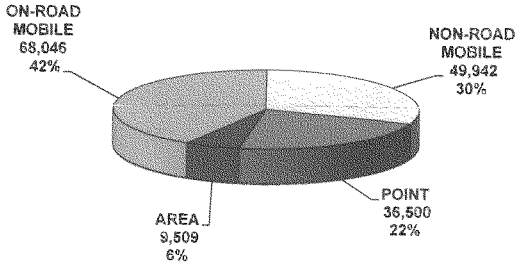
The Texas Legislature also established a fund to incentivize early replacement of diesel-burning engines. Through this Texas Emission Reduction Program (TERP), TCEQ has given grants in excess of $1 billion for retrofit or replacement of engines, construction equipment, and trucks. The TERP program grants originally motivated early purchase of the cleaner engines, not yet required by EPA's standards. For example, TERP grants of around $50 million went to railroads for replacement of switcher engines. The EPA has adopted requirements for these locomotive engines but the effective dates still remain in the future. The source of TERP funds is a surcharge of $15-$20 on new vehicular title fees. If the EPA had assumed its statutory responsibility to address mobile sources, e.g., through timely engine standards for locomotives, Texans could have kept this money.

Figure 4: 2008 Dallas-Fort Worth NOx Emissions Inventory (tons per year)



Note: Biogenic emissions not included
Source: 2008 TCEQ Emission Inventory, Air Quality Division, AMDA: 2010

Figure 5: 2008 Houston-Galveston-Brazoria NOx Emissions Inventory (tons per year)



Note: Biogenic emissions not included
Source: 2008 TCEQ Emission Inventory, Air Quality Division, AMDA: 2010

Federal Ozone Standard: A Constantly Moving Target

Major reduction of ozone throughout Texas, unfortunately, is a fleeting achievement. In the last few years, the EPA has tightened the standard three times. For almost 25 years (1979-2004), the standard stayed the same. Since 2004, the EPA has promulgated three different standards: 85 ppb, 75 ppb, and now a proposed standard between 60-70 ppb.

Until the EPA finalizes the proposed standard and begins implementation by designation of non-attainment area, the eight-hour, 85 ppb standard sets the legal bar. Initially adopted by rule in 1997, the 85 ppb standard was not given legal force until 2004 with the designation and classification of non-attainment areas. The first attainment dates under the 85 ppb standard in Texas begin in 2010.

Welcome to SIP World—inefficient and arcane, long on convoluted process, short on results, and without flexibility.

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TCEQ's development of ozone SIPs is a herculean administrative and scientific task involving several years of preparation. A legally approvable SIP requires major state expenditures, complex photochemical modeling, reams of technical analyses, heaps of emission inventories, and adoption of multiple rules to impose enforceable control measures. Far from being a minor amendment to an existing SIP, a new ozone standard means starting all over again. Complex SIP control measures mean local governments and private businesses must scrap current SIPs and plan anew for regulations, expenditures, and technologies likely necessary under a stricter standard. In January 2010, less than one month after Texas ozone monitors showed attainment of the 85 ppb standard, the EPA changed the standard.

Consequences for Texas: EPA's Proposed New Ozone Standard 60-70 ppb

Among Texas urban areas, only DFW remains in non-attainment status measured under the current 85 ppb standard. Yet, only a few of the many ozone monitors in DFW recorded levels above the standard. Thus, air quality throughout most of the DFW region meets the standard. The gradual turnover of the vehicle fleet should bring DFW below the 85 ppb standard without any additional control measures. Exhaust from new cars emits up to 88 percent less NOx than cars manufactured in 2000.[4]

A federal ozone standard of 75 ppb or lower, however, would mean non-attainment status in *many* areas of Texas—as many as eight if the EPA changes the standard to 70 ppb, up to 12 if the standard is 60 ppb, the lowest figure on the EPA's proposed range. Astonishingly, these 12 areas would include Brewster county in Big Bend, one of the most sparsely populated counties in the

United States. A standard of 60 ppb approaches *natural* background ozone levels in parts of Texas. **(See Figure 6)**

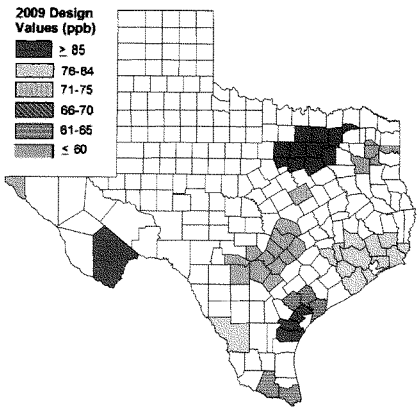
Under the still operative 85 ppb standard, the EPA tagged three Texas areas—HGB, DFW, and BPA—for non-attainment. Areas such as Austin and San Antonio were labeled Near Non-Attainment Areas, a status with relatively light regulatory implications. The EPA draws non-attainment boundaries with a broad brush, typically including entire Metropolitan Statistical Areas (MSAs) surrounding one or several core urban counties exceeding the standard. Thus, the DFW non-attainment area now comprises 12 counties around Dallas and Tarrant counties. These 12 may not have monitored violation of the standard but, when legally designated as non-attainment areas, all federal requirements apply.

Federal ozone non-attainment status has major consequences for the public and private sectors.

Federal ozone non-attainment status has major consequences for the public and private sectors. The administrative and technical requirements imposed on state and local governments create an ongoing and costly burden. The cost to private business is substantial, involving layers of regulation, emission control technology costing billions of dollars, and limits to growth. A federal non-attainment designation for a multi-county MSA like HGB or DFW immediately sets a ceiling on otherwise natural economic growth. The EPA's proposed stricter standard could lead to a non-attainment area beginning at the Texas-Oklahoma border above Dallas, extending through Austin to below San Antonio.

Figure 6: 2009 Primary Ozone Design Values by Metropolitan Statistical Area (MSA)

MSA	2009 8-Hr Ozone DV (ppb)*
DFW	86
HGB	84
BPA	77
TLM	75
ELP	75
AUS	75
SAN	74
WACO	72**
CC	69
Big Bend***	66
VIC	65
BRH	62
LAR	55



*Note: ** Waco Mazanec C1037 monitor will not have three complete years of data until April 2010.*
****Brewster county, where Big Bend is located, is not part of an MSA.*
Source: TCEQ Emission Inventory, Air Quality Division, AMDA; 2010

Non-attainment status requires "offsetting" emission reductions. Among multiple regulations, any new source of industrial emissions must come up with a volume of emission reductions equal to or greater than expected emissions from the new or expanded source. Offsets are usually purchased at a high price if they can be found. When industries plan to relocate or open a new plant, they typically avoid a site within a non-attainment area.

Emissions from industries in HGB, DFW, and BPA already are stringently regulated with state-of-the-art control technologies. **(See Appendix)** Consequently, most remaining ozone emissions are from mobile sources. Only two of the eight Texas areas likely destined for non-attainment status under the EPA's proposed standard have more industrial emissions (point sources) than mobile sources. **(See Table 2)**

Under a 75 ppb or lower standard, the state has few emission sources under its jurisdiction which could yield more meaningful reductions. Expensive controls on minor sources (e.g., boilers at schools and hospitals), although encouraged by the EPA, produce only minute reductions. "New" is, perforce, "cleaner." Purchase of new vehicles and cleaner-burning engines is by far the most effective, least costly means of reducing mobile emissions of ozone. Mobile source emissions will naturally decline as fleet turnover occurs, but the EPA, to date, will not coordinate attainment dates with engine standards or the projected timetable of fleet turnover.

The Quality of Science Matters

The EPA does not have sufficiently rigorous science to justify an ozone standard lower than 85 ppb. The EPA's previously adopted 75 ppb standard, like the proposed 70-60 ppb standard, relies on inconsistent, speculative, and largely epidemiological science. This body of science indicates vague correlations between adverse health effects and specific ozone levels. The EPA's 2008 and 2010 standard changes are not based on significant advancements in the relevant sciences. Federal regulatory decisions of the magnitude now proposed by the EPA should be supported by state-of-the-art science demonstrating a causal connection between ozone levels and health effects.

Table 2: Mobile Source Emissions Drive Ozone Formation

Texas Region	Mobile Source	Point Source
Houston-Galveston-Brazoria (HGB)	72%	22%
Dallas-Fort Worth (DFW)	79%	10%
San Antonio (SAN)	62%	33%
Austin (AUS)	76%	18%
El Paso (ELP)	72%	21%
Northeast Texas (NETX)	37%	29%
Corpus Christi (CC)	40%	44%
Beaumont-Port Arthur (BPA)	46%	49%

Source: TCEQ Emission Inventory

The CAA requires that the EPA periodically review the National Ambient Air Quality Standards (NAAQS), of which ozone is one. The EPA must reassess the ozone NAAQS every five years to assure that the numeric limit "accurately reflects the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare."[5] The EPA must set the ozone standards at a level "which in the judgment of the Administrator ... and allowing for an adequate margin of safety are requisite to protect the public health."[6] But an ozone level needed to protect public health is not necessarily a level which avoids all risks or reduces ozone to non man-made background levels.[7]

Cost cannot be a factor. The U.S. Supreme Court has concluded that the economic costs of attaining the standard cannot be a balancing factor when establishing this exclusively health-based standard.[8] Only scientific data about effects on human health drive the EPA decision.

Many credentialed scientists and medical doctors publicly challenged the scientific basis for the EPA's 2008 change of the standard from 85 ppb to 75 ppb. This criticism would apply even more forcibly to the EPA's current proposal to set the standard far lower. The EPA's January 2010 proposal is not based on new scientific data but on a reinterpretation of existing science.

Dr. Roger McClellan, former chairman of the EPA's Clean Air Scientific Advisory Committee (CASAC), testified before Congress that the EPA's lowering of the standard from 85 ppb to 75 ppb "is a policy judgment based on a flawed and inaccurate presentation of the science that should inform policy decision."[9] A single new clinical study (measuring lung function in controlled exposure to ozone) found no statistically significant impact at ozone levels below the 85 ppb standard.[10] EPA staff reversed the author's conclusion with a methodology that the EPA typically rejects. A medical doctor and member of CASAC remarked that the EPA's reinterpretation of this clinical study "amounts to attempting to find effects in a very few individuals when the statistical effects are not significant ... a very dangerous precedent ... a pitiful number on which to attempt to base policy."[11]

When setting the national ozone standard, the EPA relies on epidemiological, toxicological, and clinical studies as well as various risk-assessment methodologies. The EPA's conclusion rests most heavily on the epidemiological studies. These studies can show weak correlations—but no demonstrated causation—between monitored ozone levels and adverse health impacts, including premature mortality. On closer review, many of the epidemiological studies are inconclusive or contradictory.

The largest study—looking at 95 U.S. cities over 14 years—found only six cities with a "statistical relationship" between ozone levels and premature mortality. Los Angeles, with the worst ozone problem, was not among the six.[12] A five-year California study found that children living in high ozone areas had a 30 percent lower incidence of asthma than children in low ozone areas.[13] Texas Inpatient Hospital Discharge data from 1999-2001 showed fewer hospital visits for asthma during the peak summer ozone season than during the winter low ozone season.[14]

The epidemiological studies on which the EPA so critically rests its decision have multiple scientific flaws. Of critical importance is the difference between actual and imputed exposure to ozone. The EPA-favored studies correlate health effects with monitored outdoor ozone levels rather than with personal (largely indoor) exposure.

Additionally, the EPA attributes any identified health effects (from hospital records versus patient histories) to the monitored ozone level. This approach does not consider potential effects from other pollutants (e.g., particulates and toxins) and assumes the ozone level caused the health impact.

Outdoor ozone levels at a monitor site are not an accurate measure of what the average individual breathes. And recall that high ozone levels are a summer problem. Personal indoor exposure is more likely about 10 percent of the outdoor monitored level.[15]

The problem of personal exposure was stressed by the CASAC in 2006. "It is known that personal exposure to ozone is not reflected adequately, and sometimes not at all, by ozone concentrations measured at central monitoring sites. ... Therefore it seems unlikely that observed associations between short-term ozone concentrations and daily mortality are due solely to ozone itself."[16]

Dr. Michael Honeycutt, Ph.D., Chief of Toxicology at the TCEQ, summarized the weakness in the EPA's scientific justification for a new ozone standard. "What this means is that the epidemiological studies used by the EPA to set the health-based ozone standard are not scientifically rigorous enough to be used as the basis for this important policy decision. These studies are based on the supposition that people breathe outside air 8-24 hours each day while the scientific data clearly show this is not the case."[17]

The unrealistic level at which the EPA set the Policy Relevant Background (PRB) is another key factor. PRB is the "uncontrollable" ozone produced by natural processes and transport absent man-made emissions. Underestimation of background levels results in overestimation of risk. Because the EPA is setting a regulatory standard, the EPA purports to estimate health effects from ozone only from "controllable" ozone generated by man-made emissions.

The level above the PRB is supposed to be the ozone caused by human activity. When the EPA adopted the 75 ppb standard in 2008 and again in the 2010 proposal, the EPA lowered the PRB by as much as 60 percent, thus attributing a greater percentage of total ambient ozone to man-made emissions. For the 85 ppb standard, the EPA used monitored data to set a PRB of 40 ppb. Instead of monitored data, the EPA now uses a widely challenged global simulation model to set the PRB as low as 15 ppb.

By lowering the PRB level, the EPA increased the risk assessment of ozone levels and premature mortality by 50 percent to 100 percent. Again the EPA's own CASAC noted that the *EPA Final Ozone Staff Paper* did not justify such a low PRB.[18] A former CASAC member testified to Congress that EPA staff's low PRB results in "unrealistically high mathematical projections of mortality and morbidity from low concentrations of ozone with excess risks being inappropriately attributed to ozone from anthropogenic precursors."[19]

Conclusion

The EPA's scientific justification for establishing an ozone standard below 85 ppb is inadequate. A policy decision with repercussions this significant—federal non-attainment status in 666 U.S. counties, including remote Brewster County, Texas—should be based on more substantial science. Remote correlations between ozone levels and adverse health effects may provide useful information. Science used to impose a mandatory ozone standard as low as 70-60 ppb, however, should demonstrate a causal connection between higher ozone levels and health effects.

The EPA's January proposal confines the final standard to a point between 70 ppb at the highest and 60 ppb at the lowest. Although the CAA gives the EPA broad technical discretion to evaluate science and set standards, the weaknesses in the science behind the January 2010 proposal merit judicial review. To avoid litigation is a dangerous precedent, conceding unlimited scope to the EPA's regulatory jurisdiction.

Dr. Roger McClellan has advised the EPA on health-effect based air quality standards since the EPA was founded over 40 years ago. He served for four years as Chairman of the Clean Air Act Scientific Advisory Panel. His stark judgment of what he calls a "blatantly political process" behind the EPA's January 2010 proposal to dramatically lower the ozone standard is noteworthy.

> "In my experience, the actions of Administrator Jackson in developing the proposed ozone rule are without precedent and are not being proposed in accord with the legal requirements of the Clean Air Act (CAA) nor past EPA practices. ... Administrator Jackson is proceeding in an arbitrary and capricious manner to develop a 'reconsideration' NAAQS that is without precedent in the four decade old history of the CAA. The CAA has no provisions for revising a NAAQS based on scientific information that is four years out of date. ... The new scientific information is abundant and compelling. It may well be the basis ... for a policy decision to revise the primary [ozone] standard to a level as high as 0.084 ppm."[20]

The CAA should be amended to set minimal criteria for scientific rigor and risk assessment. Cost-effectiveness analyses must be a factor in establishing the NAAQS. Equally important, the process for developing State Implementation Plans must be streamlined.

The EPA's proposed new ozone standard is one of several national issues raising critical questions about the role of science in public policy decisions.

As the National Research Council noted in 2004: "The SIP process now mandates extensive amounts of local, state, and federal agency time and resources in a legalistic, often frustrating proposal and review process, which focuses primarily on compliance and intermediate process steps. This process probably discourages innovation and experimentation at the state and local levels; overtaxes limited financial and human resources available to the nation's Air Quality Management System."[21]

The EPA's proposed new ozone standard is one of several national issues raising critical questions about the role of science in public policy decisions. The EPA's recent endangerment finding on greenhouse gases also brings the question to the forefront.[22] Science should guide and ground policy decisions. However, as the societal and economic stakes escalate, the quality of the science must be assessed by policymakers. ✯

Endnotes

[1] M. Fumento, "The Hole in the EPA's Ozone Claims," *Forbes*, http://www.forbes.com/2010/01/26/environmental-protection-agency-ozone-science-opinions-contributors-michael-fumento.html.
[2] Ozone Air Quality Standards: EPA's Proposed January 2010 Revisions, Congressional Research Service Report to Congress (1 Feb. 2010) CRS, 7-5700, R41062, http://www.crs.gov.
[3] An Ozone design value is the legal ozone measure of compliance with the federal standard: a three year average of each year's fourth highest daily maximum 8-hour average concentration.
[4] Over the last 10 years, the EPA's engine standards for new cars- or exhaust emission standards-) have progressively tightened. From 1996-2000, standards for NOx emissions were 0.6 grams per mile (g/m). From 2000-2004, new cars had to meet a 0.3 g/m. Automobiles manufactured after 2004 have a standard of 0.07 g/m. This progression amounts to an 88% reduction in NOx emissions per mile when comparing a 2000 model year car to a 2010 model year car. See also http://www.epa.gov/otaq/cert/veh-cert/b00001.pdf.
[5] CAA 108 (a) (2).
[6] *Whitman v. American Trucking Associations*, ("ATA"), 531 U.S. 457, 466 (2001).
[7] *Lead Industries Association v. EPA*, 647 F .2d 1130, 1155 (D.C. Cir. 1980).
[8] Ibid.
[9] Testimony before Clean Air Subcommittee of the U.S. Senate's Environment and Public Works Committee (11 July 2007) Dr. Roger McClellan, former member of the Clean Air Act Advisory Committee. Advisor, Toxicology and Human Health Risk Analysis, Albuquerque, NM.
[10] W.C. Adams, "Comparison of Chamber 6.6 Hour Exposures to 0.04-0.08 ppm Ozone Via Square-Wave and Triangular Profiles on Pulmonary Response" *Inhalation Toxicology* 18, 127-136 (2006).
[11] Dr. Sverre Vedal, CASAC Critique of the Ozone OAQPS Staff Paper (Henderson2007b) at C-30.
[12] M.L. Bell, A. McDermott, S.L. Zeger, J.M. Samet, and F. Dominici, "Ozone and Short-Term Mortality in 95 U.S. Urban Communities" *Journal of the American Medical Association* 292: 2372-2378.
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[17] Dr. Michael Honeycutt, Ph.D., Chief Toxicologist, TCEQ . From TCEQ Press Release (2 Feb. 2010) regarding oral testimony, EPA field Hearing on proposed ozone standard, Houston, TX.
[18] Dr. Allen S. Lofohn, Ph.D., "Major Issues Inadequately Addressed in the Final Version of the EPA's Ozone Staff Paper" (28 Feb. 2007) 6-8.
[19] *Lead Industries Association v. EPA*, 647 F .2d 1130, 1155 (D.C. Cir. 1980).
[20] Dr. Roger O. McClellan, Comments on the National Ambient Air Quality Standards for Ozone, Proposed Rule, Federal Register, Vol. 75, No.11 (19 Jan. 2010) 2938-3052.
[21] Air Quality Management in the United States, National Research Council of The National Academies, "Designing and Implementing Control Strategies Through the SIP Process" (2004) Chapter 3: 74.
[22] Petition for Reconsideration of Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. Greg Abbot, Attorney General of Texas (16 Feb. 2010).

Appendix: Texas Ozone Reduction Efforts— Controls, Creativity, Science, Technology, and Cooperation

Through the Texas Commission on Environmental Quality (TCEQ), Texas has enacted among the most targeted, effective, and stringent regulatory controls to reduce ozone producing emissions from stationary (industrial) sources. Texas also has created some of the most creative and generous incentives to reduce mobile source emissions. The state has developed state-of-the-art ozone science to discover which factors specific to individual regions in Texas drive ozone formation. For example, ozone forms differently in the Houston region than in the Dallas-Fort Worth region. Use of cutting-edge technology—like remote sensing technology and infrared cameras—also played a key role in the state's successful effort. Years of cooperative interaction with industry, universities, local governments, and all stakeholders forged a team effort. Industry investments in cutting-edge control technology and in enhanced operational management were key to the Texas success.

See also "Texas Air Quality Success," http://www.tceq.state.tx.us/implementation/air/airsuccess/airsuccess.

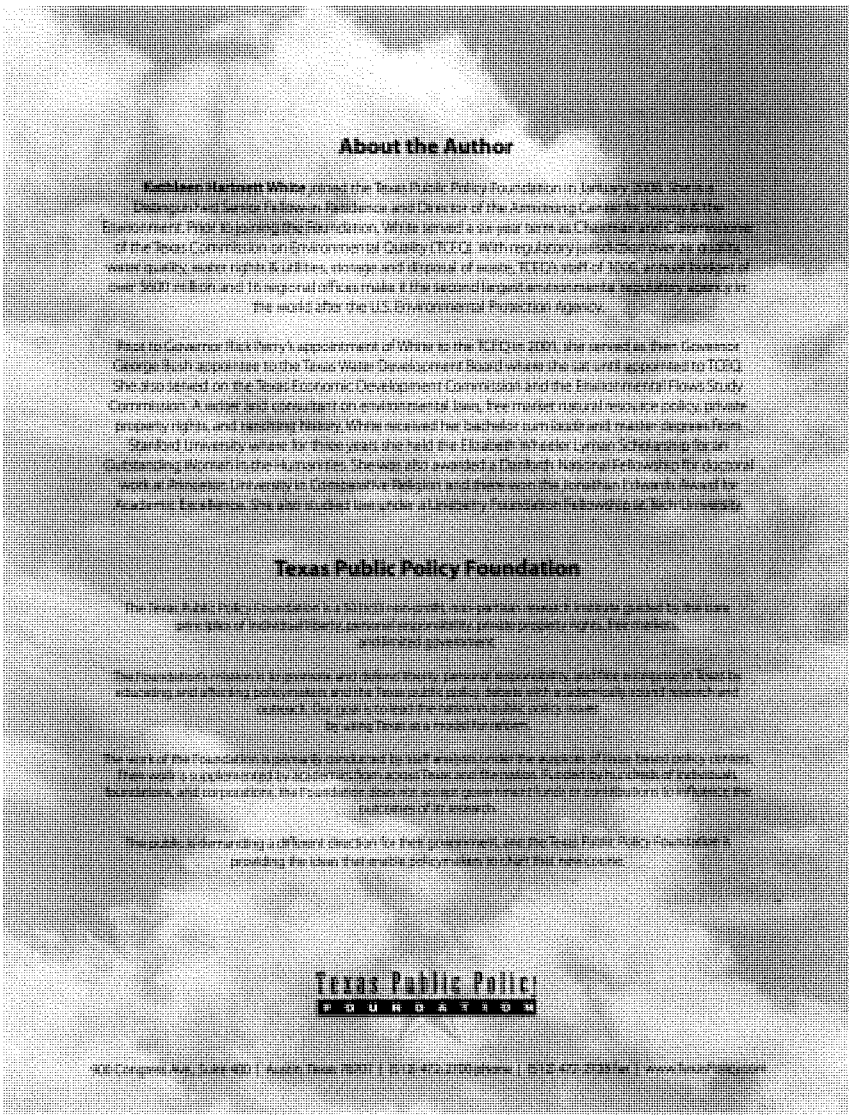
Stationary Source Ozone Controls

Over the last 10 years, TCEQ has enacted more than 50 different regulatory controls to reduce ozone precursor emissions: oxides of nitrogen (NOx) and volatile organic compounds (VOCs). Major control strategies include:

- Mass NOx Emission Cap & Trade Program in the Houston-Galveston-Brazoria area. This program reduced NOx emissions from major industrial sources by 80 percent from 2002-06.
- A suite of rules for the Dallas-Fort Worth area for NOx reductions from kilns, power plants, industrial sites, and stationary engines.
- Enhanced monitoring of flares, cooling towers, and other sources of highly reactive VOCs.
- Annual and short-term limits on highly reactive VOCs in Harris County.

Air Quality Research

Texas has invested more money in air quality research over the last 10 years than any state in the country. State financial resources and in-kind contributions from national organizations and universities supported an almost $50 million scientific effort. Through two major field studies (Texas Air Quality Study 2000 and Texas Air Quality II), the state developed targeted control strategies.



About the Author

Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2005 as a Senior Distinguished Senior Fellow in Resilience and Director of the Armstrong Center for Energy & the Environment. Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and disposal of waste, TCEQ's staff of 1,100, annual budget of over $600 million and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. A writer and speaker on environmental laws, free market natural resource policy, private property rights, and rangeland history, White received her bachelor cum laude and master degrees from Stanford University where for three years she held the Elizabeth Wexler Lyman Scholarship for an outstanding Woman in the Humanities. Stewart also awarded a Danforth National Fellowship for doctoral political thesis. University of Chicago Law School conferred the Kirkland & Ellis Award for Academic Excellence. She also studied law under a Kingsbury Foundation Fellowship at New University.

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TEXAS PUBLIC POLICY FOUNDATION
PolicyPerspective

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Armstrong Center for Energy & the Environment

The Clean Air Act: The Case for Reform*

by Kathleen Hartnett White

Key Points

- Congress should reclaim its constitutional authority to make the fundamental policy decisions about air quality.
- The CAA should reaffirm and strengthen the states' primary authority in air quality management.
- The CAA should require objective and more rigorous and transparent science.
- The CAA should incorporate the dynamism of the free market by encouraging performance-based standards.
- The structure of the CAA and the organization of the EPA should be streamlined through integrated multi-pollutant programs.

Executive Summary

For decades, the U.S. Environmental Protection Agency (EPA) has incrementally expanded regulatory authority under the Clean Air Act. The current EPA, however, is on an unprecedented regulatory spree jeopardizing electric reliability, jobs, state economies, U.S. competitiveness, and national security. This exponential expansion of EPA's regulatory authority is not justified by any reasonable standard. In fact, America's air quality has dramatically improved over the past 40 years. In recent years, however, the EPA has aggressively exceeded its authority under the federal Clean Air Act to regulate conventional pollutants with the objective of supplanting fossil fuels from which 85 percent of our energy use derives.

EPA is now mandating emission reductions of conventional pollutants at levels approaching or below natural background levels. Further, EPA has arrogated the law-making powers of Congress in the Endangerment Finding to regulate greenhouse gases as pollutants under the existing Clean Air Act (CAA). Once a marginal increase in the cost of production, EPA regulatory fiats now alter the fundamental dynamics of the energy sector and thus the entire economy. Job losses in the thousands already have occurred.

The CAA is in urgent need of reform.

To this end, this paper recommends five strategic reforms of the CAA. These reforms will not rollback existing, effective protection of air quality but will foster more rapid, cost-efficient management of genuine air quality challenges. This paper also provides background on improvements in air quality, the basic structure of the Clean Air Act, and the evolution of the EPA's sweeping, law-like authority to control basic economic activity and private conduct. The reforms are as follows:

1. Congress should reclaim its constitutional authority to make the fundamental policy decisions about air quality; such as determination of the National Ambient Air Quality Standards and approval of major regulations.

2. The CAA should reaffirm and strengthen the states' primary authority in air quality management.

3. The CAA should require objective and more rigorous and transparent science. It must, further, relegate science to its proper role as a critical tool to guide policy decisions about environmental risk but not as a means of dictating policy decisions.

4. The CAA should incorporate the dynamism of the free market by encouraging performance-based standards.

5. The structure of the CAA and the organization of the EPA should be streamlined through integrated multi-pollutant programs.

*The paper is an updated and expanded version of "Clean Air Through Liberty: Reforming the Clean Air Act" published as Chapter IV of *Environmental Conservation: Eight Principles of the American Conservation Ethic* by the Heritage Foundation, July 2012. Kathleen White was one of seven people who helped formulate the Eight Principles almost 20 years ago under the auspices of NWI, a free market conservation organization, led by Robert Gordon now Senior Strategic Advisor for the Heritage Foundation.

continued on next page

After 40 years of air quality management under the CAA, federal policies need to absorb the dramatic improvements in our nation's air—a condition quite different than when the CAA was enacted.

Introduction

The Clean Air Act (CAA) needs strategic reform. This law no longer provides an effective, scientifically credible or economically viable means of air quality management. Under the current administration, EPA is abusing the broad authority of this law intended to protect human health to force a centrally-controlled, economically damaging anti-fossil fuel energy policy rejected by the U.S. Congress.

The CAA needs major reform. Over the last four decades, EPA gradually extended the scope and stringency of air quality regulation. Over the last four years, EPA has exponentially expanded its regulatory regime to the point of jeopardizing the reliability and affordability of the nation's electric power and transportation fuels, thus impairing U.S. competitiveness.

After 40 years of air quality management under the CAA, federal policies need to absorb the dramatic improvements in our nation's air—a condition quite different than when the CAA was enacted. Congress should reclaim its constitutional authority to make policy decisions about air quality in order to forestall the unnecessary economic and human damage now flowing from the current EPA's reckless aggression.

Congress, through the terms of CAA, has delegated broad law-like authority to the EPA to make policy decisions of national importance. In constitutional principle, Congress unquestionably retains authority to restrain the EPA. In practice, however, EPA operates with unlimited discretion. In our constitutional scheme, the courts are supposed to keep agency actions within the bounds of the law passed by Congress. "Yet, judicial review does not delve into the policy choices that agencies make—nor should it. Whether a given agency is following the best course is ultimately a decision for the political branch."[1] To preserve our constitutional democracy, Congress must enact measures that limit the discretionary policymaking authority of unelected federal employees of the EPA.

Congress should also restore and strengthen the CAA's original recognition that states are the primary authorities in air quality management. The state and local governments' direct accountability to real people has catalyzed far more creative and cost-effective solutions than EPA's approach, which is dominated by heavy-handed control, bureaucratic process, and the phantom of national consistency. Regions with interstate environmental problems are few. Those regions with interstate air quality problems can address them regionally through interstate compacts or other legal mechanisms.

The CAA should relegate science to its proper role as a critical tool to inform policy decisions but not as a force for dictating regulatory action. To limit EPA's increasing misuse of science, the CAA needs to stipulate minimal criteria for vigorous health-effects science and credible regulatory impact analyses of costs, benefits and outcomes. To weld free market principles to air quality improvement, the CAA should facilitate measurable environmental results through flexible performance standards. The structure of the CAA and the organization of EPA need to be streamlined through integrated multi-pollutant strategies.

Most critically, federal policies about air quality need to incorporate fundamental principles of individual liberty, private property, and the free market. The air quality improvements over the last 40 years were driven by innovation, efficiency, and economic growth. Economic freedom has powerful environmental benefits, because liberty promotes objectivity, creativity, investment, and problem-solving.

That the CAA needs reform is a belief increasingly shared, at least outside EPA and environmental activist organizations. A four-year project enlisting the input from 40 environmental experts from across the ideological spectrum concludes that the CAA has statutory arteriosclerosis![2]

State of the Air Today: A Remarkable Record of Success

Any discussion of reforming the CAA must begin with recognition of the significant improvements in our nation's air quality. Over the last 40—and particularly over the last 20—years, the quality of U.S. air has dramatically improved.[3]

The table below documents the remarkable record of improving air quality. Although infrequently noted, the data is easily accessible on EPA's own website. The table shows the magnitude of improvement from 1980-2010. The condition or trend of air quality is measured in terms of ambient levels in the air and emission volumes. The ambient levels are the key measure of health impacts because they are a physical measurement of the actual concentrations of pollutants in the air to which humans are exposed. Emissions are an estimate of the volume of pollutants released to the air by human activities. Ambient levels are physically measured by monitors across the country, while emissions are estimated by models.

This is a success story rarely told and more often utterly denied. The current EPA Administrator, Lisa Jackson, repeatedly tells the public that outdoor air in the country "may kill you."[4] EPA's own data, as used in the Table below, from "Our Nation's Air-Status and Trends 2012," documents a radically different condition of air quality in the U.S.[5] Since 1970, aggregate emissions of the six criteria pollutants regulated under the Clean Air Act have decreased 53-60 percent.[6] This environmental achievement occurred while the U.S. Gross Domestic Product (GDP) increased over 200 percent. Virtually the entire country has attained the NAAQS for four of the six criteria pollutants.

Urban areas in some states continue to exceed the NAAQS for ozone and particulate matter, but the levels of exceedance and the number of these non-attainment areas are rapidly falling. In 1997, EPA classified 113 metropolitan areas as non-attainment areas for ozone. That number has fallen to below 30. The once highly polluted region around Houston, Texas—home of the world's largest petro-chemical industrial complex—attained the federal ozone standard in 2009 and 2010.[7] Emissions from cars and trucks, now the predominant source of particulate matter and precursor emissions for ozone, have been reduced over 90 percent, while vehicles miles traveled have increased 165 percent. Emissions of lead have declined by 97 percent, largely a result of eliminating lead in transportation fuels. EPA's Toxics Release Inventory documents a 65 percent reduction since 1988. And mercury emissions have declined by roughly 60 percent between 1990 and 2008.[8] New power plants emit 90-95 percent less sulfur dioxide than power plants built in the 1940s.[9] Under existing regulations, the long-term trend in cleaner skies is certain to continue with the turnover of old equipment and refinement of technologies.

Air Quality Improvement 1980-2010

	Ambient 1980-2008	Ambient 1980-2010	Emissions 1980-2008	Emissions 1980-2010
Carbon Monoxide (CO)	-79%	-82%	-58%	-71%
Ozone (O3)	-25%	-28%	-49%	NCD
Lead (Pb)	-92%	-90%	-96%	-97%
Nitrogen Dioxide NO2	-46%	-52%	-40%	-52%
Particulates (PM10)*	-31%	-38%	-46%	-83%
Fine Particulates (PM2.5)**	-21%	-27%	-36%	-55%
Sulfur Dioxide (SO2)	-71%	-75%	-76%	-67%
NCD- No Current Data				
*1990-2010				
**2000-2010				

U.S. Environmental Protection Agency, "Air Quality Trends," January 2012, http://www.epa.gov/airtrends/aqtrends.html (April 18, 2012).

Indeed, "the learning curve is green." The competitive private marketplace spurred technological innovations. Market-driven operational efficiencies, to avoid costly wastes, simultaneously reduced emissions and conserved energy use. Privately-owned enterprises, acting in a free market under a predictable and limited government, prospered and were thus able to absorb the steep costs of environmental controls.

As the Environmental Performance Index,[10] the Heritage Foundation Index of Economic Freedom, the Fraser Institute, and other studies[11] consistently demonstrate, those countries which structurally enshrine economic liberty under the rule of clear and limited laws also achieve environmental success. Environmental quality remains an unaffordable luxury for most of the developing world and an elusive goal for countries that deny or undermine property rights.

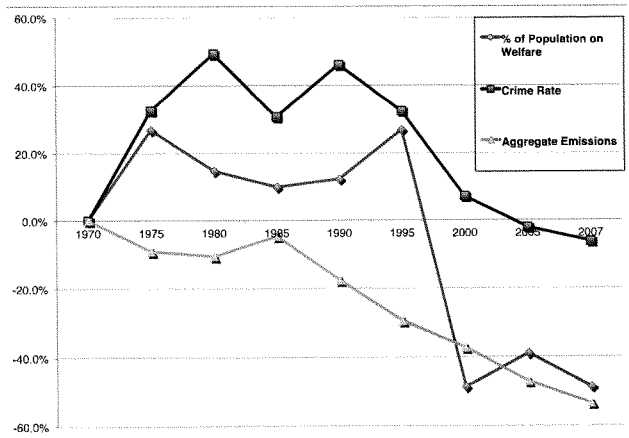
The remarkable improvement in air quality across this country is a major public policy success to which major media rarely give even lip service. The CAA played a significant role, but the main engine of progress was technological improvements in efficiency and in emission controls. The EPA's regulatory dictates may have prompted some technological advance, but the main driver was economic growth within the dynamics of the free market. Objective science, innovative technology, entrepreneurial investments of capital and rapid information exchange: these hallmarks of the free market maximize continual environmental enhancements.

Reform of the Clean Air Act

The CAA, now 40 years old, is in need of reform on multiple levels.

The CAA gave broad discretionary authority to EPA to make what are now decisions jeopardizing the health of the entire economy and the livelihoods of real people, with sharply regressive impacts on low-income families. Rising food and energy prices, coupled with high unemployment, have pushed poverty rates to the highest levels in 52 years. Morbidity (illness) and shortened lifespan (premature mortality) are far more directly correlated with poverty and unemployment than with air quality.[12]

A Comparison of Crime Rate, Welfare, and Air Pollution, 1970-2007



Source: Steve Hayward, *2011 Almanac of Environmental Trends*, (Apr. 2011); FBI Uniform Crime Reports, U.S. Department of Health and Human Services, EPA.

There is no readily available means of legally restraining the EPA's unprecedented regulatory spree. Unless the EPA's authority is limited by amendments to the CAA, the courts have sparse legal ground to restrain the Agency. And many states now must devote finite resources to challenging the EPA's encroachment of fundamental state authority rather than to the hands on job of protecting air quality.

Compelling evidence comes from the National Academy of Science's recent conclusion that the EPA's science—purportedly the foundation of the Agency's regulatory decisions—"is on the rocks." The recommendations that follow address widely recognized problems now the subject of legal challenge to the EPA's actions in hundreds of lawsuits. If the CAA is to guide a broadly supported and effective response to the air quality challenges of the future, meaningful reform is essential.

I. Restore Congressional Authority and Accountability

As articulated in federal law, the definition of healthy air is a matter of policy for the elected branches of government. In the CAA, the Congress delegated this responsibility to the EPA with the belief that objective experts would make rigorous scientific decisions. Science under the aegis of government employees, however, is easily politicized. The current EPA misuses science to propagandize the need for ever-stricter regulatory mandates.[13] While science should critically inform government decisions about air quality necessary to protect human health, science is inherently incapable of dictating the final policy decisions. These involve a complex balancing of interests, risks, costs, diverse benefits, relative effectiveness, and inherent scientific uncertainties.

When Congress has given the EPA specific statutory orders through amendments to the CAA, instead of general direction about healthy air, the environmental outcomes were superior. Indeed, the most effective federal air quality programs to date were stipulated by Congress in the Clean Air Act and not left to EPA's discretionary designs. Congress not only created the programs but specified the extent of emission reductions, the timetable, and the parties expected to bear the burdens. Further, Congress also permitted regulatory flexibility through the creation of market-like mechanisms for emission trading. These programs were: the acid rain program, which cut relevant emissions by 50 percent; the elimination of lead in gasoline; new engine standards which cut 99 percent of three criteria pollutants from tailpipe emissions; and the stratospheric ozone program.[14] Flexible regulatory mechanism combined with clear regulatory goals for measurable environmental benefits are the most effective.

There is no readily available means of legally restraining the EPA's unprecedented regulatory spree. Unless the EPA's authority is limited by amendments to the CAA, the courts have sparse legal ground to restrain the Agency.

To restrain the EPA's over-reaching actions, the Congress should:

- **Reclaim the legislative authority delegated to EPA to set the federal air quality standards for the criteria pollutants and the emission limits for hazardous pollutants.** "It is axiomatic," the U.S. Supreme Court has held, "that an administrative agency's power to promulgate legislative regulation is limited to the authority delegated by Congress."[15] What authority Congress has delegated, Congress can reclaim.

- **Exercise authority to approve all the major rules proposed by EPA.** The Regulation of Executives in Need of Scrutiny Act (REINS) already passed by the House of Representatives, should be fully enacted. To avoid the constitutional infirmity of the legislative veto and the weakness of the Congressional Review Act, the REINS Act requires bicameral approval with presentment to the President of all "major" or "economically significant" regulation. REINS also imposes an expedited procedure for congressional decision to avoid political roadblocks.

- **Require annual advisory reports that contain cumulative regulatory impact analyses of risk, cost, effectiveness and benefits based on a methodology and scope determined by Congress and conducted by a third party.** The Transparency in Regulatory Analysis of Impacts on the Nation Act (TRAIN), already passed by the House of Representatives, should become law.

Recent federal court decisions have sharply rebuked EPA for denial of state authority in rulings upholding the original CAA's strict division of authority between federal and state governments.

EPA should function in a far more advisory and less regulatory role. To inform Congressional decision, Congress could require EPA to submit annual or bi-annual reports to contain stipulated information, data, types of studies on health impacts, air quality data, progress reports, risk assessments, priority risks, and alternative implementation strategies. Numerous bills filed in the 112th Congress would require far more comprehensive and regulatory impact analyses including impact on jobs, electric rates, electric reliability, U.S. competitiveness as well as cumulative impacts of multiple regulations.[16] For example, the increased electric rates projected as a result of EPA's rules impacting electric generation, would have harshly regressive impacts on low-income families.[17] The nature and scope of what counts as a regulatory benefit must be defined to prevent EPA from transforming minute statistical associations into human deaths.[18]

II. Restore State Authority

The EPA's micro-management of state authorities impedes efficient management of air quality. A 2004 National Research Council study concluded that the inflexibility and complexity of the State Implementation Plan (SIP) process imposed on states is counter-productive. Said the Council: "The process now mandates extensive amounts of time and resources in a legalistic, often frustrating proposal and review process, which focuses primarily on compliance with intermediate process steps. This process discourages innovation and experimentation at the state and local levels; overtaxes the limited financial and human resources available to the nation's [air quality management system] at the state, local and federal levels; and draws attention and resources away from the more germane issue of ensuring progress towards the goal of meeting the NAAQS."[19] The NRS reached this conclusion in 2005 and yet no actions to date have been taken to streamline the SIP process.

The original CAA wisely asserted that "prevention and control of air pollution is the primary responsibility of the States and local government," because "those closest to the resource are best able to [effectively] manage it."[20] EPA, however, increasingly treats state agencies as instruments of the federal government rather than as partners, much less as equal sovereigns. Under the current regime, the states have the responsibility, on pain of sanctions, to do whatever EPA dictates.

Recent federal court decisions have sharply rebuked EPA for denial of state authority in rulings upholding the original CAA's strict division of authority between federal and state governments. In a complete vacature of the Cross State Air Pollution Regulation (CSAPR), the D.C. Court of Appeals noted: "Under the Clean Air Act, the Federal Government sets air quality standards, but the States retain primary authority ... for choosing how to attain those standards within their borders."[21]

To re-establish state authority, Congress should:

- **Clearly re-affirm the CAA's original allocation of federal and state authorities in law.** As stated in 1977, "Congress carefully balanced State and national interests by providing for a fair and open process in which States and local governments, and the people they represent, will be free to carry out the reasoned weighing of environmental and economic goals and needs."[22] The EPA has obviously strayed from this statutory framework. Congress should forcibly restate the CAA's original allocation of federal and state powers in the CAA.

- **Abandon the current State Implementation Plan process.** SIPs now must contain a mass of information: elaborate emission inventories, reams of photo-chemical modeling runs and all control measures needed to attain the NAAQS in question. States must complete separate SIPS for each criteria pollutant and other federal programs, none of which are coordinated, although all data and programs are interconnected. EPA micro-manages each step of the increasingly cumbersome process in which administrative requirements take precedence over creative, effective state actions to attain the federal standards. The SIP process must be abandoned or greatly simplified.

- **Eliminate the EPA's authority to disapprove of State Programs.** Through SIP approval authority, the EPA asserts command and control authority over state governments. If EPA now disapproves a state program con-

sidered a required component of the SIP, EPA can take over the state authority through a Federal Implementation Plan (FIP), impose freezes on road constructions and withhold highway funds owed to the state. The Supreme Court's recent ruling in the Patient Protection and Affordable Care Act, which called unconditional pre-emption an unconstitutional commandeering of state government, may be applicable to the CAA.[23]

- **Rescind the EPA's authority to compel state actions.** With primary authority under the CAA to implement federal standards, States should be entitled to choose whether to seek EPA counsel on air quality management. EPA's Guidance Documents, however, should not be binding, nor should every state regulation be subject to EPA approval. States may elect to form regional interstate compacts to combine resources or to address interstate air quality issues as several state legislatures already have done.[24]

III. Encourage Performance Standards: Monitors Trump Models

EPA's implementation of the CAA increasingly emphasizes command of administrative process and dictation of the means of production at the expense of achieving measurable and meaningful environmental benefits. And after four decades of prescriptive emission standards, air quality regulation should emphasize historically successful performance standards that focus on concrete, measurable environmental results.

Congress should require that the EPA:

- **Use Performance Standards based on measurable results.** Performance standards require objective, measurable results of *what* must be achieved in lieu of rigid, complex requirements that dictate *precisely how* the entity will operate and *certify compliance*. Performance standards allow more flexibility in operation, maximizing the incentives of property rights and site-specific adaptation. The permit holder may choose how to operate and even expand production as long as the standard is met. Performance standards include plant-wide emission caps, emission trading schemes, and other systems that incorporate market-like mechanisms and property rights. Cap and trade schemes may work for some traditional pollutants, but the trading system must be carefully designed to minimize pitfalls typical when government creates and manages a market. Continually changing the rules of the market and price controls undermine market dynamics.

When scientific knowledge is objective, transparent, and rigorous in accordance with the scientific method, it provides a critical tool to inform final regulatory decisions.

IV. Restore Objective, Rigorous, Transparent Science

EPA justifies its regulatory actions on the basis of what it construes as scientific edicts. Yet scientific findings alone, inherently incomplete and uncertain, are incapable of weighing the complex policy considerations that shape the law in a democracy. Unless the CAA stipulates criteria to assure rigor and objectivity in the EPA's risk assessments, regulatory excess cannot be restrained.[25]

Science offers both the promise and the demise of meaningful management of air quality to protect human health. But when developed and applied by a government body, science is easily manipulated to justify a predetermined policy preference.

When scientific knowledge is objective, transparent, and rigorous in accordance with the scientific method, it provides a critical tool to inform final regulatory decisions. Scientific findings are, however, categorically different than policy judgments based on reasoned weighing of societal trade-offs and relative risks. The wide body of environmental science existing today should inform the major regulatory decisions under the CAA but never dictate policy decisions about air quality. The more substantive scientific disciplines, such as toxicology, must be given prominence over the purely statistical sciences such as ecological epidemiology.

To restore objective, rigorous and transparent science, Congress should:

- **Mandate that regulatory actions be supported by third party, peer-reviewed analysis of cost-benefit-effectiveness.** The CAA requires that ambient air quality standards must be protective of public health with an adequate margin of safety—*regardless of cost*. EPA increasingly uses this statutory rubric to legitimize unachievable regulatory mandates as if no risks were too low and no costs too high. For decades, EPA has

A single, flexible management plan with integrated strategies to reduce multi-pollutants could facilitate cost-effective results.

adopted increasingly stricter NAAQS that now approach naturally-occurring—thus unpreventable—background levels. When objective and comprehensive, cost-benefit-effect analyses can provide critical information to policy makers and would check the implausible charade of the current EPA's regulatory justifications.

- **Include cost in determination of NAAQS.** The CAA should acknowledge that consideration of the cost to society is a necessary, valuable and ineluctable factor.

- **Reject the no-threshold linear regression model to impute risk.** EPA implausibly now assumes that a positive, linear, no-safe-threshold (causal) relation exists between any concentration of a pollutant above zero and risk of premature death. Piling assumption upon assumption, EPA attributes a 100 percent probability—translated as absolute certainty—to the premise that there is no ambient level at which human health is adequately protected. This statistical methodology has enabled EPA to calculate health benefits far surpassing regulatory costs. When, in 2009, EPA began extrapolating risks at natural background levels of fine particulate matter (PM 2.5), the number of mortality risks EPA attributed to this pollutant almost quadrupled from 88,000 to 320,000 deaths.[26]

- **Abandon absolutist version of the precautionary principle.**[27] Vague statistical correlations between death rates and pollutant levels cannot be transformed into causal connections. Costs and political interests invariably affect EPA's decisions, but the law's absolutist terms shield EPA's pretensions from judicial scrutiny. The CAA should acknowledge that consideration of the cost to society is a valuable and ineluctable factor.

- **Establish minimal criteria for scientific risk assessment of health effects.** Many scientific bodies have harsbly criticized the weakness of EPA's current science. The National Academy of Science, National Research Service, and EPA's own Scientific Advisory Board, Board of Scientific Counselors and the Clean Air Act Advisory Council voice grave concerns about the integrity of the science upon which EPA now relies. Dr. Thomas Burke, chairman of a recent National Academy of Science (NAS) review panel on EPA's chemical risk assessment told EPA officials that "EPA science is on the rocks ... if you fail, you become irrelevant, and that is kind of a crisis."[28] EPA's chemical risk assessment for formaldehyde set the health-effects level several times lower than the natural level of formaldehyde in human exhalation.[29]

- **Minimal criteria for health-effects risk assessment would include the following:**

  - EPA's health effects studies must be peer-reviewed by an independent body.

  - Toxicological studies and clinical trials demonstrating a causal connection between pollutant exposures and health effects carry more weight than ecological epidemiological studies indicating statistical correlations.

  - Health-based standards must incorporate average exposure and not implausibly assume that all people are exposed to the highest monitored level 100 percent of the time.

  - Physical measurement through monitored readings trumps models.

  - Health-effects findings must include a plausible biological mechanism.

  - EPA's risk assessments must be judicially reviewable under a clear standard of plausibility and rigor.

V. Multi-Pollutant Strategies by States.

Most of the criteria pollutants and many hazardous pollutants share sources, precursors, and control strategies. A single, flexible management plan with integrated strategies to reduce multi-pollutants could facilitate cost-effective results. State and local authorities are far better situated than EPA to devise and implement effective multi-pollutant plans.

To achieve this, Congress must:

- **Allow states to develop multi-pollutant strategies.** The current SIP process should be replaced by a single integrated multi-pollutant plan devised by states. Such a comprehensive management plan should encompass both criteria pollutants and select hazardous pollutants.

- **Re-evaluate priorities for research and regulatory programs.** After 40 years of all but exclusive focus on criteria pollutants and attainment of the NAAQS through the SIP process, EPA should focus more on select hazardous emissions in localized areas. Now that the criteria pollutants affecting urban areas across the country have been substantially reduced, EPA's predominant emphasis on the NAAQS is no longer justified. EPA should prioritize health risks in localized areas among the 189 hazardous chemicals stipulated by Congress in the 1990 amendments to the CAA.

- **Break down EPA's bureaucratic silos to allow for integrated strategies.** Acting under an organizational structure modeled on the statutory structure of the CAA enacted in the 1970s, EPA promulgates individual federal air quality standards (NAAQS) for each of the six criteria pollutants in administrative silos. EPA similarly compartmentalizes the national emission standards (NSPS) for hazardous air pollutants, permitting regimes and other programs. And the air, water, and waste programs operate independently, as if hermetically sealed from each other. Yet, air pollutants, water contaminants, and waste issues are all interconnected. EPA's bureaucratic silos impede environmental improvements and create massive administrative burdens for state and local governments.

Unprecedented Regulatory Overreach

Using and often exceeding the broad authority of the CAA, the current EPA is on a regulatory spree unprecedented in U.S. history.[30] EPA is churning out a torrent of new rules with unparalleled speed, scope, stringency, costs, and job loss but without rigorous scientific justification or measurable benefits. Since 2009, EPA has assumed—without supporting data—health risks at pollutant concentrations already far below the established federal standards to protect human health. The science underlying the current EPA's regulatory onslaught is deeply flawed.

Over 20 new regulations, collectively known as the EPA train wreck because of converging effective dates within the next three years, augur cumulative economic impacts of a magnitude never before experienced.

Over 20 new regulations, collectively known as the EPA train wreck because of converging effective dates within the next three years, augur cumulative economic impacts of a magnitude never before experienced.[31] The National Electric Reliability Council (NERC) predicts that four of the rules aimed at electric utilities could mean the abrupt loss of 8 percent of the country's electric generation capacity by 2015.[32] The economic and human damage from EPA's reckless agenda already emerges. Over 100 electric generating plants have announced closure. Coal-fired electric generation has fallen to 36-40 percent of U.S. electricity from 50 percent only two years ago. Utilities have announced sharply higher electric rates for consumers.

In late September 2012, approximately eight coal mines shut down. Thousands of jobs directly and indirectly tied to these mines have been lost. As many as 200 coal-fired power plants may cease generating electricity by early 2013. Slightly more than one-half of U.S. households (with a median income of $50,000) spent an average of 21 percent of their after-tax income on energy—an amount slightly higher than food.[33] If the EPA's many new rules are fully implemented, the price of electric power will escalate.

CAA History: Evolution of EPA's Vast Authority

The first version of the CAA was enacted in 1967 more as a general policy statement about the societal value of healthy air than as the regulatory juggernaut of today. The law assumed its current form in 1970 as a broad but prescriptive template for controlling the sources of air pollution capable of impairing human health. The CAA was strengthened in 1977 and again in 1990 by major amendments. Although EPA has incrementally enlarged regulatory scope and stringency over the last 30 years, the current EPA's regulatory aggression stands alone.

One of the country's most intricate, sweeping, and rigidly prescriptive laws, the CAA is one of the first statutes to authorize administrative bureaucracies to operate as a federal master throughout the economy.

The CAA articulates five fundamental programs, the first three of which are the subject of increasing controversy. The Act lists six major "criteria" pollutants for which EPA must set standards: carbon monoxide (CO), lead, sulfur dioxide (SO2), nitrogen oxides (NOx), particulate matter (PM) and ground level ozone (O3). The law directs the EPA to establish National Ambient Air Quality Standards (NAAQS) for each of the criteria pollutants, formulated as the maximum allowable atmospheric concentration for each pollutant necessary to protect public health "with a requisite margin of safety." The CAA precludes the consideration of cost as a balancing factor when determining the NAAQS. The statute mandates that each state attain the NAAQS by means of a State Implementation Plan (SIP) that "demonstrates" that the state will meet the NAAQS at the specified date.

The CAA also requires that EPA develop National Emission Standards for Hazardous Air Pollutants (NESHAP) from a list of 189 chemicals which Congress enumerated in the 1990 amendments to the Act. Other programs in the law require reduction of air emissions 1) contributing to regional haze (visibility) over national parks and wilderness areas; 2) causing acid-rain; and 3) associated with stratospheric ozone depletion.

One of the country's most intricate, sweeping, and rigidly prescriptive laws, the CAA is one of the first statutes to authorize administrative bureaucracies to operate as a federal master throughout the economy.[34] Under the CAA, Congress delegated broad authority to the Environmental Protection Agency (EPA) to protect human health and the environment by regulation of economic activity, consumer products, and private conduct. A rule binding private conduct carries the force of law. When the CAA directs the EPA to formulate national air quality standards adequate to protect health regardless of cost, Congress effectively delegated law-making authority to unelected federal employees.[35]

The objective was to allow scientific experts, rather than elected lawmakers, to make the difficult policy decisions inescapably connected to highly technical subject matter such as atmospheric chemistry and toxicology. "The scientization of American political life," writes Prof. Angelo Codevilla, "was just beginning. Between the 1950s and 2000, social policy was taken away from the voter because courts and 'independent agencies' took them over. Beginning in the 1970s, courts and agencies began to take control of economic life through the pretense of scientific environmental management."[36] Rule by an administrative state directed by unelected experts, however, undermines the basic function of our constitutional democracy.[37]

The EPA's recent assertion of regulatory authority over greenhouse gases under the CAA—a policy repeatedly rejected by the Congress—gives this single federal agency unparalleled power over basic economic activity.

EPA and CO2 Regulation

Under the EPA's 2009 Endangerment Finding—in unquestioned deference to the U.N.'s Intergovernmental Panel on Climate Change (IPPC) 4th Assessment Report—that greenhouse gases are pollutants, EPA's power to control the economy and private conduct became all-encompassing. Unlike emissions of actual pollutants which in certain concentrations can adversely impact human health, carbon dioxide (CO2) is a ubiquitous by-product of natural processes and human activity with no adverse ambient health effects. And unlike conventional pollutants measured in parts per million or billion, CO2 is so ever-present it is measured in tons. As a result of the Endangerment Finding, EPA has estimated that the number of businesses subject to new regulatory requirements would increase from 15,000 to 6.1 million. EPA estimates the cost to governments and business at more than $100 billion just in the first few years.

EPA admits that regulatory scope of this magnitude would be "absurd" because administratively infeasible. Thus, the agency justified narrowing the statutory emission thresholds so that the new rules would apply only to the largest industrial facilities. In this action (Tailoring Rule), EPA re-wrote the black-letter law of its enabling statute. The intended restraint of this Tailoring Rule, however, is temporary because this is only the initial phase of regulation.

Preventing levels of atmospheric CO2 that IPCC science considers dangerous, the crux of the endangerment finding, would require an 85 percent reduction of CO2 emissions, to a level not seen since the late 19th century.

In April 2012, EPA proposed the first hard limits for CO2 emissions from power plants—a *de facto* ban on new coal-fired electric generating units (EGU). In a rule violating the technology-based limits of regulation enshrined in the CAA, EPA effectively mandated combined-cycle natural gas fire EGUs for new electric generation across the country. EPA finds that because the rule is not expected to reduce CO2—and thus has no environmental benefits—it has no costs. This rule unabashedly uses environmental regulatory authority to dictate the means of production—a case of pure economic engineering.

In June, a panel of the D.C. Circuit Court of Appeals rejected challenges to the Endangerment finding and Tailoring Rule. A petition for rehearing is now pending. Given the Supreme Court's prior decision in *Massachusetts v. EPA*[38] and the Circuit Court's unqualified ruling that the EPA's rules were compelled by statute, overturning those regulations will likely take either congressional action or Supreme Court reversal of *Massachusetts*.

The Regulatory Cliff: Expanding Bureaucracy, Escalating Costs, Immeasurable Benefits

Perhaps no other federal agency has such discretionary authority to issue prescriptive dictates across the economy. Says David Schoenbrod: "Two-thirds of the cost imposed by major rules issued by all federal agencies over the past decade [1995-2005] has come from rules issued by EPA."[39] Of the $26 billion cost of major federal regulations issued in 2010, EPA regulations accounted for over $23 billion.[40] In the early decades of the Clean Air Act, EPA's dictates did not necessarily compel a reduction in economic output. The language of the Act avers that EPA regulation must be achievable through existing technology.[41] Thus regulated entities developed creative emission controls to meet EPA's limits. Increased production carried higher costs, but growth was not precluded.

But after decades of increasingly stricter regulations, the current EPA's exponentially more stringent limits now entail reduced production, compulsory change of the means of production, and business closure or relocation to a country lacking such onerous regulations. Such economic engineering is operational in a recently adopted

After decades of increasingly stricter regulations, the current EPA's exponentially more stringent limits now entail reduced production, compulsory change of the means of production, and business closure or relocation to a country lacking such onerous regulations.

EPA rule called the Cross-State Air Pollution Rule. After reduction of sulfur dioxide emissions by 69 percent, EPA now mandates further reduction of more than 50 percent of the remaining SO2 within two years.[42] These mandates are infeasible for many sources and would not result in any measurable health benefits. CSAPR was initially scheduled to go into effect on January 1, 2012. A motion to stay granted on December 30, 2011. On August 21, 2012, the rule was completely vacated by the D.C. Circuit Court of Appeals. The Court ruled that EPA had denied the state authority guaranteed by the CAA and had mandated an amount of emission reduction that vastly exceeded an upwind state's contribution to air pollution in downwind states.

For the first time in EPA history, the reliability of the nation's electric supply is at risk. Electric generators in multiple states have announced closures of power plants, reduced operation, or switched to different fuels.[43] As a founding trustee of the Environmental Defense Fund noted as early as 1988, "The EPA's regulation has grown to the point where it amounts to nothing less than a massive effort at Soviet-style planning of the economy to achieve environmental benefits."[44] EPA's current regulatory agenda is filled with major rules carrying multi-billion dollar annual costs by EPA's own conservative estimates. Even before the effective dates for these new mandates, the unprecedented impacts of the EPA's agenda already emerge. During 2012, many states have experienced job loss, declining electric capacity, and sharply higher electric rates.

Conclusion

Harsh criticism of the current EPA's administration of the CAA in no way amounts to advocacy of a rollback of meaningful environmental protections nor of a slackening of future efforts to address air quality challenges. The reforms recommended above would, indeed, support more effective, efficient and meaningful management of air quality necessary to protect human health.

As one observer noted, the EPA speaks flexibility but practices rigidity. Left unchecked, the EPA has become a centralized economic planning agency in pursuit of an energy policy precluded by math and physics. EPA's regulatory agenda would not only "fundamentally change the economy," as Preside Obama has promised. The unelected technocrats at the EPA would also undermine our form of democratic governance in which elected representatives, not federal employees, make the major policy decisions affecting the country and real people. ★

Appendix: Eight Principles of the American Conservation Ethic

1. People are the Most Important, Unique and Precious Resource
2. Renewable Natural Resources Are Resilient, Dynamic and Respond Positively to Wise Management
3. Private Property Protections and Free Markets Provide the Most Promising Opportunity for Environmental Improvements
4. Efforts to reduce, Control, and Remediate Pollution Should Achieve Real Environmental Benefits
5. As We Accumulate Scientific and Technological Knowledge, We Learn How to Get More from Less
6. Management of Natural Resources Should be Conducted on a Site-and-Situation-Specific Basis
7. Sound Science Should Be Employed as a Tool to Guide but Not to Dictate Public Policy
8. The Most Successful Environmental Policies Emanate From Liberty

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About the Author

Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2008. She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and disposal of waste, TCEQ's staff of 3,000, annual budget of more than $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She is now serving in her fifth gubernatorial appointment as an officer and director of the Lower Colorado River Authority.

Texas Public Policy Foundation

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EPA'S PRETENSE OF SCIENCE

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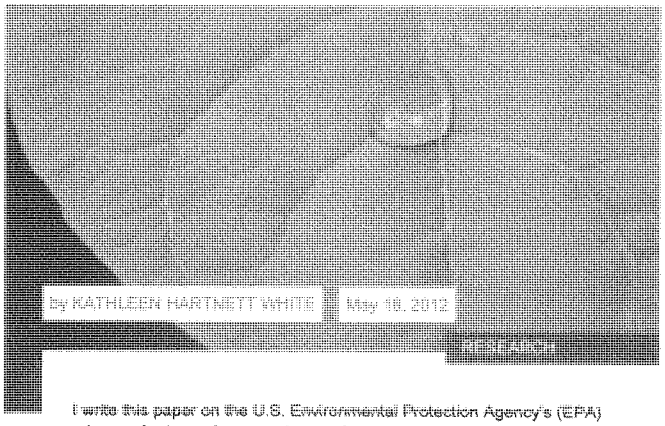

by KATHLEEN HARTNETT WHITE | May 10, 2012

SHARE

I write this paper on the U.S. Environmental Protection Agency's (EPA) misuse of science from my six-year former experience as a final regulatory decision-maker for the Texas Commission on Environmental Quality (TCEQ), the world's second largest environmental regulatory agency after the EPA itself. I was a commissioner and chairman, of TCEQ from 2001-2007. My responsibility for making final decisions on regulations, permits, and enforcement actions necessarily involved my judgments about the rigor, accuracy, and relative uncertainties in diverse scientific studies, statistics, modeling protocols, and technical analyses. I viewed this "science" as a critical tool to inform-but not to dictate-what were ultimately legal and policy decisions. Various members of the scientific community claim that non-scientists, like me, cannot challenge the credibility of the EPA's use of science. This view maintains that only credentialed scientists can critique the work of other credentialed scientists. If that is the case, so much the worse for representative democracy.

Government by popularly elected representatives on the one hand and government by federal administrators swearing by the authority of science, on the other hand, are contradictory notions. I would call the latter, moreover, an acutely dangerous notion. Regrettably, in the modern United States these two incompatible policy-making models clash often, and with dire results. Elected officials trying to carry out their public duties-e.g. maximizing access to clean, affordable energy-meet stubborn opposition from federal mandarins brandishing their scientific credentials. The magnitude of the EPA's current regulatory agenda has elevated the importance of these issues.

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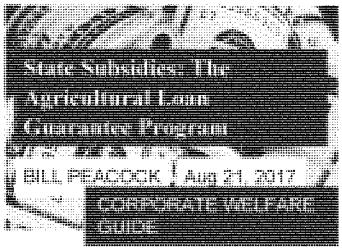
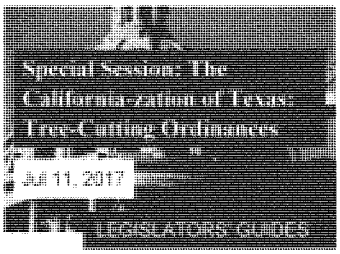
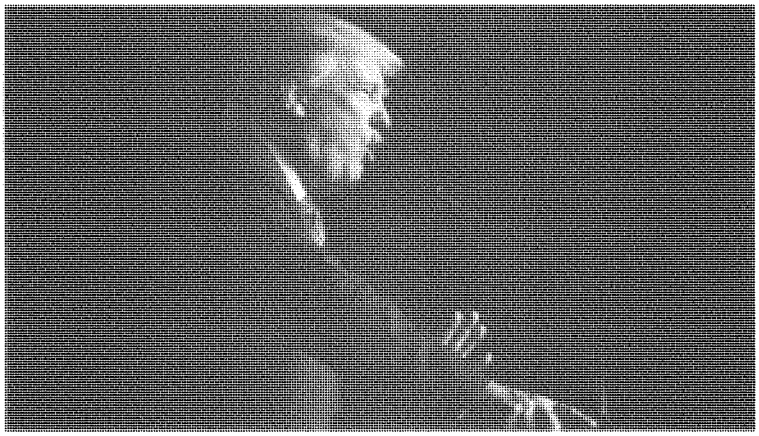




President Trump's Energy Policy Would Be a Nightmare

Trump adviser and potential EPA head gives a glimpse into what one aspect of his administration would look like



"You are going to like Donald Trump," the Republican nominee told a roomful of fracking supporters last week.
Evan Vucci/AP

By Antonia Juhasz
September 29, 2016

At the Shale Insight conference in Pittsburgh last week, Donald Trump promised a roomful of fracking executives and stalwarts, "Oh, you will like me so much, you will get that business. You are going to like Donald Trump."

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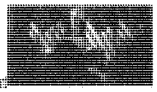

After Trump expressed his support for local fracking bans in August, "fracking king" Harold Hamm, CEO of Continental Resources, a Trump energy advisor and rumored pick for Trump energy secretary, was forced to step in and explain that the Republican nominee was "confused" by the question and is indeed "solidly behind fracking." Trump drove the point home at last week's conference, recognizing

Hamm and asking a lone New York shale-producing hopeful to stand and be recognized for his continued perseverance despite a statewide fracking ban.

This was a telling episode, showing what to expect from a Trump presidency. Trump has an exceptionally limited policy background, forcing voters, like the nominee himself, to look to his advisers for policy specifics.

Not that he hasn't had a few choice positions on oil to share, such as when he said of taking on ISIS, "I'd bomb the hell out of the oil fields .... I'd then get Exxon, I'd then get these great oil companies to go in – they would rebuild them so fast your head will spin." A "ring" of U.S. troops would then surround the wells, protecting the oil companies, Trump said.

But that was a year ago. Today, Trump's policy prescriptions are far more scripted. And he's learning that he will not, in fact, run the entire federal government himself.

Trump has amassed a long and highly instructive list of advisers; many of them are also his leading campaign contributors. They're a wily bunch of extremist climate-change denialists, fossil-fuel supremacists, and at least one Koch Industries lobbyist, as well as Gordon Gekko-types who buy distressed oil companies, strip them for parts and sell them for a tidy profit. And they're all looking to cash in on some extremely well timed pro-oil hoopla from the GOP nominee.

Take Kathleen Hartnett-White, rumored pick to head Trump's Environmental Protection Agency. She's a senior fellow and director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation (TPPF), a leading right-wing climate denialist think tank that has been funded by the likes of the Koch brothers, Exxon, Chevron, ConocoPhillips, the Heartland Institute and a slew of small

fracking oil-field players – "a Who's Who of Texas polluters," as the *Texas Observer* described the group's donors in 2012. TPPF's president and CEO, Brooke Rollins, is also a Trump adviser.

In Pittsburgh, Trump surprised many by announcing he has an "environmental agenda" that would "be guided by true specialists in conservation." He may well have meant Hartnett-White. Unique among his advisers, she's a former government regulator, appointed by then Gov. George W. Bush to the Texas Water Development Board and by Gov. Rick Perry as chair of the Texas Environmental Quality Commission, "the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency," according to her bio.

In an interview, Hartnett-White assures *Rolling Stone* that, if asked, she'd "love to serve" in a Trump administration. What draws this longtime breeder of National Champion Jack Russell Terriers to Trump is "his optimism" – the kind of optimism that will propel him to fully exploit America's "extraordinary energy bounty." The Republican nominee surely has not disappointed, pledging in speeches to lift restrictions on all sources of American energy production, implement a moratorium on new, more onerous federal regulations, and eliminate the worst of those already on the books, starting with President Obama's signature climate policy, the "so-called Clean Power Plan," as Trump identified it.

As with so many energy policies Trump has discussed on the campaign trail, each of these is found in *Fueling Freedom*, Hartnett-White's 2016 book co-authored with fellow Trump adviser Stephen Moore, an economist and Heritage Foundation fellow.

Fueling Freedom is a hymnal to all things fossil fuels, the dirty-energy, non-satirical equivalent of *Thank You for Smoking*. Hartnett-White says the book is a primary reason she was asked to join Trump's team –

along with her work as an environmental regulator and their shared devotion to the oil shale (or fracking) revolution.

Hartnett-White's is no hippy-dippy free love energy strategy like the "all of the above" policies touted by Obama and Jeb Bush. There's no "weak and parasitic renewable energy" here, no "green job craze," electric cars or biofuels. And there's certainly no shared global sacrifice to tackle the "exaggerated nonsense" of global warming. Quoting Charles Krauthammer, she and Moore write, "Global warming ... is a creed, a faith, a dogma that has little to do with science."

This is an "America First" energy strategy that will double the amount of oil fracked in the United States, untap 1.5 trillion barrels of oil in states like Alaska, California, Colorado, Texas and Utah as well as offshore, and propel the U.S. to become the dominant oil producer in the world, exporting so much that we'd replace Saudi Arabia as the world's swing producer. Doing so would unleash what the authors dub "the Master Resource": fossil fuels.

Trump would join a relatively short list of white men (including Hamm) praised in the book for harnessing the Master Resource over the centuries to gain dominion over our more savage tendencies, just like the humans in *Dawn of the Planet of the Apes*, they write.

Worried about harmful side effects of fracking? Don't! "Contrary to false reports in the media, virtually no documented environmental problems have been associated with fracking – ever." Want to balance the federal budget, eliminate our trade deficit and retire our entire national debt? Done! Royalties from oil, natural gas and coal resources from massively increased production on federal lands and waters have you covered. Worried about the carbon dioxide emissions of burning so many more fossil fuels? Pshaw! Increased concentrations of CO2 in the atmosphere are good for you! "Spread the news!" they write. "Man's carbon footprint shrinks his physical footprint on the earth."

What about "climate justice for communities of color"? "Irrelevant," they assure. Concerned for Native Americans fighting oil infrastructure or production projects, such as those opposing the Dakota Access Pipeline? Don't! As Hartnett-White explains, it turns out these, as well as "Canadian Native Americans," might just be paid-off pawns of the Russians trying to undermine American oil production. *Phew.*

There is reason to be afraid, according to the book, and danger comes in many forms. There's the Environmental Protection Agency, the United Nations, California, green-energy policies that "undermine human progress" and "are not really clean at all," people who want us to "build windmills and ride our bicycles to work" and, of course, science. "We're not a democracy if science dictates what our rules are," Hartnett-White tells *Rolling Stone.*

What do these ideas translate to in practice? Luke Metzger, director of the non-profit Environment Texas, has spent years going head-to-head with the Texas Environmental Quality Commission. As chair, Hartnett-White "embodied the philosophy at the agency, which was to put the interests of big polluters ahead of public health and the environment," Metzger tells *Rolling Stone.*

He cites a 2003 state auditor report finding that TEQC under Hartnett-White consistently failed to hold violators accountable for breaking its laws, applied fines that amounted to only about 40 percent of the profits the companies made breaking the law, and introduced policies that weakened its own regulations.

Hartnett-White "was put in that position by the governor for that very reason," Metzger says. "Gov. Perry had received hundreds of thousands of dollars in campaign contributions from these very businesses who had an incentive to make sure there was as weak a regulatory structure in place as possible. She definitely filled that role to

a tee."

There is also a pure propaganda value to all of this, Hartnett-White admits. Sure, she concedes, the world is currently suffering from an oil glut, with supply outpacing demand. Demand for oil will increase, she explains, simply by the United States stating its *intention* to increase production. (If the world believes the U.S. isn't going to follow the "climate change evangelists," then policies won't be adopted reigning in fossil fuels, and demand will grow.)

Enter Trump, heralding the good news about America's pending fossil-fuel world domination. You can just feel the anticipatory hand-rubbing not only of Hamm, but of Wilbur Ross, John Paulson, Steve Feinberg and Carter Page, Trump's hedge-fund and private-equity crony advisers, ready to cash in.

Their ilk, however, have a particularly bad reputation in the Bakken – America's most notorious fracking field – due to their exclusive focus on the bottom line and profits, to the detriment of safety and lives, forcing companies to cut corners and do more with less (including tens of thousands of fewer workers), and contributing to a worker death rate in North Dakota that is seven times the national average, Kevin Pranis of the Laborers International Union of North America tells *Rolling Stone*.

Nonplussed, Hartnett-White is effusive about the seemingly boundless job growth the Master Resource will bring. Citing a figure also found in *Fueling Freedom*, Trump pledged in Pittsburgh that freeing America's energy sector would add 500,000 jobs annually (after earlier declaring that "oil and natural gas production employs some 10 million Americans," when the actual number is less than 170,000). "All the workers that get put to work, they're going to love Donald Trump," he said.

But America's oil workers aren't biting; across the board, they're backing

Hillary Clinton. Even the United Mine Workers of America, representing the nation's coal workers, aren't supporting Trump.

The International Union of Operating Engineers Pittsburgh Local 66 even went so far as to withdraw its sponsorship of the Shale Insight conference in protest of Trump's appearance. "There's just no way that I was going to associate Local 66 with any function that gives this guy an avenue to speak," Jim Kunz, business manager for the union, told the *Pittsburgh Post-Gazette*, calling the GOP nominee "a snake oil salesman."

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The Total Port Arthur in Port Arthur, Texas. Potential EPA head Kathleen Hartnett White wants to end subsidies for renewable energy if picked to lead the agency. **David J. Phillip** - ASSOCIATED PRESS

POLITICS & GOVERNMENT

Texan who could lead Trump's EPA wants to end renewable energy subsidies

BY ALEX DAUGHERTY
adaugherty@mcclatchydc.com

NOVEMBER 30, 2016 9:21 AM

WASHINGTON — A Texan under consideration to lead the Environmental Protection Agency wants to end subsidies for renewable energy and said it's not clear how much human activity contributes to global warming.

Kathleen Hartnett White, the head of a conservative Texas think tank, confirmed to McClatchy that she is being considered to lead the EPA after meeting with President-elect Donald Trump on Monday.

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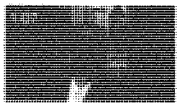

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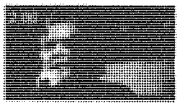
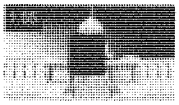


Steve Bannon: From White House exit to 'war' on GOP establishment



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The EPA is one of Trump's biggest targets, and White, whose record shows an interest in cutting regulations, said she is under official consideration for the agency's top job.

"Trump asked me all kinds of different questions on energy, environmental regulations and the EPA," White said in an interview. "It was a very pleasant, very easy meeting."

White described her meeting with Trump as a "conversation" and that they went back-and-forth after she stated her positions and ideas on how the EPA should be run.

(Oklahoma attorney general Scott Pruitt is also under consideration to lead the EPA and met with Trump earlier this week.)

When asked by McClatchy whether humans contribute to global warming and if there are any steps humans can take to reduce it, White initially said, "I don't have enough time to explain that."

White, an energy adviser for the Trump campaign and the director of the Armstrong Center for Energy and the Environment at the Texas Public Policy Foundation, then said it is possible human involvement can reduce global warming.

"As a matter of physics it is possible but to what extent it is not clear," White said. "Before really pursuing the elimination of fossil fuels we need to very carefully look at the risk involved. As a matter of rule of law, our Congress needs to speak on that and not just a federal agency."

White also wants to cut federal subsidies for

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renewable energy, which totaled $7.3 billion according to a 2013 report by the Congressional Budget Office.

"All energy sources would be welcome, but they need to have a level playing field in which to compete," White said. "The extent of the subsidy in terms of wind and solar is so high. The economic operation of renewables are totally welcome, but I doubt as a matter of physics if they'll be able to power mega cities. They've been subsidized since the early 1990s and should compete on their own terms."

Trump mentions the EPA as the source of "our most intrusive regulations" on his campaign website.

"We will also scrap the EPA's so-called Clean Power Plan which the government estimates will cost $7.2 billion a year," the website said.

White said the methods the EPA uses to determine the harmful effects of pollutants on humans are "weakened and manipulated" and that she wants to change the agency's rules on mercury and the ozone.

During the campaign, Trump said that the EPA would be gutted if he's elected, and that environmental protection duties should be turned over to states, something White agrees with.

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"An easy way to address major problems with the EPA is to actually reinstitute an amount of authority," White said. "The EPA sets federal standards that were mandatory across the country but states figured out how to ... execute and get the job done."

But White, who described the EPA as "arrogant" under President Barack Obama, stopped short of saying the EPA should be eliminated.

"I have an open mind about that," White said. "The job of the administration is to execute the president's policies. I have an opinion about it, but the decision should be made by the president and Congress."

White has experience in environmental policy. She led the Texas Commission on Environmental Quality – the second-largest environmental regulatory agency in the world after the EPA – for six years under Gov. Rick Perry.

But her record as a regulator has drawn the ire of environmental groups in Texas.

"We can't really stomach her," said

Environment Texas director Luke Metzger. "Just compare her to President (George W.) Bush's first EPA administrator Christine Todd Whitman; she accepted basic science. Unfortunately what we've seen with Ms. White is that she bends over backwards to deny the science. We can't even have a reasonable discussion with her."

Metzger said White "routinely sided with big polluters" while leading the Texas Commission on Environmental Quality, known as TCEQ, and failed to levy reasonable fines for companies that damaged the environment.

Current TCEQ commissioner Bryan Shaw declined to comment on White's tenure as an environmental regulator.

White defends her environmental record.

"There are plenty of things that I got done that were extraordinarily effective," White said. "The Houston-Galveston area was once most polluted, and under the last state plan I signed, Houston in fact obtained ozone standards in 2010. I was one of the few folks who thought that could happen."

Environmental groups opposed Houston's ozone plan, which was approved by the EPA in 2001 and upheld in federal court two years later.

Metzger said states like Texas rely on the EPA to set the floor for environmental regulations, and that White's likely scaled-down version of the federal agency would be a "step back entirely and lets the states do whatever they want."

Instead of federal regulations, White said, private sector technology should be the driving force behind improving the environment, with an emphasis on air and water quality.

She also praised Trump's emphasis on energy. "That President-elect Trump puts energy at the core of his economic policy is very, very exciting," she said.

White voted as a member of the state commission in favor of a coal plant 150 miles south of Dallas in 2007 despite questions over air quality, and the plant's parent company is now trying to shed its tax obligations in the wake of decreasing profits.

Her approval of the coal plant led to environmental groups putting up billboards titled "Get White Out."

"I think she's worked for an industry-funded think tank attacking clean energy, trying to put a moral sheen on fossil fuels and ignoring the public health problems she had in Texas," Metzger said.

Alex Daugherty: 202-383-6049, @alextdaugherty

COMMENTS

TRENDING: DONALD TRUMP HILLARY CLINTON SUNDAY SHOWS SPONSORED: THE LOVING COMPANY

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Renewables are incapable of replacing hydrocarbons at scale

BY KATHLEEN HARTNETT WHITE, CONTRIBUTOR - 03/30/16 07:00 AM EDT

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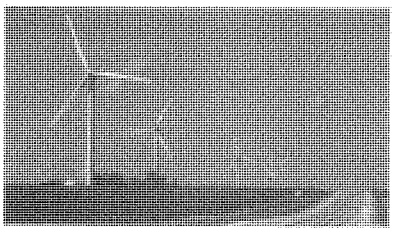

Conspicuously missing from public chatter about the climate issue is recognition of the staggering costs and likely insurmountable engineering challenges of these grand plans to decarbonize human society within several decades.

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Policymakers intent on imposing a swift end to the era of fossil fuels, such as President Obama and Gina McCarthy, administrator of the Environmental Protection Agency (EPA), are either unaware or indifferent to the colossal scale, futility and economic risks of a forced transition from energy-dense fossil fuels to the relatively diluted renewable energy sources (wind, solar and biomass). The U.N. pact sealed in Paris, as well as the climate goals of the EU, California and the White House, assume that carbon dioxide emissions — a ubiquitous byproduct of human activity — can be reduced 95 percent by 2050.

For a dose of reality, consider master energy number-cruncher Vaclav Smil's estimate of a cost approaching $2.5 trillion to build enough new wind and solar facilities in the United States to replace the 1,100 gigawatt (GW) generating capacity of our fossil-fueled electric system. And couple that colossal sum with another $2 trillion in capital assets now imbedded in fossil-fueled generating hardware and related infrastructure. With a national debt of $19 trillion that is increasing $2 trillion a year, an anemic economy and a shrinking middle class, how can taxpayers afford to subsidize such wasteful projects?

The viability of plans to power our energy-intensive society exclusively with renewables is defied by simple arithmetic and basic physical laws. Yet, policies to avoid dangerous global warming all assume that a mass deployment of renewable energies can replace fossil fuels and still provide abundant, affordable and diverse energy services on which modern societies are utterly dependent. The climate scientists and policy wonks who developed these energy plans remain oblivious to what is increasingly obvious to the engineers who make such things work. As the engineers tasked by Google to develop a realistic, affordable plan to decarbonize concluded: Renewables are a false hope that simply won't work.

Michael Kelly, Prince Philip Professor of Engineering at Cambridge University and member of Britain's Royal Society, notes: "If the climate scientist community was to learn that engineering will not be able to 80% mitigate CO_2 emissions by 2050 without inflicting massive harm on the global economy and mankind in general, it might improve the quality of the public debate." Renewable energy from wind, sunshine and biomass are inherently ill-suited to replace the energy service now handily delivered by coal, natural gas, oil and uranium. Renewables are inherently diffuse and uncontrollable in energy content and power density, while fossil fuels are highly concentrated, reliable and versatile.

Over the last decade, hundreds of billions of taxpayer dollars have been spent to subsidize aggressive installation of renewable facilities in Europe and the United States. Yet, the share of energy contributed by wind and solar farms

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remains minute. In 1990, wind and solar energies accounted for 0.45 percent of global primary energy. In 2010, after deployment of thousands of wind turbines, the renewable share rose only to 0.75 percent of the energy pie. By 2014, the renewable share rose only to 1 percent — barely a dent in the world's energy mix still dominated by fossil fuels contributing 85 to 90 percent of global energy. In spite of 20 years of subsidy, lavishly amplified over the last seven years by the president's almost $800 billion stash of stimulus funds, wind and solar in the U.S. supplied slightly less than 2 percent of energy consumption in 2013.

As a generating system, renewables cannot claim zero-carbon status. Wind and sunshine may be carbon-free, but they require more hardware to generate electricity than energy-dense fossil fuels. As Professor Jesse Ausubel of Rockefeller University notes: "Although a present natural gas-fired combined-cycle plant uses about 3 metric tons of steel and 27 cubic meters of concrete per average megawatt electric, a typical wind-energy system uses 460 metric tons of steel and 870 cubic meters of concrete."

Because wind and solar are intermittent and unpredictable, it takes two to three units of wind generating capacity to replace one unit of capacity from reliable fossil fuels. Renewable advocates tout the "installed capacity" of wind or solar — a measure of the maximum sustained output of electric power from a given facility. They typically omit, however, the far lower numbers for "capacity factor" — a measure of actual generating performance. Coal and nuclear plants can generate electricity all night long, any time of the year. Wind- and solar-fueled electric generation obviously cannot do so.

For this reason, intermittent renewables are parasitic on back-up power from reliable fossil fuels — a hidden but highly expensive inefficiency. With years of experience in Europe, the EU estimates the average capacity factor for wind at only 20 percent. For the United States, the U.S. Energy Information Administration (EIA) assigns a capacity factor of 90 percent for nuclear power plants, 60 to 70 percent for coal plants and 30 percent for wind facilities.

The much larger spatial requirements for wind and solar generating facilities — covering areas thousands of times larger than needed for hydrocarbon or nuclear fueled plants — do not bode well for using renewables to power huge cities or to preserve natural ecosystems. The EPA's Clean Power Plan envisions new wind farms that would cover 7 million acres of the U.S., but they would only meet a small fraction of total electric demand.

Living generations are the first beneficiaries of a vast energy system developed across the world over the last century. The components of this system number in the tens of thousands. Mines, oil and gas wells, pipelines, transmission and

distribution lines, electric grids, fuel terminals, ports, trains, trucks, tankers, fueling stations, extraction hardware, processing and refining facilities, power plants, petrochemical manufacturing: This energy infrastructure is all designed around fossil fuels. The system is present in all prosperous countries and developing countries long to replicate such infrastructure.

Prevailing climate policies presume we will simply abandon fossil fuels and the existing energy system. Mass operation of renewables would demand that extensive new infrastructure be designed to concentrate the diffused energy in contrast to the current system designed to diffuse the energy in fossil fuels.

As Lewis Page notes in The Register:

> Far from achieving massive energy savings, which most plans for a renewable future rely on implicitly, we would end up needing far more energy, which would mean even more vast renewable farms — and even more materials and energy to make and maintain them and so on. The scale of the building would be like nothing ever attempted by the human race.

A wholesale shift from hydrocarbons to renewables presage energy scarcity and exorbitant price, as has already occurred in Germany and the U.K. As Smil reminds us, "Any rapid substitution by low power renewable densities is illusory without dismantling existing urban societies," and such is the path on which developed world has now set itself.

The climate crusaders need to listen from the engineers and to be upfront about the scale, risks, costs and likely futility of grand green plans. Economy-wide impacts and human pain are already palpable in European countries, whose officials are nonetheless determined to pursue even more draconian climate goals like prohibiting vehicles powered by the internal combustion engine!

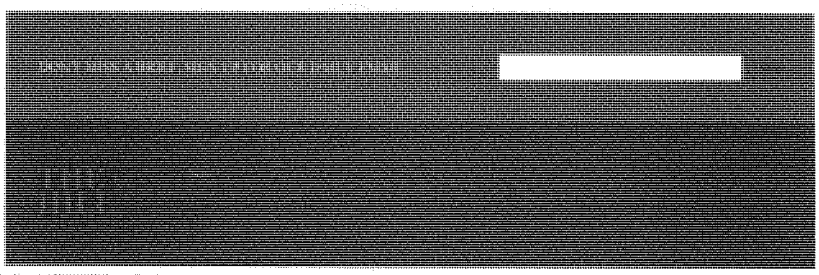
Although the U.S. Supreme Court has stayed the legal fate of EPA's Clean Power Plan likely for a couple of years, the wind industry is accelerating installation of renewable facilities owing to the multi-year extension of renewable subsidies approved by Congress in the spending package for 2015. Likely a political tradeoff for repealing the 40-year ban on oil exports, the subsidies for wind and solar mask what the engineers have revealed.

Without subsidies, renewable systems could find useful niches, but if they are deployed as a means of replacing fossil fuels, they simply won't work. Just ask the almost 1 million households in Germany that no longer can afford electricity at rates three times higher than the average U.S. rate.

White joined the Texas Public Policy Foundation in January 2008. She is a

distinguished senior fellow-in-residence and director of the Armstrong Center for Energy & the Environment. She is the author, with Steve Moore, of the forthcoming "Fueling Freedom: Exposing the Mad War on Energy," (Regnery Publishing, May 2016).

TAGS GINA MCCARTHY , FOSSIL FUEL , RENEWABLE ENERGY , SOLAR POWER , WIND POWER



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Bald Eagles: Gone with the Wind

Kathleen Hartnett White | Posted: May 20, 2016 12:01 AM

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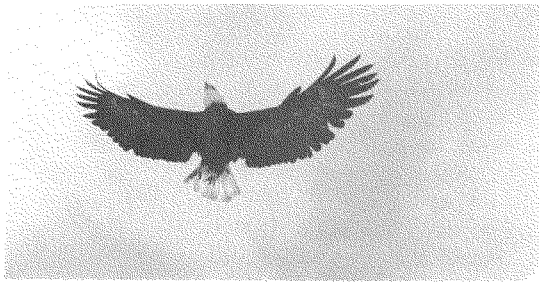

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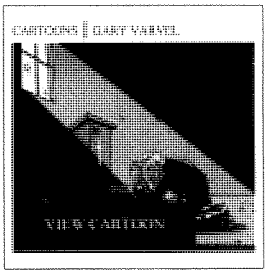
"The founding fathers made an appropriate choice when they selected the bald eagle as the emblem of our nation. The fierce beauty and proud independence of this bird aptly symbolizes the strength and freedom of America." JFK 1961

The last seven years may have diluted that patriotic sentiment. Yet, square our national veneration of the bald eagle with a federal rule to allow the rotor blades of wind turbines to butcher 4,200 bald eagles per year for thirty years—four times the previous limit. The U.S. Fish and Wildlife Service (Service), an agency legally bound to protect wildlife and with no jurisdiction over energy, stated that the rule's purpose was to help spur more renewable installations.

The bald eagle is probably the most honored and protected wildlife species in U.S. history. Initially protected in 1940 under the Bald Eagle Protection Act, the majestic bird was one of the first species listed under the Endangered Species Act in the late 1960s. When first listed, perhaps only four hundred breeding pairs existed. When officially delisted in 2007, the bald eagle population had increased to 10,000 pairs that mate for life. The noble bird is still protected by the Bald and Golden Eagle Protection Act.

With the new rule, the Service apparently aims to legitimize what has become politically selective enforcement of wildlife protection laws under the Obama administration. The feds have largely given renewables energy facilities a pass on bird and other wildlife kills while repeatedly trying to nail oil and gas operations with criminal prosecution and onerous fines for the inadvertent kills of a few common birds. In 2012, a federal judge in North Dakota threw out the Department of Justice's criminal indictments of three oil and gas companies on the grounds that the law was too vague to criminalize basic commercial activity.



Various industrial operations including wind turbines inadvertently kill hundreds of thousands of birds every year. Feral and domestic cats may kill five hundred million birds. There is something heinous, however, about authorizing the slaughter of over 4,000 bald eagles every year for thirty years to promote renewable energy—a diffused, parasitic form of energy, wholly dependent on subsidy- at the expense of our redoubtable bald eagle. Emblazoned on the Great Seal of the United States adopted in 1887 and only delisted from the Endangered Species Act in 2007, does not the American Bald Eagle deserve a pride of place among

protected wildlife in our country?

On the other hand, disregard for our national symbol is consistent with our president's policy to diminish the strength and clout of the United States. If renewable energy systems on a mass scale could "save the one planet we have," then farewell to the living symbol of our country. It's becoming increasingly undeniable, however, that renewables are not capable of providing the energy services on which our society is utterly dependent and cannot displace 80–90 percent of our fossil fueled–energy supply without creating extreme energy scarcity. Even Google's green engineers regrettably concluded that existing renewables are a "false hope." As a German newspaper put it, renewables are a "blunder with ugly consequences." And the most ugly impact is the unimaginable scale on which the planned renewable build-out would damage and disfigure the environment.

Replacing fossil fuel–based electric generation with wind and solar generation requires massive amounts of land and the destruction of natural habitats in return for less energy at a higher price. In contrast, fossil fuels, whose density and reliability far exceed those of renewable energy fuels, have reduced the size of man's footprint on the earth, while technology has greatly reduced polluting emissions from the combustion of fossil fuels.

Wind and sunshine may be free, but the many indirect costs of concentrating the diffuse and variable flows from these energy sources drives the cost per unit of electricity far higher than fossil fuel generation. For solar to meet total U.S. electric demand, ten thousand square miles would have to be given over to solar panels.[i] And renewables are not as clean and green as promoted.

> Current renewable systems require massive material use. For example, an average wind system uses 460 metric tons of steel and 870 cubic meters of concrete per megawatt of electricity to anchor the turbines. In contrast, a natural gas combined cycle plant of comparable capacity uses about three metric tons of steel and twenty-seven cubic meters of concrete. Although likely regarded as punishable heresy by the climate crusaders, mankind's carbon footprint has shrunk the physical footprint of human societies on the natural world.

It's time to lift the veil on renewables. The preoccupation with carbon emissions risks major gains in genuine environmental protection and now would trash our national symbol—the American Bald Eagle.

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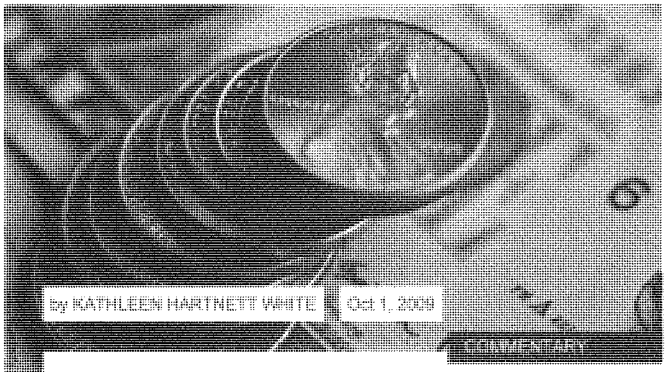

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Your tax dollars from the $787 billion American Recovery and Reinvestment Act (ARRA) have begun to flow freely to "renewable energy facilities" in Texas. The stimulus bill tagged at least $110 billion for "clean" energy projects.

The Penescal Wind Farm in Sarita, TX (near Corpus Christi) recently received a $114 million stimulus grant. Penescal Developers will use the money to double the size of the facility. Under the program in Section 1602 of ARRA, the federal government will rebate 30 percent of the construction cost. The subsidy also includes accelerated depreciation to reduce taxes.

Wind farms already are heavily subsidized, without which there would be few if

any on the ground. When federal subsidies lapsed in 2000, 2002, and 2004, wind farm development ceased. According to the U.S. Energy Information Agency, total federal subsidies for electric generation from wind in 2008 were $22.37 per megawatt hour, compared to 25 cents for natural gas.

The developers of the wind farm in Sarita, TX claim the expansion made possible by the taxpayers' stimulus check will provide power to 70,000 homes. Seven thousand homes might be a more accurate figure. The 84 additional turbines at the Sarita facility will increase the installed capacity by 200 megawatts, but the actual electricity generated by wind farms is much lower than their installed capacity. According to the Electric Reliability Council of Texas, Texas wind farms generated electricity at 8.7 percent of installed capacity in 2008. Wind blows intermittently and at variable speeds.

Sarita developers claim the federal rebate will produce more than 200 jobs. Dividing the $114 million rebate by the 216 jobs, one arrives at a cost of more than $500,000 for each job! And are not most of the jobs for temporary construction? According to our state comptroller's employment data, each 100 megawatts of installed wind generation supports no more than eight permanent jobs.

Investment bankers are all aflutter with the onset of stimulus money for renewable energy projects according to the August 31 Wall Street Journal. After a long lag, numerous firms have again invested upwards of $100 million in wind farms. Investors are attracted by the quick returns made possible by the hefty federal grants and tax benefits.

The growing subsidies for wind power mask wind's high cost and inherent limitations, but only for so long. As of this summer, an average residential electric bill in Austin Energy's GreenChoice retail program was $152, compared to $93 for its standard program. Indeed, the price of Austin's GreenChoice electricity had doubled since early 2008. With almost no new subscribers for GreenChoice, in August, the Austin City Council directed the utility to slash GreenChoice rates and spread the higher cost of wind energy among all Austin Energy ratepayers.

Although appealing to many, wind power is an extremely expensive, inefficient, and unreliable source of electricity, incapable of providing base load power. Wind's intermittency, variability, line loss, necessary back-up generation, transmission needs, and dispatch complexity limit the amount of electricity wind can secure. Ever larger mandates and subsidies will not make

wind power more economically viable, as the European experience now demonstrates.

A recent study in Denmark, allegedly the world's titan of wind power, reveals that wind met only five to 10 percent of electric power demands in the past five years, instead of the widely touted 20 percent. Danish utility rates are the highest in the European Union. And each "wind job" created by government subsidy cost Danish taxpayers between $90,000 and $140,000, figures similar to Spain's subsidized wind industry.

Renewable energy may provide a welcome contribution to the Texas and national energy portfolio. Consumers, however, must demand the hard facts of the matter. Wind power must shed the government supplement and meet the tests of the free market place to find its appropriate niche.

Kathleen Hartnett White is Distinguished Senior Fellow in Residence and Director of the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation, a non-profit, free-market research institute based in Austin. White is the former Chair of the Texas Commission on Environmental Quality.

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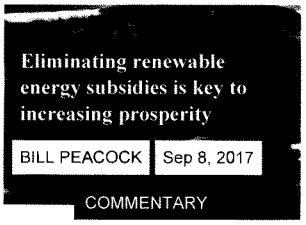

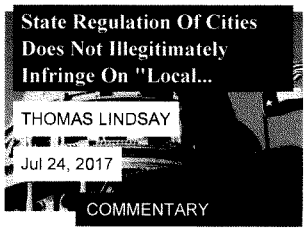

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Texas Environmentalists: Kathleen Hartnett White Would be 'Disaster' as EPA Chief

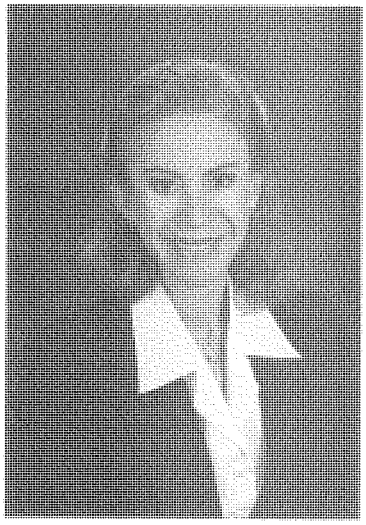
White has a long record of siding with industrial polluters in Texas and holds some extreme views on matters of science.

by Naveena Sadasivam

@NaveenaSivam

Wed, Nov 30, 2016 at 8:30 am CST

Kathleen Hartnett White's vote to allow construction of a new coal plant 150 miles south of Dallas was the final straw for environmental groups. Mayors and officials in 24 cities and counties opposed the Oak Grove coal plant. Residents of Robertson County took out ads in the paper and held protests opposing it. And administrative law judges, who reviewed the plant's air permit, told the Texas Commission on Environmental Quality (TCEQ) that the plant's pollution controls



Kathleen Hartnett White, a climate change denier, is being considered by Trump to lead the Environmental Protection Agency. *TEXAS PUBLIC POLICY FOUNDATION*

couldn't "reasonably be expected to work."

But in the summer of 2007, then-TCEQ Chairman White argued that Oak Grove's owner, TXU Corp., was under no obligation to prove its pollution controls would work. The commission voted 2-1 to issue the air permit. For longtime environmentalists in the state, White's vote typified her attitude on environmental issues — side with industry no matter what.

In the decade since the permit for Oak Grove was approved, coal has become uneconomical and the plant's parent company, Energy Future Holdings, is now desperately trying to shed its tax obligations. White should have seen the writing on the wall for coal and listened to the researchers and citizens who warned her against greenlighting a coal plant, said Neil Carman, a former TCEQ inspector who now works for the Sierra Club.

"She acted like everything was rosy," said Carman.

The Oak Grove vote was among the final decisions White made as chairman of TCEQ, which she led from 2003 to 2007. By then, environmental groups, tired of White's industry-friendly practices, purchased a billboard near TCEQ headquarters in Austin urging then-Governor Rick Perry to "Get White Out!" and campaigned to ensure she wasn't reappointed to the commission.

During her time at TCEQ, White was consistent in her positions: Trying to curb carbon emissions is "futile," renewables are "a false hope" and "carbon dioxide has none of the attributes of a pollutant." Among her stranger beliefs is that "fossil fuels dissolved the economic justification for slavery" and that the United Nations has "revealed themselves" as advocating for communism as "the only system of government which effectively would reduce carbon dioxide."

White is reportedly now being considered to head the EPA. On Monday, Trump met with White as well as Oklahoma attorney general Scott Pruitt, who is also in the running for the position. If she is passed over for the top job, industry watchers say she could be appointed EPA Region 6 administrator in Dallas or head of the Council on Environmental Quality in the White House.

The consumer advocacy group Public Citizen paid for a billboard asking then-Governor Rick Perry to "Get White Out!" *PUBLIC CITIZEN*

The proposition of White being in any position with oversight of national environmental policy horrifies Texas enviros. White has been a particularly fierce critic of the "imperial EPA" and she falls within the fringe of elimate deniers. During her six-year tenure on TCEQ, she rebuffed proposals to strengthen smog rules and repeatedly allowed large polluters to increase emission limits.

"Kathleen Hartnett White would be one of the biggest unnatural environmental disasters the nation has ever experienced if she were appointed to run the EPA," said Tom "Smitty" Smith, the outgoing head of the consumer advocacy group Public Citizen-Texas in an emailed statement. "She was a disaster as the chair of the Texas Commission on Environmental Quality."

White, an avid breeder of Jack Russell terriers, grew up in Salina, Kansas. She attended Stanford, where she received her bachelor's and master's degrees in East Asian studies and comparative literature. Her early appointments were in the Reagan administration. She took a position in the U.S. Department of Agriculture and was later appointed as a special assistant to Nancy Reagan.

White comes from a long line of ranchers and told the *Big Bend Sentinel* in 2003 that her appointment to TCEQ was in part because she would "represent agricultural and rural Texas issues." Her résumé includes a stint with the National Cattlemen's Beef Association as director of private lands and the environment. Before tapping her for the TCEQ position, Governor Rick Perry appointed her to the Texas Water Development Board.

She now directs the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation, an Austin-based conservative think tank that receives money from ExxonMobil, Chevron and other oil and gas giants. The group has also received at least $220,000 from the Koch brothers since 2010, according to the Center for Media and Democracy.

White did not respond to repeated requests for an interview. A spokesperson for the Texas Public Policy Foundation said she was unavailable until after the publication deadline.

Though Texas' environmental community sees her as overly friendly to industry, White's record could prove to be a significant advantage as she vies for the EPA job. Trump has promised to bring the "coal industry back 100 percent" and boost shale gas. He has also said the EPA is "a disgrace" and that he will "cancel job-killing restrictions on the production of American energy."

White's experience in Texas could help the Trump administration meet those goals. TCEQ is the second-largest government environmental agency after the EPA, employing about 3,000 people in 16 regional offices during the time she was commissioner.

Among the most significant decisions during her time on TCEQ is her handling of a 2003 audit of the agency. The report found that for 80 enforcement cases TCEQ pursued between 2000 and 2003 the agency could have issues $8.6 million in fines, but instead it settled for about $1.6 million. As a result, "violators often have economic benefits that exceed their penalties, which could reduce their incentive to comply," the report's authors noted.

After a lengthy review process, when the agency's executive director proposed reforming the penalty structure for polluters, White opposed the change.

Luke Metzger, director of Environment Texas, said White and the other commissioners "deliberately shifted resources" from the enforcement department to divisions in charge of permitting.

"That had the clear consequence of not having the resources to enforce the law when a company violates it and puts out dangerous pollution," Metzger said. "Her greatest legacy at TCEQ was that kind of clear shift in priority."

Metzger painted a dire picture of what White would bring to the EPA. He warned that with

White in charge, the Trump administration could severely hobble the agency by slashing staff, shifting focus from enforcement to streamlining the permitting process. The agency could repeal Obama-era environmental protections and stack the Clean Air Science Committee with pro-industry science skeptics such as TCEQ Chief Toxicologist Michael Honeycutt, who has questioned the link between ozone pollution and adverse health effects.

White has also gone head-to-head with the EPA. As chairman of TCEQ, White was responsible for approving the state implementation plan to reduce ozone levels. During the process, White advocated to loosen limitations on ozone-forming pollutants. She supported submitting a plan that would fail to reach the goals set by the EPA. When the regional EPA administrator pushed back, White chose to submit the plan as is.

As a think tank policy director, she has developed her anti-environmental bent to include the popular notion among conservatives that power ought to be devolved to the states. In a 2010 policy paper for a publication of the American Legislative Exchange Council, White wrote that "the originally envisioned relationship of cooperation between the EPA and state environmental agencies has been replaced by federal command and control over states." The state implementation plan for air pollutants, for example, has given the EPA "essentially dictatorial authority over all state regulations remotely related to air quality."

"She would be interested in seeing a collaborative effort with the states taking the lead" if White were to be appointed to lead the EPA, said Buddy Garcia, a former TCEQ commissioner who served with White and mostly voted in lockstep with her. The EPA would provide oversight instead of trying to dictate policy and "saying you're going to do what we want," he said.

"She took her job very seriously and looked at the science and whether the rules were achievable or not," Garcia, who now works as a consultant on energy and environmental

issues, said. "She's a very sharp lady."

White, however, does not accept basic established science. She believes that climate change is the "dogmatic claim of ideologues and clerics" and has blamed natural variability and solar activity for increasing temperatures. On smog, she has pointed to a study that found hospital visits for asthma in Texas decreasing during the ozone season as evidence to abandon stricter smog regulations. And she has claimed that there have been virtually no cases of fracking contaminating water sources.

Trump's stated views on climate change have ranged from calling it a Chinese-perpetrated hoax to, more recently, saying there might be "some connectivity" between climate change and human activity and that he is keeping "an open mind" on the Paris climate accord. If Trump does decide to take a hard-line against climate science, White would seem to be a perfect pick.

Naveena Sadasivam is a staff writer covering energy and the environment at the *Observer*. She is currently an Ida B. Wells fellow at The Investigative Fund at The Nation Institute. Contact her at and follow her work on Twitter.

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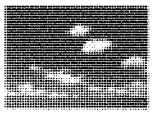

TEXAS PUBLIC POLICY FOUNDATION
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February 2015
Center for Energy and the Environment

The Endangered Species Act and Texas: A Look Ahead

by Kathleen Hartnett White

Key Points

- The federal Endangered Species Act provides an antiquated and hidebound statutory framework for protecting endangered species. It is economically harmful without substantial environmental benefit.
- Between now and 2018, the federal government will decide whether to list 1,000 new species under the ESA, including around a 100 species in Texas.
- Texas has successfully resisted listings using a combination of litigation and voluntary conservation plans that protect landowner confidentiality and private property rights.

Introduction

The economy of Texas has thrived in recent years. Whether through vibrant cities, a booming oil and gas industry, or continued strength in manufacturing and agriculture, development has been strong.

Yet today, that prosperity is imperiled by an unusual source. Whether it is infrastructure, residential expansion, or the development of water supplies or oil and gas, endangered species regulations have proven time and again to be a formidable obstacle to development. And with the number of listed species in Texas likely to increase dramatically, the state needs to prepare itself for the challenges ahead. This paper looks at some of the dangers that ESA listings pose to Texas' continued success, and, more importantly, suggests how the state can move forward to meet these challenges without jeopardizing economic growth.

How the ESA Works

Enacted by Congress in 1973, the goal of the Endangered Species Act is "to halt and reverse the trend toward species extinction, whatever the cost."[1] This absolutist approach is reflected in the text of the ESA. Under the Act, species may be added to an official "endangered" or "threatened" list if the federal government determines them to be under threat of extinction. Listing decisions are made by the U.S. Fish and Wildlife Service or, in some cases, by the National Marine Fisheries Service (collectively "FWS"). However, in addition to government initiated listing decisions, individuals or organizations may also petition the agencies to consider listing of a particular species, and may file lawsuits to compel them to do so.

A species may be determined to be endangered or threatened because of any of the following factors: 1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence.[2]

If FWS does not find a species to be endangered, it may instead list a species as "threatened" if it determines the species is likely to become endangered in the foreseeable future. Once a species has been listed, FWS must also designate the species' "critical habit," which are the specific geographic areas necessary to sustain the species.

The decision whether to list a species as endangered must be "based solely on the best scientific and commercial data available."[3] Note: the standard is based on the "*best* scientific and commercial data *available*." There is no requirement that the data meet any minimum standards for quality or reliability. Listing decisions may be and are made based on incomplete or low quality scientific data if no better data is available. In keeping with the ESA's "whatever the cost" approach, economic considerations can play no role in the listing decision.*

* By contrast, in designating a species' critical habitat, FWS may "tak[e] into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat." 16 U.S.C. §1533(b)(2).

How the ESA Hurts

Official listing under the ESA has been largely ineffective in helping species recover. In the 40 years since the ESA was enacted, only 2 percent of listed species have recovered to the point that they qualify for delisting. And some of these cases have been based on errors by FWS in deciding to list in the first place. For example, FWS listed as endangered the Johnson frankenia, a species of Texas plant, claiming that only 1,500 specimens remained in existence. Subsequent to listing, however, FWS discovered that their estimate was slightly off. In reality, there are more than 4 million individual Texas frankenia plants. Despite this, FWS did not move to delist the species for more than a decade.[4]

But while FWS has been ineffective at helping endangered species to recover, it has been quite effective in blocking needed infrastructure and industry. Listing can result in broad regulatory restriction on private land use by the federal government. For this reason, the ESA is increasingly used by environmental activists to limit development.

In 2010, for example, a group of environmentalists brought suit against the Texas Commission on Environmental Quality (TCEQ), claiming that TCEQ's management of Texas surface waters had led to the deaths of several dozen endangered whooping cranes. According to the suit, diversion of surface water under vested water rights authorized by TCEQ had increased the salinity of the freshwater inflows into Aransas Bay in the lower Guadalupe River basin. Higher salinity, argued the plaintiff, reduced the blue crab population in the area that served as a major food source for the migratory whooping cranes. Of the 23 claimed bird deaths at issue in the case, only four were based on discovered carcasses. The other 19 deaths were estimated by comparing bird sightings in 2008-2009 to numbers from previous years, and assuming that any reduction was due to death. The following year, FWS' population survey indicated that 19 new birds mysteriously showed up.[5]

Nevertheless, in March of 2013, a federal district court in Corpus Christi found that TCEQ was legally responsible for the death of the birds, and ordered an immediate halt to new water permitting in the Guadalupe and San Antonio River basins. The district court decision was ultimately reversed on appeal Fifth Circuit Court of Appeals. Yet had the decision stood, it would have mooted most of the water projects listed in Region L of the State Water Plan (which includes San Antonio). The environmental plaintiff plans to take this suit to the U.S. Supreme Court.

To see how things might have turned out very differently, one need only to look westward to California, which is facing its own severe drought conditions right now. The acute water shortages occurring in California are caused, in large part, by the release of huge volumes of water from reservoirs on behalf of the welfare of the purportedly endangered Delta Smelt. An initial analysis by Berkeley Economic Consulting found that the short run economic damage alone from the diversions could be as much as $3 billion a year during drought periods.[6] The diversions have been particularly hard on farmers in California's Central Valley. Unemployment in the city of Mendota, to give one example, exceeds 40 percent.[7]

Environmentalists are now preparing to use the same tactics to thwart the oil and gas industry. According to recent reports, efforts are underway to stop export of fracked natural gas along the South Texas coast by citing the potential effects on the endangered ocelot, a species of wild cat.[8]

ESA-imposed restrictions have also hampered disaster relief efforts. In 2011, fires in Bastrop County burned 34,000 acres of land and destroyed 1,700 homes. The cost of clearing debris alone was in the millions. Yet progress on the debris removal was delayed due to concerns that "soil disturbance" caused by removal of dead trees would affect the endangered Houston Toad during its mating season. Bastrop County Commissioners estimate that accommodating the toad doubled the county's cost and time. The largest population of the Houston Toad resided in Bastrop State Park, 98 percent of which was consumed by the fire.[9]

Ironically, the Houston Toad is not the only example of ESA making natural disasters worse. According to a recent report by the Endangered Species Act Congressional Working Group, ESA litigation has "increased the federal government's inability to control catastrophic wildfires."[10]

The working group found that in Montana, lawsuits by environmentalists aimed at blocking habitat improvement have resulted in the accumulation of driftwood and unhealthy vegetation, leading to the area being identified as at a "sig-

Case Study: The Dunes Sagebrush Lizard

The best recent example of how to defeat a proposed ESA listing involves the Dunes Sagebrush Lizard. The lizard's habitat spans 745,000 acres running from West Texas to parts of southeastern New Mexico, and includes the Permian Basin that is at the heart of Texas' recent oil and gas boom. In 2010, FWS proposed adding the lizard to the endangered species list, based on claims that increased oil and gas production in critical habitat areas threatened the lizard's long term survival.[11] A listing could have proven a major obstacle to the continued success of Texas' energy boom.

In response to the proposed listing, voluntary habitat conservation plans were developed for the affected regions in both Texas and New Mexico. In Texas, research efforts were launched and coordinated by the Interagency Taskforce on Economic Development and Endangered Species, a group created by the state legislature to help with the response to ESA candidate listings.* Utilizing this research, Texas developed a voluntary conservation plan aimed at protecting the lizard without disrupting oil and gas production. Under the Texas plan, individual landowners voluntarily entered into a contractual arrangement agreeing to implement and maintain various conservation measures, such as removing abandoned service roads, fencing, and equipment, establishing preservation lands, and monitoring habitat areas to determine the effectiveness of the mitigation efforts. The agreed to conservation measures were aimed at avoiding activities that would degrade habitat, and mitigating habitat loss where it occurred. Importantly, the agreements protected landowner confidentiality, and minimized habitat disruption without disrupting oil and gas production.

By contrast, both the New Mexico state plan and a separate plan developed by the Bureau of Land Management (which governs federal land in New Mexico) relied on preventing oil and gas development in habitat areas as a main conservation strategy. These different approaches likely reflect the much larger amounts of federally owned land in the affected New Mexico area versus the overwhelmingly private land affected in Texas.

In 2012, FWS withdrew its proposal to list the lizard. FWS concluded, based on scientific research conducted in response to the proposed listing, that "more than 50 percent of the dunes sagebrush lizard's habitat is not fragmented, and provides adequate core habitat."[12] Citing the conservation plans as adequately protective, FWS also determined that listing was no longer necessary or appropriate because "current habitat conditions will be maintained or improved," for the foreseeable future.[13]

In 2014, this decision was upheld by the federal courts. The court rejected environmentalist arguments that the confidentiality provisions of the Texas plan prevented FWS from evaluating whether the plan was effective. The court noted that "Because the Texas Plan limits habitat loss within each level, and because the amount of habitat enrolled in each level is known, the FWS can monitor losses within each quality level, thereby protecting the most critical areas."[14]

* *The Task Force is presided over by the Comptroller of Public Accounts and includes input from the Departments of Agriculture, Transportation, Parks and Wildlife, and the State Soil and Water Conservation Board.*

nificant risk of wildfire." The ESA has also limited the use of wildfire-fighting technologies, such as aerial retardant heavily mechanized equipment, and has restricted the use of water in some fire-fighting efforts "due to concerns about potential impacts to other ESA-listed species, such as salmon."[15] Of course, endangered species are themselves at risk from wildfires. As noted in the report: "Endangered species habitat destruction was a reality last year, when the Arizona Game and Fish Department noted that two major fires resulted in the destruction of 20 percent of Mexican spotted owl nests known to exist in the world."[16] But the hidebound strictures of the ESA make no allowances for such unintended consequences.

Danger Ahead

The challenges from currently listed species are already substantial. But they could become much worse in the near future. As noted above, listing proposals under the ESA may be initiated by petitions filed by private activist groups. Over time, a flood of petitions by environmentalist groups has led to a large backlog of candidate species. In 2011, FWS entered into a court-approved, multi-year work plan to make final determinations by 2018 on over 1000 species that are the subject of environmentalist driven listing petitions. Currently, 1215 species are listed as "endangered" by FWS, while an additional 348 are listed as "threatened."[17] Thus, FWS' settlement has the potential to nearly double the number of listed species in the next four years.

More than 100 of these species are in Texas. Every county in Texas contains habitat for at least two of these species, and some counties contained as many as 29.*

How to Fight Back

Attempts to rein in the ESA have been varied. At the federal level, political will has been building for ESA reform. In August, the U.S. House of Representatives passed HR 4315, the Endangered Species Transparency and Reasonableness Act. HR 4315 requires data used by federal agencies for ESA listing and proposed listing decisions to be made publicly available and accessible. The bill also requires the interior secretary to report and comprehensively track all litigation costs associated with the Act. Furthermore, the bill caps hourly fees paid to attorneys that prevail in cases filed under ESA, consistent with current law.

The ESA is a much weaker law politically than many people realize. In fact, the law has not been reauthorized in several decades. Congress annually appropriates funds without an authorizing bill because less than half of Congress supports the ESA in its current form. Yet while reforming the ESA will ultimately require Congressional action, there are things Texans can do to prevent or limit the damage from additional species listings.

First, because listing decisions are made based on the best "available" science, research can play a pivotal role in fighting back against listings. In 2009, the Texas Legislature created the Interagency Taskforce on Economic Development and Endangered Species, which conducts research into the economic impacts of potential listings and coordinates strategy for protecting species without harming economic growth. When FWS announced its listing plans for the Dunes Sagebrush Lizard, this task force was able to quickly coordinate scientific research on the lizard's habitat. This privately funded research was key to avoiding federal listing of the lizard.

Second, where conservation plans are developed, multiple plans—including voluntary landowner implemented plans—are preferable to a single state driven plan. No state agency will ever have the same incentives to protect private property and enterprise as the affected landowners and industries themselves. Long experience shows that no conservation plan can be successful if it doesn't have the support of the landowners themselves. The state's role should be to foster robust science, alternative plans and voluntary collaboration between landowners, industry, academia, and government, rather than in dictating a one size fits all approach.

Finally, legal challenges can and should be used to fight listing decisions when necessary. Yet even a successful legal challenge can drag on for years, doing potentially severe damage in the interim. Where possible, it is better to fight a listing before it happens, or to defend a FWS decision not to list, then it is to try to reverse a FWS decision to list in court.

The Wrong Approach

During the last legislative session, legislation was filed that would have restructured the state's response to listings. HB 3509 would have given the Texas Park and Wildlife Department (TPWD) an expansive authority to enable and enforce federal land use controls on private land under the Endangered Species Act (ESA). Such regulatory authority over basic land use—like grazing, brush clearing or constructing drilling pads—has been long denied to the TPWD.

Texas differs from both the federal government and some other states in that state law does not provide regulatory authority for an endangered species protection program. Several state statutes do prohibit the killing, hunting, or trapping of any species on the state's Nongame, Exotic, Endangered, Threatened & Protected Species list, but violation is a misdemeanor offence with a modest fine of a couple hundred

* A list of these species adapted from data on the Texas Comptroller's website is included as an appendix.

dollars. These few statutory provisions do not require affirmative obligations on landowners to protect habitat.

By contrast, HB 3509 would have transformed TPWD from a state agency respecting private property rights and promoting voluntary private conservation to an agency which enforces federal mandates. The bill stipulated that TPWD "shall provide the state's scientific response to proposed [species'] listings." Because science drives decisions under the ESA, HB 3509 would have made TPWD's wildlife biologists the ultimate authority for the state's response to candidates for ESA listing.

House Bill 3509 would have been the wrong approach for Texas. As the example of the Dunes Sagebrush Lizard non-listing shows, the current framework is working. Effective conservation plans can be developed and coordinated within the state's existing inter-agency task force without going through any single state agency. Further, by transforming TPWD into a regulatory enforcer of FWS rulings, the bill would have created an adversarial relationship between TPWD and landowners. This would inevitably have eroded the trust necessary not only to effectively respond to official listings, but also to promote voluntary conservation on private land.

HB 3509 was vetoed by the governor. Nevertheless, during the interim TPWD began in certain respects to operate as if the bill had become law. A case in point is TPWD's involvement in efforts of the Western Association of Fish and Wildlife Agencies to develop a multi-state conservation plan for the Lesser Prairie Chicken, another potentially listed species. The plan could encumber 41 million acres of land across five states, 7.8 million acres of which exist in Texas. This Western Association—not the state of Texas—would sign and oversee implementation of the plan in Texas. TPWD would implement on the ground. All this despite the fact that Texas law does not give TPWD jurisdiction over federally listed endangered species.

Conclusion

If properly executed, Texas has the capacity to effectively stem the tide of the nearly 100 pending ESA listings, blunting the impact on the state's social and economic life. To do this, however, the state cannot afford to rely on any single strategy. Pursuing a decentralized approach will allow the nimbleness needed to protect any genuinely threatened wildlife, private property rights, and the economic engine that remains vital to the state's prosperity. ★

Endnotes

[1] *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 184 (1978).
[2] 16 U.S.C. §1533(a)(1).
[3] 16 U.S.C. §1533(b)(1)(A).
[4] 76 Fed. Reg. 66018 (25 Oct. 2011).
[5] Lee Wilson, "Analysis of the Science: The Whooping Crane Decision," Texas Public Policy Foundation (May 2013).
[6] "Economic Impacts of the Wanger Interim Order for Delta Smelt," Berkeley Economic Consulting (8 Dec. 2008).
[7] Paul Feine, "Delta Smelt vs. Central Valley Farmers: The Battle Continues," Reason (29 Feb. 2012).
[8] Asher Price, "Environmental clash in South Texas city: Gas exports over ocelots?" *Austin American Statesman* (27 Oct. 2014).
[9] Kathleen White, "Of Toads and Humans in the Aftermath of the Bastrop Fire," *Washington Examiner* (16 Mar. 2012).
[10] "Report, Findings and Recommendations," Endangered Species Act Congressional Working Group (4 Feb. 2014).
[11] Proposed Rule: Endangered and Threatened Wildlife and Plants; Endangered Status for Dunes Sagebrush Lizard, 75 Fed. Reg. 77,801, 77,813 (14 Dec. 2010).
[12] Withdrawal of the Proposed Rule to List Dunes Sagebrush Lizard, 77 Fed. Reg. 36,872, 36,887-89 (19 June 2012).
[13] Ibid. at 36,895.
[14] *Defenders of Wildlife v. Jewell*, No. 2013-0919 at 17 (D.C. Cir. Sept. 30, 2014).
[15] Ibid.
[16] Ibid.
[17] "Summary Listed Species, Listed Populations, and Recovery Plans as of Friday 31 Oct. 2014," U.S. Fish & Wildlife Service Environmental Conservation Online Service (accessed 31 Oct. 2014).

About the Author

Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2008. She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and disposal of waste, TCEQ's staff of 3,000, annual budget of over $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She recently completed her term as an officer and director of the Lower Colorado River Authority. White now sits on the editorial board of the *Journal of Regulatory Science*, the Texas Emission Reduction Advisory Board, and the Texas Water Foundation. Her writing has appeared in numerous publications including *National Review, Investors' Business Daily, Washington Examiner, Forbes, Daily Caller, The Hill*, and major Texas newspapers. She most recently testified before the U.S. Senate Environment and Public Works Committee.

About the Texas Public Policy Foundation

The Texas Public Policy Foundation is a 501(c)3 non-profit, non-partisan research institute. The Foundation's mission is to promote and defend liberty, personal responsibility, and free enterprise in Texas and the nation by educating and affecting policymakers and the Texas public policy debate with academically sound research and outreach.

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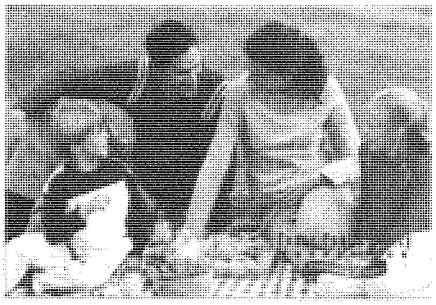
Top TPPF Analyst: Coal Ended Slavery

by Christopher Hooks

@cd_hooks

Tue, Sep 30, 2014 at 2:55 pm CST



This is your family on fossil fuels... *FOSSIL FUELS: THE MORAL CASE, COVER PAGE*

This is a blog about Texas politics, so let's talk about textile factories in the north of England, and the strong message they send about the total inability of our state's most significant policy organ to handle cognitive dissonance. Bear with me for a second. (Or for a few minutes.)

Last week, Houston played host to a high-profile conference on energy issues, convened by the Texas Public Policy Foundation, which no less a source than Wikipedia describes as a "think tank." It is the most influential such entity in Texas. The group, with the help of a great deal of corporate money, has the ear of the governor and much of the Legislature. What its legion of analysts say and do matters a great deal to the way Texans live. Sometimes they do valuable work. Sometimes they do bad work.

This being Texas, a respectable think tank needs Big Ideas about energy. The group's message for the most part—and the message of the Houston conference—is that fossil fuels are Good, and we should use more of them. Even global warming is good, if you look at it in the right light, if you were to stipulate that it's even happening, which it isn't.

At TPPF, this wholesome message is mostly propagated these days by Kathleen Hartnett White. Before TPPF, White led the Texas Commission on Environmental Quality from 2001 to 2007. If you lived in Texas in the last decade, it was White's ostensible responsibility to safeguard your lungs and general well-being, and to carefully weigh and balance those concerns against the demands of economic development—a weighty responsibility.

White has become an energy analyst at a fascinating time. Here's the crux of Texas' problem: We've discovered a new ocean of gas and oil under the state, which can make a significant number of people here—and to a lesser degree, our cash-strapped state in general—very rich. At the same time, the scientific community is more sure than ever before that burning those fuels will hurt us in very real ways. Some of us can live large now, but many others will pay a heavy price.

How can we navigate these complex questions? Into the rain-sodden arena of doubt drives White, in a coal-rolling Humvee upon which another Humvee has been delicately stacked, like a pair of mating dragonflies. Other conservative thinkers have questioned the economic efficiency of renewable energy. That meeker argument is becoming less powerful every day —even though White still calls renewable energy "parasitic," unlike, one supposes, the heavily subsidized fossil fuel industry.

White's flooring the gas pedal. Her magnum opus, "Fossil Fuels: The Moral Case," takes the position that burning coal and oil is in fact a *moral imperative.* Coal and oil—cheap

energy—led to modern prosperity, White writes, and turning away from them will reduce access to prosperity here and across the globe, with grave consequences.

...and this is your son on solar. *FOSSIL FUELS: THE MORAL CASE, PAGE 3*

It's an odd argument partially because it's hard to say what it stands in opposition to. As a contribution to a policy discourse, its existence only makes sense if you believe—as many do, apparently—that environmentalists desperately desire to tear down the power grid and return the human race to agrarian penury.

The question of balancing prosperity with environmental responsibility in poor parts of the world has been a constant subject of debate and discussion in the environmental movement for decades. And the role that coal played in the story of the industrial revolution isn't exactly contested territory. Furthermore, coal's role in the creation of modernity says nothing about our ability to find *new* sources of prosperity—if we, with our amazing ingenuity, built the combustion engine, why can't we build a better one? Renewable energy is already bringing electricity to parts of the world that have never really had it before—in places like Tanzania, solar panels are a much better option for rural communities than connecting to the inefficient, poorly maintained national power grid.

But White's been getting a lot of play with the paper—she's done the rounds with it this summer. White was the star at the climate conference last week, where Rick Perry deigned

to speak. And she's proud of it: When White presented her paper at the Heritage Foundation in June, she told the crowd that writing the paper led her to "some fascinating books," and that her curious wanderings included the discovery of "a jillion papers in academic journals."

But her footnotes come from a mix of places: They range from the British tabloid *The Daily Mail*, an authoritative source on nothing, to the 17th century English political philosopher Thomas Hobbes. White re-reads Hobbes' *Leviathan* and concludes that his theoretical concept of a pre-society, pre-government "state of nature" accurately depicts "preindustrial conditions for the average person." Hm. There are actual journal articles—mostly from other think tankers. But there's also reference to less auspicious sources.

It's a beautiful distillation of a worldview that shuns complexity in all forms.

The paper contains extensive block quotes and citations from *The Rational Optimist: How Prosperity Evolves*, a 2011 popular science book by Matt Ridley—otherwise known as Matthew White Ridley, 5th Viscount Ridley, a Conservative Party member of the United Kingdom's House of Lords. In some circles, Ridley is most famous for helping to tank the British bank Northern Rock, where he served as chairman. Northern Rock's spectacular implosion in 2007 was one of the precipitating events of the global financial apocalypse. Several years later, Ridley was awarded the Manhattan Institute's Hayek Prize, for his ongoing contributions to the unimpeachable cause of the free market. In other circles, Ridley is most famous for his viral Ted Talk, "When Ideas Have Sex." Ridley gave a

keynote at the Houston conference.

But in lieu of a longer dissection of the paper, let's consider White's weirdest extrapolation of her argument. On page 17, she notes that the abolitionist movement in Britain happened concurrently with coal-fired industrial growth, and posits that the rise of factories "indeed increased and institutionalized compassion."

In a post on TPPF's website called "Energy and Freedom," she expands on her case:

> First harnessed in the English Industrial Revolution, fossil fuels spawned unceasing economic growth-an unprecedented productivity of most benefit to the poor until then consigned to poverty and enslavement across the world.
>
> In 1807, the British Parliament finally passed William Wilberforce's bill to abolish the slave trade in the British Empire. In the same year, the largest industrial complex in the world powered and illuminated by coal opened in Manchester, England. Thus began the century-long process of converting mankind's industry from the power of muscle, wood, wind, and water to stored solar energy in fossil fuels.
>
> Fossil fuels dissolved the economic justification for slavery.

There's some bad history in this passage, but it's so much more than that. It's a beautiful distillation of a worldview that shuns complexity in all forms.

Sure, there's a discussion to be had about the reasons for the success of abolitionism in England. Was it a political and social movement, emerging from the Enlightenment, which succeeded in advancing a moral case, or did it happen merely for economic or practical

reasons? At any rate, black Britons like Ignatius Sancho and Olaudah Equiano, who were seminal figures in the movement, were active decades before the period White describes. The major first touchstones in the eventual abolition of slavery in the British Empire happened either well before the industrial revolution, or at a point when the industrial revolution was in its absolute infancy.

But the key thing: In tying the abolition of the slave trade to the growth of industrial Manchester, White gets it *exactly backwards*. The fossil-fueled industrial revolution she's describing didn't "dissolve the economic justification for slavery," it made slavery more lucrative. It made slavery *worse*.

Here's why: the new factories in England White describes were producing manufactured goods. Incidentally, many of them—along with many of the touchstones of the industrial revolution, like James Watt's steam engine—were financed with money from the slave trade. But those factories, most of which were producing textiles, needed raw materials. Foremost among those raw materials was cotton.

Manchester's new ability to make cheap clothes for the English working class meant that the factories needed a lot more cotton—so demand for the blood-drenched crop exploded. Manchester's industrial growth was *enabled* by slavery—something people in the north of England are well aware of. And it fed slavery, too. True, Britain outlawed the slave trade in 1807—but they kept slaves in the colonies until 1833. Afterward, they depended on American slavery. When the fruit of American slavery was finally disrupted at the points of the bayonets of the Army of the Potomac, Northern England plummeted into depression.

As industrial Manchester grew, the American institution of slavery ballooned in scale and scope. In 1800, American slaves produced 156,000 bales of cotton—in 1860, they produced more than 4 million bales. From 1790 to the start of the Civil War, the American slave population likewise multiplied from 700,000 to 4 million, due in large part to new industrial

efficiency facilitating demand for cotton—including American contributions like the cotton gin.

Take the words of South Carolinian Thomas Cooper, who warned the British about the price of abolition in 1838. "Every slave in a southern state is an operative for Great Britain. We cannot work rich southern soil by white free labour," Cooper wrote, "and if you will have Cotton Manufacturers, you must have them based upon slave labour."

So White got it exactly backwards: The coal-fired industrial revolution exacerbated the problem of slavery. Does that mean that fossil fuels are evil? No, that would be extraordinarily silly—as silly as saying the opposite.

What it does show is that development is a double-edged sword. Things are almost never wholly good, or wholly bad. They're complicated. They embody complex trade-offs. They have unintended consequences. That's what the people of Texas asked White to consider when she was the head of TCEQ.

The environmental problems we face today—they are vast, and time for consequential action, knowledgable people tell us, is running short—are very complicated. Texas, as a capital of sorts for global energy development, has an outsized role to play in either our success or failure to cope with them. The people of the state deserve better than meager propaganda. At last week's summit, in the belly of downtown Houston, White and colleagues got the space to explain to some of Texas' more powerful people that "America's energy is the right and moral solution" to the world's problems.

Modernity—medicine, travel, leisure—is a nice thing. Slowly cooking the planet is not so nice. Helping us navigate trade-offs—taking the measure of the good and the bad of an issue, and finding a path that takes the most of the former and the least of the latter—is the

highest possible service intelligent people in public life can render. If think tanks have any role to play, it's that. But don't go looking for it at the Texas Public Policy Foundation.

Christopher Hooks is a freelance journalist in Austin.

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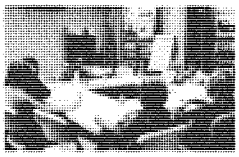

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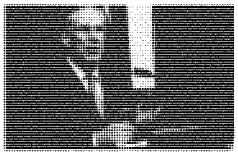

Abbott Supports Removing Inaccurate Capitol Displays. Do Slavery-Denying Plaques Count?

In debate over Confederate marker, Abbott won't say whether it's "substantially inaccurate" to deny slavery's connection to the Civil War.

by Michael Barajas

Texas Toxicologist Who Rejects Basic Science Appointed to EPA Science Board

The Trump administration continues to scout Texas officials who've repeatedly attacked the very policies that they're now charged with implementing.

by Naveena Sadasivam

Senator BARRASSO. Also, Carol Baker with the Texas Water Foundation, President and CEO, stated this: "Ms. White is a committed public servant, has been a wonderful advocate on behalf of water issues for decades in her role as Chair of the Texas Commission on Environmental Quality, was a champion on natural resource issues and admired for her commitment and tenacity. She is very collaborative and always interested in listening to all the details on the issues and a great team leader. I highly recommend and support this very qualified candidate, Kathleen Hartnett White."

I ask unanimous consent that we introduce that.

[The referenced information follows:]

September 6, 2017

To: Senate Environment & Public Works Committee

Re: Kathleen Hartnett White, Nominee for White Council on Environmental Quality

I have had the honor of knowing and working with Kathleen White since 1998. She joined the Texas Water Foundation Board in 1998 and served as a member until 2007 and she served as Vice-Chair from 2007 until 2015. She is a committed public servant and has been a wonderful advocate on behalf of water issues for decades. In her role as Chair of the Texas Commission on Environmental Quality, she was a champion on natural resource issues and admired for her commitment and tenacity. She is very collaborative and always interested in listening to all the details of the issues, a great team leader.

I highly recommend and support this very qualified candidate, Kathleen Hartnett White.

Sincerely,

Carole D Baker

Carole D Baker
President/CEO
Texas Water Foundation

Senator BARRASSO. Let us turn to Senator Inhofe.

It seemed you were trying to answer something. If it is all right with Senator Inhofe, I would like to give you a chance to respond.

Ms. WHITE. Yes, I was. I understood his question was about an issue of naturally occurring radionuclides in soil and as characterized, that somehow, I or another CEQ employee was telling field staff don't show the extent of the problem; just mute it back a little bit. Evidently EPA was claiming that.

This is one of these technical issues, about technical issues and interpretative guidance with EPA. I would never, ever tell staff to under-report health hazards. That is the only statement I wanted to make. Health hazards like this need to be addressed ASAP.

Senator BARRASSO. Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

Let me make one comment. Since all they want to talk about on the other side is global warming, it is kind of interesting. Someone pretty smart on the other side, back when they were talking, and their whole concept was the world is coming to an end, and it is due to anthropogenic gases. Do you remember that, Mr. Wheeler?

Mr. WHEELER. Yes, sir.

Senator INHOFE. We heard it over and over again, but it did not sell. The people did not buy it, so they changed it and started using climate change. Climates always change. In fact, we voted unanimously that everyone agrees that climate has always and always will change. In all the historical, scientific, and scriptural evidence, that is a fact.

That gives the opportunity to say anyone who does not believe the world is coming to an end because of global warming does not believe that climate changes. Very clever. I don't have any reason for saying that but somebody has to say it.

Besides that, when they talk about all the scientific evidence, Richard Lindzen is a good example. Richard Lindzen with MIT is recognized as one of the top scientists in the country on this and other subjects.

I don't have the whole quote written down, but I think I have it memorized. He said, "Regulating carbon is a bureaucrat's dream. If you regulate carbon, you regulate life." Have you ever heard that quote, Mr. Wheeler?

Mr. WHEELER. Yes, sir, I have heard you say that many times.

Senator INHOFE. I would also like to have you address one other thing. There is this idea out there that somehow in taking care of your own land, for example, that the Government needs to do it for you.

You might recall that during the past Administration—I don't remember his name but I had asked him to come out and talk to our farmers in Oklahoma to determine whether or not he really thinks we need to have them looking after the environment on their own property. They came back with a report. This came from several places in Oklahoma that they had never seen such enthusiastic support by the owners of the land that was far greater than anything they had ever heard from the bureaucracy. Do you remember that?

Mr. WHEELER. I do, sir, yes.

Senator INHOFE. I think that is really worth talking about.

I know we are kind of coming to a close, but the other side of the dais has been focusing on your writings, Ms. White, as a private citizen and have been furthering the myth that you have helped polluters get away from polluting while at the Texas Commission CEQ.

I want to show them that while you were at the Texas Commission CEQ, the Texas air quality dramatically improved. What role did you play in that result?

Ms. WHITE. As the chairman, it all circled around the State implementation plan that states, those who have non-attainment areas must submit to EPA. Like a lot of Government documents, it is not 10 pages; it is six volumes and thousands of pages.

I was the chairman, so that was the most important issue in the entire agency. I think you could generally say I was directing the team that was developing the full State implementation plan which is, like I said, a huge document with reams of things people might call science or technical analysis, control measures and all kinds of things.

It was through really implementing that plan that the dramatic reduction, not just in ozone which is not a directly emitted pollutant, but also other pollutants that as a result of the measures addressing ozone, we had beneficial impact on other pollutants.

Senator INHOFE. The bottom line is, in looking at this, you have been very successful in accomplishing those things for the Texas CEQ.

Ms. WHITE. Yes.

Senator INHOFE. Is there any reason you believe you would not be equally successful in performing some of those results?

Ms. WHITE. No. That is why I would be so delighted were I nominated to take on this job at CEQ within a different framework than a regulatory agency but lots of the same issues.

Senator INHOFE. Thank you, Ms. White.

Senator BARRASSO. Senator Whitehouse.

Senator WHITEHOUSE. Mr. Wheeler, there has been a recent request by Secretary Perry to the Federal Energy Regulatory Commission to provide certain regulatory favors, to provide regulatory priority to, among other things, coal plants.

To your knowledge, was either Mr. Murray or Murray Energy involved in making a recommendation of any kind to Secretary Perry on that subject? Were you personally involved in any way in any activities that led up to Secretary Perry's request to the Federal Energy Regulatory Commission?

Mr. WHEELER. Certainly, Murray Energy has been supportive of that effort. I did attend a meeting with Murray Energy at the Department of Energy where this was discussed months ago, but I deregistered in August. I have not been involved in anything over the last few months on this issue. This issue has been front and center.

Senator WHITEHOUSE. Was your participation in the preparation for the Perry request, if we call it that, is that a fair enough description? Do you know what I am talking about if I say the Perry request?

Mr. WHEELER. I think I know what you mean. I did not work on putting that together. As I said, I was in a meeting at the Department of Energy.

Senator WHITEHOUSE. Was that the limit of your participation in that, to attend one meeting at the Department of Energy?

Mr. WHEELER. I also believe I attended one Hill meeting on that as well.

Senator WHITEHOUSE. One meeting on the Hill, one meeting at the Department of Energy, and nothing further, no memos that you authored, no paper trail, nothing else?

Mr. WHEELER. No, sir.

Senator WHITEHOUSE. Ms. Hartnett White, I went down to Texas. I go to a lot of States to try to figure out what is going on there in terms of climate change. I had a scientific panel with scientists from the University of Texas at Austin; from Texas Tech, and Katherine Hayhoe, who I am still somewhat in touch with, who is by the way, not pagan, she is evangelical; Texas A&M, the Aggies, were present; and Rice University.

They said that Texas was in harm's way from climate change on a whole variety of fronts, including sea level rise along the coastline and so forth. They were pretty much in unanimous agreement with each other about what was going on.

They also said they were unaware of any support in their universities for some counter-science in which this isn't really happening.

Have you been in touch with any of those universities about climate change and about what it means for Texas? Is there any record of your contact with those universities?

Ms. WHITE. I don't know whether there would be any records, but over the years, attending a conference or a panel or that sort of thing.

Senator WHITEHOUSE. Do you know how much of the excess heat that has been captured by greenhouse gas emissions has been absorbed by the oceans, roughly, say to the nearest 10 percent?

Ms. WHITE. I do not have numbers like that.

Senator WHITEHOUSE. Even to the nearest 10 percent? Do you know if it is more than 50 percent or less than 50 percent?

Ms. WHITE. I am sorry, but could you ask the question one more time?

Senator WHITEHOUSE. Of the additional heat that has been captured in the atmosphere as a result of greenhouse gas emissions, do you know how much of that excess has been captured in the ocean? Is it more or less than 50 percent? Do you even know that?

Ms. WHITE. No.

Senator WHITEHOUSE. No. OK.

Ms. WHITE. But I believe there are differences of opinions on that, but there is not one right answer.

Senator WHITEHOUSE. Really? Do you think there is actual serious difference of opinion whether it is below 50 percent?

Ms. WHITE. Unless I am mistaken, yes.

Senator WHITEHOUSE. You think there is serious difference of opinions as to how much of that has been captured by the ocean? You think there is serious scientific opinion that it is below 50 percent?

Ms. WHITE. Yes, unless I am mistaken. Yes.

Senator WHITEHOUSE. OK, wow. Do you think if the ocean warms, it expands? Does the law of thermal expansion apply to sea water?

Ms. WHITE. Again, I do not have any kind of expertise or even much layman study of the ocean dynamics and climate change issues.

Senator WHITEHOUSE. Just enough to know that you think there is not science that establishes clearly how much of the heat has been taken up by the oceans? You knew that, right? You said you knew that.

My time has expired. I am sorry. I hear the gavel knocking.

Senator BARRASSO. Thank you, Senator Whitehouse.

Senator Sullivan.

Senator CARPER. Could I ask for one unanimous consent before Senator Sullivan?

Senator BARRASSO. Yes.

Senator CARPER. I would submit for the record statements Ms. White made in February of this year on a panel hosted by the CO2 Coalition, an organization that promotes misinformation about climate change.

The Coalition claims "Climate policies deprive mankind of the benefits of carbon dioxide." Ms. White stated the CO2 Coalition is "a very, very meaningful source."

Thanks very much.

Senator BARRASSO. Without objection, so ordered.

[The referenced information follows:]

Kathleen Hartnett White
2017 Conservative Political Action Conference
Panel Sponsored by the CO2 Coalition
February 24, 2017

On February 24, 2007, Ms. White was a speaker at the 2017 Conservative Political Action Conference on a panel sponsored by the CO2 Coalition. The entire panel discussion, including comments made by Ms. White, can be found at the following link, https://www.facebook.com/Energy.Environment.Legal/videos/vb.529782830430730/1276948252380847/?type=3&theater. Below are transcriptions of most of her comments.

[32min]
"Good Afternoon and thank you for coming. We were worried that we would have a small audience and look at everyone here, it's great. I also want to thank the CO2 Coalition for sponsoring this event and giving me the opportunity to speak. I know that it has been said before, but go to the [C02 Coalition] website. I can't tell you the quality of the information, across the board on many different topics, a very very meaningful source. No, carbon dioxide is not a pollutant. And nor are fossil fuels the agent of death as the kind of phrases we hear now. I could hear Craig's [Idso] presentation over and over again, it is really kind of a marvel.

From a very different angle, in the book that I wrote, Fueling Freedom, Exposing the Mad War on Energy, in attempt to try show all kind of ways, yes, the benefits of the atmospheric CO2, but also from fossil fuels.

We are the first generation, well there are probably three generations representing in this room, but let's just say those that are enjoying life here on this planet all of our lives swathed in energy, massive amount of energy. For a long time, until very, very recently, was 90% of as energy fuel was fossil fuels across the world. I like to say that CO2 or fossil fuels, they originated—certainly fossil fuels—originate in life, and they're really the compressed and heated concentration of life, and they come back to amplify human life. That is certainly true in many ways, or haven't sunk in…

[34:20]

"President Obama and his lieutenants repeatedly said that the greatest global civilizational threat is the threat of man-made global warming, in his views caused by fossil fuels. Climate policies, not fossil fuels or CO2, is a civilizational threat. That is what the book is all about. That is what we mean about madness…

[37:12]
Take a little step in the regulatory realm. Most people know in here that in 2009 EPA without any kind of reference in law, made the legal finding that carbon dioxide is a pollutant under the

very strict tight fisted, federal Clean Air Act. I won't go into details of how it came about. Someone asked if the acknowledge...[inaudible]...In the development, which was again never subject of public comment, of the so called social cost of carbon, no mention of the social benefits of carbon, like lifespan and increased food supply. And there is just nothing in the context of the law, in the Clean Air Act, that can make carbon dioxide a pollutant. It is an invisible trace gas that has no impact on human health, even at very high levels....

[39:02]
None of the characteristics in the law that surround a pollutant does CO2 in anyway have.

[46:33]
To reach, crunching the numbers from the IPCC, to reach that 80-85% [reductions in CO2] would involve reducing current [energy] consumption by about 80%, either in this country or other countries. That is a civilizational threat if there ever is one. It's hard to imagine how all this could shift, given the extent to which, not only in regulation, but just diffused throughout culture, assumptions that carbon dioxide is inherently harmful. Just hard to imagine how that can happen. I so hope—and this is the only opportunity I've seen in 20 years—a real redirection and its one, in my opinion, as it was for the first environmental law in this country enacted some 40 or 45 years ago, it must be based on human welfare, impacts on human beings. There's become this gap where the planet itself has some value higher than human life on this. And that means, really, some pretty simple things about policies at issue here and policies championed very consistently by President Trump and his campaign that employment has got to be a key factor on any cost-benefit analysis.

So I'm very hopeful, and very hopeful because of organizations like the CO2 Coalition. The board composed of just the top of the heap of science on this issue. Brilliant. Not a B team at all, but an A-plus team. So, I think in a way, the long debate that we were told was settled — was unequivocally settled, incontrovertible settled [...] Look, I think that debate, that crazy debate, deluded denial of that debate, I would say it's over. But there's a crack in the door. Just by the hear it in the media. They allow people to question some of the claims in the IPCC science and some of the value of the climate policy measures...

[55:43]
I wholeheartedly agree with your point, we are getting I think heinously bad science from the EPA on their risk assessments that have established the scientific technical basis for these [regulations]. The National Academy Sciences in their review panels have mocked the EPA. They are not a little bit bad, they are really bad. And they do nothing, but to serve to justify often truly infeasible standards...

Senator BARRASSO. Brandy Marty Marquez, a commissioner of the Public Utility Commission of Texas, has written in support of Ms. White's nomination. Ms. Marquez has said "Ms. White brings a wealth of environmental regulatory experience and her record reflects her commitment to genuine environmental protection."

I ask unanimous consent as well that this be entered in the record. Without objection, so ordered.

[The referenced information follows:]

Brandy Marty Marquez
Commissioner

Public Utility Commission of Texas

November 7, 2017

The Honorable John Barasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Dear Senators Barasso and Carper,

As you know, President Trump has nominated Kathleen White to be chairman of the White House Council on Environmental Quality. This is to express my support for her nomination. Ms. White brings a wealth of environmental regulatory experience and understanding that will be needed to expedite the Federal permitting involved in the rebuilding of our country's infrastructure. She shares our concern that excessive environmental regulation has paralyzed our ability to undertake such large projects and that it is time to restore balance and reason to the process.

Ms. White's views on environmental policy are well known and she has broad support for this appointment. Her record reflects her commitment to genuine environmental protection in ways that do not stifle economic growth and thus impair human welfare.

It is my pleasure to recommend Kathleen Hartnett White to be appointed Chairman of the Council on Environmental Quality.

Sincerely,

Brandy M Marquez

Brandy Marty Marquez
Commissioner
Public Utility Commission of Texas

Senator BARRASSO. Senator Sullivan.

Senator SULLIVAN. Thank you, Mr. Chairman.

I appreciate the witnesses being here and your willingness to serve.

Mr. Wheeler, I appreciated your highlighting some of Administrator Pruitt's testimony during his confirmation hearing about we are a nation of laws, the rule of law, and cooperative federalism. I think those are all very important issues. I want to kind of drill down on those a bit today.

I think it is also important to recognize. Sometimes you do not always get it from this Committee, but we all are very focused on clean water and clean air. My State of Alaska and my hometown of Anchorage has some of the cleanest water and gets awards. My State has the most pristine, beautiful, and incredible environment probably in the world. We care about it deeply.

We also care about the rule of law. To be perfectly blunt, I think the last Administrator in the previous Administration was not that concerned about the rule of law. Let me give you a quote from the previous Administration.

A senior official once stated of a major EPA rule on the eve of a big Supreme Court case that when asked whether you think you are going to win or lose in the Supreme Court on this rule they promulgated, this individual said, it didn't matter if it was unlawful because the rule was finalized 3 years ago, and "most of the covered parties are already in compliance and investments have been made."

Does that sound like the attitude of somebody or an agency that cares about the rule of law?

Mr. WHEELER. No, it does not, sir.

Senator SULLIVAN. That was Gina McCarthy. That was one of numerous, numerous occasions where she and her team ignored the rule of law. In one of her hearings, I called her running a lawless agency because they did this all the time.

The Clean Power Plan gets a lot of play in the press. Do you have any idea why the U.S. Supreme Court put a stay on the Clean Power Plan, the first time in U.S. Supreme Court history that they had done that to a rule from a Federal agency that had not been looked at by a lower court? Do you have any sense of why the Supreme Court did that?

Mr. WHEELER. It is my understanding the Supreme Court, as you said it was the first time for an environmental statute, but the only time they would issue a stay like that would be if they thought the proponents would prevail on the arguments.

Senator SULLIVAN. I think the Supreme Court saw it as a quote from the EPA Administrator who said, look, we don't care. Investments have been made. These poor idiot Americans who complied with it, too bad. I think the Supreme Court was saying, that is not the rule of law.

I need from you a commitment that you won't do that, whether you like a policy or not. If the Congress of the United States does not give you, as the Federal agency, the authority to undertake some kind of action, will you commit to this Committee that you won't undertake that kind of action?

Mr. WHEELER. Absolutely, sir.

Senator SULLIVAN. Do you need statutory authority to undertake rules and regulations that derive from this body?

Mr. WHEELER. Absolutely. From my time working at EPA and my time working here, I understand where the laws are made and whose job it is to implement them. It is not the duty of the EPA to write the laws.

Senator SULLIVAN. OK. We would hope you and Administrator Pruitt would never make a statement such as that by Gina McCarthy which showed complete disrespect for the rule of law and really for the Congress, in my view. Can I get your commitment on that?

Mr. WHEELER. Absolutely, sir, yes.

Senator SULLIVAN. Let me ask about another issue. You and I have talked about this. It relates to an issue back in my State that we worked on in a bipartisan way on this Committee in the last Congress. Chairman Inhofe, Senator Boxer, I and others worked on a challenge we have with regard to water and sewer infrastructure.

There was a lot of talk about aging infrastructure during the Flint, Michigan, crisis. I was trying to raise the fact that there are communities in America which have no infrastructure, not just aging infrastructure.

In my State, Alaska has over 30 communities where people do not have water and sewer, where they do not have flushing toilets. These are American citizens. We worked in a bipartisan way to address that.

I was very disappointed to see the Trump administration did not fund that because no American citizen should live in a community where you do not have a flushing toilet. We have what is called honey buckets where you have to take raw sewage out to a lagoon. We have rates of diseases in some of these communities that are higher, like in third world countries.

This is a program that passed the Congress on a bipartisan basis as part of the WIIN Act. Can get your commitment, if we get the appropriate funding, that the EPA, at the highest levels, will be committed 110 percent to addressing what is really a travesty? It is not just in Alaska; there are a few other States that have this problem, but this problem mostly resides in my State. We talked about it when you and I met. Can I get your commitment on that as well?

Mr. WHEELER. Yes, sir. I will even go as far as to say 120 percent.

Senator SULLIVAN. Great. I appreciate that.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Sullivan.

Senator Duckworth.

Senator DUCKWORTH. Thank you, Chairman Barrasso.

Ms. Hartnett White, thank you for coming to my office for our meeting. I appreciate the time.

During our meeting, you stated you do not have ties to the oil industry. It has been a long time for the renewable fuel standards and other environmental programs which I, and many of my constituents, support.

In fact, when I did a bit more research, I found that you reportedly actually own several oil leases, one of which is leased to CVR Refining. CVR Refining is owned by Carl Icahn who recently re-

signed from his role as advisor to President Trump amid very well publicized concerns that he used his position in the Administration to influence a proposal to change the point of obligation under the RFS. This change would benefit Mr. Icahn's own financial interests. I have called on the FBI to investigate this very clear violation of conflict of interest laws.

Let me ask, have you ever spoken to Carl Icahn regarding the RFS?

Ms. WHITE. No, I have not.

Senator DUCKWORTH. Do you intend to sell any of your current leases, specifically the one leased to Carl Icahn's CVR Refining?

Ms. WHITE. I already assigned those mineral interests by gift to my nephew. I do not own any mineral interests. My great-grandfather, in several counties in Texas, had some modest royalty interests.

Senator DUCKWORTH. But you gained financially from leasing these interests to Mr. Icahn? You made money off it, right? You got a return by leasing the oil leases to CVR Refining?

Ms. WHITE. Like I said, these are *de minimis* royalty payments for royalties in some agricultural counties in Kansas that I do not own anymore. My nephew does.

Senator DUCKWORTH. When did that happen?

Ms. WHITE. I don't know; about 6 months ago or so.

Senator DUCKWORTH. When it became clear that you wanted this job?

Ms. WHITE. Yes.

Senator DUCKWORTH. You made money, but you told me you did not have any history.

Ms. WHITE. I don't own them.

Senator DUCKWORTH. Fairly recently.

Ms. WHITE. They are like oil leases where some months you get $30.

Senator DUCKWORTH. Thirty dollars is a lot of money to some families.

Ms. WHITE. I am sure it is.

Senator DUCKWORTH. During our meeting, in countless articles and talks you have given over the years, you repeatedly claim that ethanol reduces grain supply and increases the cost of food.

As someone who relied on food stamps as a child and who represents thousands of farmers in my home State, I am deeply invested in ensuring access, affordability, and quality food is available to everyone in the country and around the world.

Yes or no, are you aware that today ethanol production has increased to at least 15 billion gallons?

Ms. WHITE. I have.

Senator DUCKWORTH. And that the price of corn is lower than it was when the RFS was adopted and that food prices are actually in the longest decline since the 2009 recession?

Ms. WHITE. I very recently have had access, thanks to Senator Fischer; because of that, have had lots of information on that. I can say God bless productive U.S. agriculture; there is a lot of corn supply.

Senator DUCKWORTH. Since RFS has been installed, do you agree, yes or no, that even since then, food prices are not higher

and that what you have said, in fact, has turned out to not be true, that food prices would be higher because of implementation of the RFS?

Ms. WHITE. If I understand your question, yes, you are right.

Senator DUCKWORTH. Mr. Chairman, I would like to ask unanimous consent to submit for the record, materials relating to Ms. White's views that the Renewal Fuel Standard is unethical and should be repealed.

Senator BARRASSO. Without objection.

[The referenced information is presented earlier in this hearing document.]

Senator DUCKWORTH. Thank you.

I would also like to submit for the record a World Bank report that attributes changes in the price of food to the price of oil, not the RFS.

Senator BARRASSO. Without objection.

[The referenced information was not received at time of print.]

Senator DUCKWORTH. Thank you, Mr. Chairman.

In 2014, Ms. White, you wrote, "Using a vitally needed global food grain such as corn for the transportation fuel known as ethanol literally takes food from the mouths of hungry millions." You reiterated this claim in your meeting with me.

Can you give me an example of a case where food was literally taken from the mouths of millions and diverted to ethanol production?

Ms. WHITE. If you mean it literally.

Senator DUCKWORTH. You said literally. That was your choice of words.

Ms. WHITE. Then I was just wrong. I was searching for the word figuratively.

Senator DUCKWORTH. We agree that you were wrong on RFS. You actually wrote this, so I would assume you proofread your documents before they were published.

Beyond bashing the RFS inaccurately, can you describe any work you have done individually to advocate for ending hunger because you seem to be very concerned about hunger and the RFS' potential effect on world hunger? What have you done to advocate for ending hunger?

Ms. WHITE. I have contributed donations. A lot of my work, I find, is really about human welfare.

Senator DUCKWORTH. Can you give me a concrete example of how you have worked to end hunger?

Ms. WHITE. I don't have a concrete example.

Senator DUCKWORTH. So this was a nonsense thing to say essentially? Over the years, you have made many outrageous statements that you are clearly trying to walk away from today. One thing is clear, you would not be the impartial counselor we need in this Administration and we would expect from our civil servants.

I also would like to take my remaining time to clarify.

Senator BARRASSO. You have no remaining time.

Senator DUCKWORTH. I am so sorry. May I ask one final question?

Senator BARRASSO. Please go ahead.

Senator DUCKWORTH. Thank you, Mr. Chairman. You are very indulgent.

Can you clarify your answer to Senator Fischer? It sounded like you would not commit to following the law by ensuring the RFS goes to 2022 and that there are biofuel volumes. Of course, there are biofuel volume requirements beyond that date. Is that correct?

Ms. WHITE. I don't think that is quite correct.

Senator DUCKWORTH. So you are saying that you are committed to following the law to ensure the RFS goes through 2022? What I thought you said was that if the President wanted to renege on those, he could.

Ms. WHITE. No, I didn't.

Senator DUCKWORTH. Will you commit to opposing any attempts of the Administration to not adhere to the RFS through 2022?

Ms. WHITE. As I said, I would uphold the spirit and the letter of the law and that CEQ has no direct regulatory authority or even opinion that I think would carry any kind of legal weight.

Senator DUCKWORTH. Again, it is very simple. Yes or no, do you commit to ensuring that the RFS goes through 2022 by resisting, even by something as simple as publicly stating that you would oppose the Trump administration should they choose to try to go against the letter or the spirit of the law?

Ms. WHITE. I will repeat again that all law, not just the law that supports the Renewable Fuel Standard. I would uphold all law, the letter and the spirit.

Senator DUCKWORTH. I am going to hold you to that. Thank you.

Thank you, Mr. Chairman. You have been very generous.

Senator BARRASSO. Senator Carper, closing thoughts?

Senator CARPER. Mr. Chairman, I have one last unanimous request.

Before I do that, Mr. Wheeler, I don't know if you were with me and maybe George Voinovich in a meeting we held in my office, 513 Hart, maybe 10 or 12 years ago. We met with a number of utility CEOs from all over the country.

They had come to meet with us to talk about emissions from power plants. Our focus was sulfur dioxide emissions, nitrous oxide, mercury, and CO_2. We talked about an hour.

A fellow from a utility I think from the southern part of the country, sort of a curmudgeon of an old guy, at the end of the meeting, he said, Senator, here is what you need to do. You need to tell us what the rules are going to be, give us a reasonable amount of time, give us some flexibility, and get out of the way. That is what he said.

I thought it was pretty good advice, and that is what we tried to follow when President Bush proposed Clear Skies. Lamar Alexander and I proposed a counter-response, Really Clear Skies. We got some pretty good advice that day.

There have been some comments here today about the Clean Power Plan. My recollection is the last Administration took comments for not just a couple weeks or a couple of months but for the better part of half a year, more than half a year.

They met with over 400 stakeholders from sea to shining sea, received and tried to respond, and I think they said they did respond to over 1 million comments. Eighty-seven percent of the comments

they had on the proposal was actually supportive. They reviewed more than 1,200 scientific reports.

When I hear that, I think of that meeting we had with those utility CEOs where they said, tell us what the rules are going to be, give us a reasonable amount of time, some flexibility, and get out of the way.

We will see how it shakes out in the end. I did not want to let it go by without saying, I believe the folks who are actually doing the outreach try to do so in a thoughtful way and to try to respond to comments they heard.

I want to thank you all for being here. I don't know if it has been a pleasure for you, but it has been an informative hearing. We are grateful you are here.

I want to say what is this young man's name over your left shoulder? Luke, the force is with you. I want to say how old are you, Luke?

Mr. LUKE WHEELER. Ten.

Senator CARPER. I would never have brought my sons in here when they were 10. I am impressed with the way you have handled yourself today. When Mr. Wheeler was speaking, a couple of times I was watching you. I could barely see your lips moving when he spoke, from the mouth of babes.

I have a unanimous consent request to submit materials for the record about the drinking water radiation matters and Ms. White's involvement in those, if I could. Thank you.

Senator BARRASSO. Without objection, so ordered.

[The referenced information follows:]

KHOU.com: Texas politicians knew agency hid the amount of radiation in drinking water

May 19, 2011

By: Mark Greenblatt

https://web.archive.org/web/20140528160305/http://www.khou.com/home/-Texas-politicians-knew-agency-hid-the-amount-of-radiation-in-drinking-water-122205439.html

HOUSTON— Newly-released e-mails from the Texas Commission on Environmental Quality show the agency's top commissioners directed staff to continue lowering radiation test results, in defiance of federal EPA rules.

The e-mails and documents, released under order from the Texas Attorney General to KHOU-TV, also show the agency was attempting to help water systems get out of formally violating federal limits for radiation in drinking water. Without a formal violation, the water systems did not have to inform their residents of the increased health risk.

"It's a conspiracy at the TCEQ of the highest order," said Tom Smith, of the government watchdog group Public Citizen. "The documents have indicted the management of this commission in a massive cover-up to convince people that our water is safe to drink when it's not."

Smith is talking about what happened to residents who live in communities served by utilities like Harris County Municipal Utility District 105. For years, tests performed by the Texas Department of State Health Services showed the utility provided water that exceeded the EPA legal limit for exposure to alpha radiation.

However, the TCEQ would consistently subtract off each test's margin of error from those results, making the actual testing results appear lower than they actually were. In MUD 105's case, the utility was able to avoid violations for nearly 20 years, thanks to the TCEQ subtractions.

On Dec. 7, 2000, the EPA said in the federal register that states should not add or subtract the margin of error, also called the counting error, from test results.

In an e-mail from Oct. 30, 2007, a TCEQ drinking water team leader began questioning a senior director about if it would be appropriate for the state agency to stop subtracting the counting error from test results to comply with all federal regulations.

She was told, "I believe there may been some EPA guidance on not subtracting, but can't remember back that far for sure. This has been the practice in Texas since day one of radionuclide monitoring. This option was thoroughly discussed with the commissioners and the (executive director) staff when the reg was being adopted. We were directed to maintain the current methodology for subtracting the counting error at that time."

Three years earlier, the same TCEQ director presented written testimony on behalf of the TCEQ to the Texas Water Advisory Council. The testimony notes that the TCEQ was aware of the new rules the EPA published on Dec. 7, 2000, saying the federal agency had "issued guidance for calculating radionuclide levels for compliance."

However, the TCEQ also told the Council: "Under existing TCEQ policy, calculation of the violation accounts for the reporting error of each radionuclide analysis. Maintaining this calculation procedure will eliminate approximately 35 violations."

As a result, the subtracting method continued and residents of MUD 105, like Brenda Haynes, were never sent a required notice of violation. That notice would have informed them about the excessive alpha radiation in their water.

Alpha radiation is emitted from radionuclides such as uranium and radium. While health scientists have said it poses little danger if someone is externally exposed to it, the experts maintain that ingesting even the smallest amount of the particles can cause damage to DNA, and in rare cases, cause cancer.

Haynes came down with thyroid cancer while living in the MUD 105 district and continued drinking the water even after she was diagnosed. Although she will never know for certain if the water had any connection with her illness, Haynes and her husband are angry that they never were given appropriate notice about the added risks she was taking into her body while sick.

"We were put at more risk than what we thought," said Ian Haynes, who added he and his wife would have been making different choices about what they consumed had they been warned.

The Texas Water Advisory Council, which reviewed and discussed the TCEQ testimony at a meeting on June 7, 2004, was comprised of some of the highest ranking public officials in Texas. Minutes from the TWAC's annual report reveal that the members present that day to hear about TCEQ's plan included then-chair of the TCEQ Commission Kathleen Hartnett White, then-Agriculture Commissioner Susan Combs, General Land Office Commissioner Jerry Patterson, Sen. Robert Duncan, and other lawmakers and state leaders.

The I-Team sought comment from Sen. Duncan, then the chair of the Council, but he did not return KHOU-TV's phone calls.

A spokesperson for Commissioner Patterson wrote KHOU-TV to say, "I've checked with Commissioner Patterson and sent him the report and he doesn't remember "squat" about that committee," wrote press secretary Jim Suydam. "He won't be calling you."

Commissioner Combs has since left her position in the Department of Agriculture and become the state's comptroller. She also declined to speak personally with KHOU in regards to this meeting.

However a spokesperson sent the following to KHOU on her behalf:

"Comptroller Combs hasn't been the Agricultural Commissioner for 4.5 years. Susan's role on the advisory council back then was to represent rural Texas, primarily on water issues (drought,

water rights). SB 2 which established the water advisory council was to look (at) water issues facing the state, it had no regulatory authority. The state experienced severe droughts in 1998, 2000 and 2004-2006. The issue you are talking about was handled by the TCEQ."

However, a review of a meeting summary from the June 7, 2004 Texas Water Advisory Council shows Combs asked several questions during the meeting, including a number of questions about issues involving TCEQ's implementation of the new EPA rules on radionuclides.

The meeting summary says that "Commissioner Combs stated small towns are going broke," and further says, "Commissioner Combs asked what would the feds do if the state didn't enforce." The minutes indicate that someone at the meeting said there would be federal enforcement and loss of primacy.

At the same meeting, the summary says that the EPA had already warned that if Texas didn't implement the rules, the EPA might take over the regulation of Texas water systems. The notes say that as a result "Texas will lose $66 million if delegation of the drinking water program is lost."

But despite the EPA's warning in June of 2004 of potential loss of primacy, by December, the Texas Water Advisory Council issued its annual report to the then-speaker of the House, the lieutenant governor, and Gov. Rick Perry, saying: "However, this result (the loss of primacy) is unlikely. Of the 49 states with primary enforcement responsibility to administer their drinking water programs (Wyoming is not a primacy state), EPA has never withdrawn primacy status from any of them because the federal agency views both withdrawing primacy and withdrawing funding as options of last resort."

Under federal law Texas and other states are only allowed to enforce EPA rules, according to the Safe Drinking Water Act, if the EPA determines the state has adopted drinking water standards that are "no less stringent" than the federal rules.

After the annual report of the TWAC was delivered to the Speaker, Lieutenant Governor, and the Governor, the TCEQ continued their policy of subtracting the margin of error from the result of each water-radiation test, until an EPA audit caught them doing so in 2008. The state has since complied with the EPA regulation.

Then Chair of the TCEQ Commission Kathleen Hartnett White, who also sat on the Texas Water Advisory Council, says the decision to continue the subtraction was a good one.

"As memory serves me, that made incredibly good sense," she told KHOU.

White says she and the scientists with the Texas Radiation Advisory Board disagreed with the science that the EPA based its new rules on. She says the new rules were too protective and would end up costing small communities tens of millions of dollars to comply.

"We did not believe the science of health effects justified EPA setting the standard where they did," said White. She added, "I have far more trust in the vigor of the science that TCEQ assess, than I do EPA."

In response to questions about why the TCEQ did not simply file a lawsuit against the EPA and challenge the federal rules openly in court, White said that in federal court, "Legal challenges, because of law and not because of science, are almost impossible to win."

Lt. Governor David Dewhurst did not respond to written questions related to this story. The only comment from his office came from a spokesperson who wrote: "Just FYI—I'm told by our legislative staff that Texas Water Advisory Council was created in 2001, but was repealed in 2007. Evidently, the statutes creating the council made it clear that that it was an advisory board only, so they made no decisions."

A spokesperson for Governor Perry said the governor expects the TCEQ and all state agencies to follow all the laws that are on the books, which the spokesperson said the TCEQ began doing after that 2008 audit by the EPA.

The governor's spokesperson did not respond to written questions from KHOU asking if the governor supported the TCEQ's decision in 2004 to continue with the subtraction in order to help 35 water systems stay out of trouble.

The EPA was contacted for comment and at press time has yet to provide any response.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
REPORT ON REGULATION OF RADIONUCLIDES AND ARSENIC IN DRINKING WATER
Prepared for the
Texas Water Advisory Council
June 7, 2004 Meeting

Radionuclide Regulations

Texas has had standards for radionuclides in drinking water since 1978. These standards were limited to a standard for combined radium at 5 pCi/L, gross alpha at 15 pCi/L and beta emitters. The beta standard applied only to manmade contaminants in very large water systems and has never been exceeded in Texas.

In 1991, EPA published proposed standards for radium, gross alpha, beta emitters, uranium and radon. This publication proposed a drastic change to the existing standards as well as new radionuclides to be regulated. The effect of these proposed standards, based on the health effects information available at that time, was that adequate health protection could be achieved by enforcing standards which were much higher than the existing Maximum Contaminant Levels (MCLs). This would have had eliminated all but a few violations of the radium and gross alpha standards. Under the proposed standards for radon and uranium, Texas could expect an additional 30 violations for uranium and approximately 850 violations of the radon standard. The radon proposal was subsequently withdrawn. No action was taken on finalizing the other radionuclide standards until December 2000. In the final Rule, published on December 7, 2000, EPA basically reverted to maintaining the existing standards and established a new standard for Uranium at 30 ug/L. The new rule also required more thorough sampling of public water systems. EPA has also issued guidance for calculating radionuclide levels for compliance with the MCLs. The combination of the new standards and sampling requirements as well as the new calculation procedures will result in approximately 100 new violations of radionuclide standards in addition to approximately 35 public water systems that are or have been in violation of the existing standards. Under existing TCEQ policy, calculation of the violation accounts for the reporting error of each radionuclide analysis. Maintaining this calculation procedure will eliminate approximately 35 violations.

Radionuclides in drinking water are a health concern because they produce ionizing radiation which can lead to the promotion of cancer cells. In addition, uranium produces toxic effects to the kidneys. Drinking water is not the only source of ionizing radiation that the general population is exposed to, but at the MCLs, these contaminants produce an unacceptable increase in cancer risk. EPA's methodology for radionuclide health risk conforms with Federal Guidance Report 13, a joint of the EPA, the Department of Defense and the Department of Energy. Although, FGR13 is a consensus document, there has been criticism of the risk assessment methodology. The Texas Radiation Advisory Board in a letter to TCEQ raised concerns over the impact of adoption of the revised radionuclide regulations. One of the main points in their letter was the their dissatisfaction with the risk assessment models in FGR 13.

TCEQ staff engaged a group of stakeholders to advise the agency in adoption of the drinking water rules and to assist in the collection of data related compliance alternatives available to water systems. This group has been appraised of the compliance options which include the acquisition of an alternate water supply or treatment options. Treatment technologies for radionuclides are commercially available. However, all treatments which remove radionuclides from drinking water result in a treatment residual which must be managed in a safe and environmentally acceptable manner.

To gather as much information as feasible, TCEQ staff developed a questionnaire pertaining to radionuclide compliance. The questionnaire was distributed to water systems which have at least one source of water which exceeds existing standards or will exceed the standards when adopted by TCEQ. Information from these responses has been used to project the most likely compliance options and to assess costs of compliance. From this data, TCEQ has determined that approximately 100 public water systems will have to address radionuclide compliance issues. From the questionnaire, TCEQ determined that public water systems that exceed the current TCEQ radionuclide regulations will need to spend approximately $35 million for capital improvements to bring those systems into compliance. There will be an additional $12 million capital costs to water systems in violation of the new standards based on the new sampling requirements and the new uranium MCL.

Over the last 6 months, a new technology for the treatment of radium has been piloted in Texas. This technology is much less capital intensive, but produces a solid media which must be disposed of. The Operations and maintenance costs of the media replacement and disposal of the media are the controlling cost factors for this technology. Even at that, The company which markets this process indicates that the total cost would range from $0.60 to $3.00 per thousand gallons treated, depending on system size and radium concentration. This would push average water bills up from $8.00 to $40.00 in those water systems electing this process.

Arsenic Regulations

Texas has had standards for arsenic in drinking water since 1977. The standard of 0.05 mg/L was adopted in the initial state primacy package. It was adopted in response to the National Interim Primary Drinking Water Regulations adopted by the USEPA. The interim standards were carried over from earlier US Public Health Service Standards and adopted without further health study by the EPA.

This standard for arsenic was not modified nationally until January 21, 2001, when EPA published a revised standard for arsenic at 0.01 mg/L (later modified to 0.010 mg/L). The incoming Bush Administration asked that EPA put a "hold" on any implementation of the arsenic regulations to allow for a review of the standard. Ultimately, EPA released a statement retaining the arsenic standard as adopted. This revised standard becomes effective in January, 2006.

Arsenic is a health concern because at high levels there is documented human health data linking exposure to arsenic to an increase in cancer. Arsenic has been linked to cancer of the bladder and skin cancer. The use of high level arsenic exposure data has been questioned by many scientists. The uncertainty in the extrapolation of high dose risk to low dose risk has been questioned in studies of US populations which were exposed to lower levels of arsenic than the studies that EPA used in its evaluation. In at least one study of a US population, there was no significant increase in cancer risk even at levels much greater than 0.010 mg/L.

Arsenic is a widely naturally occurring contaminant of drinking water systems at levels at or near the Maximum Contaminant Level. TCEQ staff has determined that approximately 220 public water systems in Texas will have to address an arsenic exceedance in at least one source of water. Nationally the cost of complying with the arsenic standard has been studied to a much greater extent than compliance with radionuclide rules. TCEQ has used data from these national studies as well as cost estimates from internal data to project the capital cost of complying with the new arsenic standard at approximately $425 million.

EPA Relationship

TCEQ is the state primacy agency for enforcement of the federal Safe Drinking Water Act. This primacy relationship is defined in the Safe Drinking Water Act and is granted through agreements with the USEPA. As such, TCEQ is compelled to adopt and enforce standards which are no less stringent than the federal standards. Failure to do so by the agency would result in the EPA enforcing the standards in Texas and the probable loss of more than $6 million in federal drinking water program funding and $60 million in Drinking Water State Revolving Funds which are granted to the state by the EPA. Although primacy withdrawal is authorized under the Safe Drinking Water Act and the National Primary Drinking Water Regulations, no state to date has had primacy withdrawn for failure to adopt or enforce a national primary drinking water standard. However, EPA has a history of taking enforcement actions against violators in states which fail enforce the standards.

At the time of this document development, the rule adoption by the 49 primacy states are as follows:

Rule	Adopted	Approved by EPA	Extensions granted
Radionuclides	31	10	18
Arsenic	26	5	19

Compliance Options

Water systems that have sources that violate any kind of chemical contaminant, including radionuclides and arsenic, may address that violation through a number of different mechanisms. Some public water systems have the means already available to manage existing sources to achieve compliance without additional costs. Others will have to obtain additional sources by developing new groundwater or surface water options or purchasing water from another public water system. Others will find that treatment is the only compliance option. In some cases, the cost of any of these options may be so great as make the cost of the project and the associated operation and maintenance costs unaffordable to the customers of the public water system.

In such cases, TCEQ would entertain proposals from water systems to achieve compliance through the use of point of entry (POE) or point of use (POU) devices. Such devices distribute the treatment process to the point where water enters the home (POE) or at a single outlet within the home (POE). Since a smaller fraction of the water is treated, this technology may be more affordable. However, under EPA guidance on the acceptability of these devices, compliance with all the requirements for their use may be unattainable by many water systems.

TCEQ staff has pursued a further acceptance by EPA of the use of bottled water as a long term compliance strategy which could be used by water systems. Though not excluded as a compliance strategy in the Safe Drinking Water Act, EPA regulations do not allow for bottled water to be used in such a manner. TCEQ has asked the Association of State Drinking Water Administrators to develop a new policy statement on the use of bottled water and that this issue be further discussed with EPA.

Enforcement

TCEQ enforcement against water systems with violations of naturally occurring contaminants such as arsenic and radionuclides is initiated through the mechanism of compliance agreements. This document, which is signed by TCEQ and the public water system sets in motion a series of activities that the water system must pursue. The two major requirements of the water system is that they notify the customers of the violation and that they conduct an economic feasibility analysis of compliance strategies. The

feasibility study must evaluate the projected cost of developing new sources, purchasing new water, treatment, and blending with existing sources. The goal of the compliance agreement is to come to an affordable option for compliance without the need for more formal enforcement action.

For further information on the radionuclide and arsenic regulations, please contact:

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Texas Observer: The Null Set

September 28, 2011

By: Forrest Wilder

https://www.texasobserver.org/the-null-set/

TEXAS GOV. RICK PERRY MAY HAVE INFAMOUSLY FLIRTED with secession, but it's another states'-rights idea that he's married to: nullification. Nullification is the crackpot theory that states can reject federal laws.

"It's an almost universally derided idea," Sandy Levinson, a professor at the University of Texas School of Law, told me.

Though the concept dates to the 18th century, nullification was last bandied in the 1950s as a legal tool for resisting school desegregation. The success of the civil rights movement and a 1958 U.S. Supreme Court decision thankfully swept nullification into the dustbin of history. Or so we thought. The Tea Party and other far-right movements have kept the dream alive. Though nullification has been stripped—at least overtly—of its racist baggage, the nut of the thing has been reinvigorated in Rick Perry's Texas.

It's more than just rhetoric. In concrete ways, the Perry administration appears to have put nullification into practice, particularly in the areas of environmental law and regulation. I'm not talking about the state's battery of largely frivolous lawsuits against the EPA or Perry's whoopin' and hollerin' about states' rights. That's just politics. This is serious.

Take for example the shocking tale of how the Texas Commission on Environmental Quality deliberately low-balled radiation levels in drinking water, a story broken by investigative reporter Mark Greenblatt of Houston's KHOU-TV. Instead of reporting to EPA the radiation measured in community drinking water samples, plus the margin of error, TCEQ simply subtracted the margin of error.

For example, if a water sample tested at 15 picocuries per liter—the federal limit—with a margin of error of plus or minus 5 picocuries, TCEQ subtracted five and reported a radiation level of 10. The explicit goal was to artificially keep utilities from exceeding the federal limit. No matter that this put people's lives at risk. EPA emphatically told Texas to stop the practice.

As Greenblatt reports, then-TCEQ Chairwoman Kathleen Hartnett White, with the blessing of top state officials including Rick Perry, ordered the funny business continued, even though Texas risked losing more than $60 million in federal funding. When confronted on camera by Greenblatt, White, a Perry appointee, practically sticks her tongue out. "We did not believe the science of health effects justified EPA setting the standard where they did," White said. "I have far more trust in the vigor of the science that TCEQ assesses, than I do EPA."

Why then didn't TCEQ sue over the regulation?

"Legal challenges, because of law and not because of science, are almost impossible to win," she told Greenblatt.

This is some truly audacious hokum. The bottom line is that TCEQ couldn't win on the merits so White and her cohort effectively "nullified" a regulation they didn't agree with.

Fittingly, Hartnett is now a "scholar" at the right-wing Texas Public Policy Foundation, which recently launched a Center for Tenth Amendment Studies.Net proceeds from the sale of Perry's book, Fed Up!, go to the center.

In the clean air arena, TCEQ has racked up a record of willful disregard for federal law and regulation in a few short years. For instance, the feds have ordered the Exide lead smelter in Frisco to reduce its emissions, an obvious hazard in a booming suburb. The state is in charge of coming up with a legally binding clean-up plan that brings the plant into compliance with the Clean Air Act. Despite repeated and specific instructions on the elements of the plan, TCEQ refused to follow the EPA's stipulations. The result: In August, EPA rejected Texas' plan, delaying the clean-up.

"The level of non-cooperation is so extensive, so fundamental that one can only conclude that the TCEQ intentionally sabotaged its own plan," said Jim Schermbeck, director of Downwinders at Risk, an environmental group in Dallas-Fort Worth.

Those on the front lines see it all the time. Austin environmental attorney Ilan Levin points to a lawsuit challenging a coal-fired power plant near Austin. Levin, who's involved in the suit; says the "flexible" air permit issued by Texas ignores a federal limit on particulate matter, the tiny soot-like particles that can damage people's hearts and lungs. The coal plant owners are arguing in court that their Texas flex permit "voids" the federal limit. "That's a very clear example of where the state of Texas doesn't believe that federal limits apply and that the state can sort of disappear a federal requirement," Levin said.

Rick Perry says he hates the federal government because it's tyrannical. But all tyrants share a common feature: They think they're above the law.

(11/24/2010) Alicia Diehl - NORM WHITE PAPER 9-2003.wpd

Implementing the National Primary Drinking Water Regulations for Radionuclides

40 CFR 141

TNRCC

White Paper
April 4, 2001

Contents

Page

Executive Summary 4

Regulatory Background 6

Health Risk 7

Water Planning 9

Implementing the EPA Standard 11

NORM Treatment and Disposal in Other U.S. States 14

Supremacy Clause & Interstate Commerce of NORM 15

Costs 16

Outline of Proposed Changes to the TNRCC Rules 18

Regulation Time Line 22

Conclusions 23

Appendix A, List of NORM Affected Facilities, County, State Representative, and Senator 24

Appendix B, Facilities Potentially Affected by NORM, County, State Representative, and Senator 28

Table 1, Maximum Concentration Levels and Associated Cancer Risks 8

Table 2, List of City Treatment Facilities and Quantities of Liquid Radium Waste 12

Table 3, Costs for Treatment and Disposal of NORM in Drinking Water for Five Systems in Texas 17

Table 4, Summary of Rule Changes 21

Figure 1, Texas Drinking Water Treatment Plants Currently Exceeding the EPA Radionuclide Standard 10

Figure 2, States with NORM Drinking Water Regulations 14

Figure 3, Time Line of Key Events for Regulation Implementation 22

(11/24/2010) Alicia Diehl - NORM WHITE PAPER 9-2003.wpd

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White Paper
April 2003

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Radionuclides in Drinking Water

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Executive Summary

The U.S. Environmental Protection Agency adopted a revision to the National Drinking Water Standard for radionuclides on December 7, 2003. These federal regulations concern Naturally Occurring Radioactive Material (NORM) in drinking water.

Sources of NORM in Drinking Water

Many natural materials contain radioactive elements (radionuclides) including the earth's crust. In Texas, certain areas of the state have higher levels of naturally occurring radioactive material due to geologic activity which occurred when the land was first formed.

Radionuclides are leached into ground or surface water when water comes in contact with uranium- and thorium- bearing soils. Since water for domestic use comes from streams, lakes, reservoirs, and aquifers, it contains varying amounts of naturally occurring radioactivity. Although the level of individual radiation exposure from NORM is usually minimal, some water systems in

Texas have high enough levels to be of concern. To better understand the problem, the TCEQ has conducted stakeholder meetings and has researched the impact of the new federal rules for incorporation into our state drinking water regulations. TCEQ staff has also evaluated the impact of these drinking water rules on other agency programs which are linked to the management of residuals from any potential drinking water treatment processes.

Technical Considerations

In Texas, there are Approximately 135 water systems projected to be or are currently in violation of the EPA's radium, gross α, and/or uranium standard. Water systems have only a few technical options to bring their water into compliance. It is possible for many of these systems to develop alternate surface or groundwater sources, but for others the only option will be to treat the water and appropriately manage the treatment residuals.

Treatment methods are effective and are commercially available. These methods include ion exchange, reverse osmosis, and no- discharge adsorption technology. A key factor in determining the most viable treatment method is to consider what options are available to dispose/discharge of the treatment residual.

Options include: discharge of small concentrations of liquid residuals to an appropriate water body or sanitary sewer, land irrigation or Class V injection well. Higher concentrations of liquid residuals could also be injected in onsite Class I injection wells. Solid material would have to be exported out of state to licensed NORM waste facilities.

Schedule Requirements

Water systems already in violation are under compliance agreements which require them to find solutions to their radionuclide violations by December 2004. After the December 2003 effective date of the amendments to this rule, water systems with new violations of the radionuclide standards would be required to implement the revised radionuclide standard by December 2005. Within this time frame, rules must be written and adopted, compliance strategies developed, engineering designs formulated, and the approved plant designs constructed and placed into operation.

Legal Ramifications

TCEQ is currently under a rules adoption extension agreement with EPA. The TCEQ would need have to drinking water

regulations developed and adopted by December 2004 to meet the deadline of the TCEQ extension agreement. After December 2004, the State could allow the federal government to enforce these regulations but this could lead to the loss of primacy delegation for the Public Water Supply Supervision (PWSS) program under the federal Safe Drinking Water Act. Withdrawal of primacy by the EPA would result in the loss of approximately $6 million in PWSS grant funds to the agency. Primacy loss also jeopardizes more than $50 million that the State receives from EPA under the Drinking Water State Revolving Fund administered by the Texas Water Development Board.

Few states have developed NORM disposal programs, due in part to the obstacles encountered by the Supremacy Clause and the Interstate Commerce Clause of the United States Constitution. These clauses would allow NORM waste generated by the federal government or in other states to be disposed of in a commercial facility in Texas. The Texas Railroad Commission, which has rules authorizing the disposal of oil and gas NORM in Texas, indicates that the volume of oil and gas NORM from outside Texas is low. However, because of this potential problem, the TCEQ has until now only looked at non-commercial disposal of the waste. A non-commercial disposal facility may be licensed to prohibit out-of-state NORM waste being disposed of in Texas.

Financial Burden

Determining the most viable treatment and disposal method must take into account reasonable costs that could be absorbed by the system's customers. A cost study performed by TCEQ contractors was conducted for 58 water systems in Texas. This study shows additional costs ranging from no cost per year per customer to greater than $100 per year per customer, depending on the option selected. The TCEQ will make every effort to assist affected communities in the selection of an option, so as to minimize costs. Also, part of these costs may be provided by the EPA's drinking water state revolving fund program administered by the Texas Water Development Board. Since 1996, the revolving fund program has made available better than $300 million to assist drinking water systems in Texas with projects that improve their infrastructure.

Conclusions

Federal regulations now require states to

implement the radionuclide rule by December 2003. TCEQ has requested and been granted an extension to the adoption of the revised rule until December 7, 2004. In the interim, TCEQ will implement the new requirements as well as enforce existing radionuclide regulations. New violations will be referred to EPA for enforcement. TCEQ staff has held three stakeholder meetings with representatives of the major water utility associations and the affected water systems. In addition, TCEQ staff has reviewed existing regulations which affect the management of radionuclide containing treatment residuals. There are already existing mechanism to manage these residuals. However, there would need to be new regulations to deal with the commercial disposal of NORM drinking water wastes. The lack of such commercial disposal does not prohibit treatment of public water systems. commercial disposal in Texas may provide a cost efficiency compared with out of state disposal options.

Regulatory Background

Public water systems in Texas have been required to meet standards for radionuclides in drinking water since 1979 when the Texas Department of Health adopted the National Primary Drinking Water Regulations for Combined Radium-226 and Radium-228 of 5 picoCuries/liter (pCi/l), Gross Alpha of 15 pCi/l excluding radium

and uranium, and Gross Beta of 4 millirem/yr (Refer to 40 CFR §§ 141.15, 141.16, and 30 TAC §§ 290.108).

Notice of Data Availability

In 1991, the EPA proposed revisions to the radionuclide regulations to add standards for Radon-222 and Uranium. A Notice of Data Availability (NODA) was issued in April 2000 which updated the 1991 proposal. The regulations were finalized in December 2000. All previous requirements remain the same but a new MCL was issued for uranium of 30 ug/l. In addition, new monitoring provisions were issued to ensure compliance. Radon-222, which is a gas, is being addressed in a separate rulemaking by EPA. All states that adopt the new standard will be required to develop their own rules and have their water systems implement the new regulations by December 2003. For new violations, states can also grant a two year extension for compliance to December 2005.

Consequences of No Action

Implementing the standard could be difficult but the costs for not taking action could also be severe. Besides allowing the potential public health problems to continue, other legal and financial costs could be incurred by the agency and the state. Failure to enforce these regulations could lead to the loss of primacy delegation for the Public Water Supply Supervision (PWSS) program under the federal Safe Drinking Water Act. Withdrawal of primacy by the EPA would result in the loss of approximately $6 million in PWSS grant funds and $7 in DWSRF setaside funds to the agency. Primacy loss also jeopardizes more than $50 million that the state receives from EPA under the Drinking Water State Revolving Fund administered by the Texas Water Development Board.

Compliance Agreements

The TNRCC public drinking water program typically addresses exceedances of the drinking water standards through compliance agreements issued by the Enforcement Division. These compliance agreements require the public water systems to evaluate all options for returning the system to compliance. These options include: developing new sources, purchasing water from another water system, or treating the water and disposing of the waste.

Compliance agreements have been developed for existing radionuclide

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violators. However, remedial action has been tied to the final adoption of the radionuclide rule by EPA and the TCEQ. The drinking water program has agreed to not pursue further formal enforcement until expiration of the compliance agreement, most of which expire in December 2004.

Health Risk

The public is exposed, in daily life, to a wide variety of radiological and chemical agents which are known to cause cancer. The EPA has established federal drinking water standards known as Maximum Concentration Limits (MCLs) for these agents in drinking water. The TNRCC's public drinking water program is charged with administering the EPA standards. An MCL goal of zero is favorable, but rarely practical or achievable. The EPA has also established what they consider an acceptable risk level to the population, usually between one cancer in ten-thousand (1/10,000) and one cancer in one-million (1/1,000,000).

Radiation Studies

Cancer risks for most chemicals are based on animal studies. In addition to animal studies, scientists have examined the effects to human subjects of radiation exposures by studying the Japanese atomic bomb survivors, uranium miners, medical patients receiving large therapeutic doses, and radium dial painters. A significant source of uncertainty in both chemical and radiation risk assessment is the interpolation and/or extrapolation from data gathered in the high dose region to low doses. Also, it has been shown that sensitive subpopulations, such as the fetus, children and individuals with certain genetic traits, may be hypersensitive to exposure to radiation and chemicals. Radiation risk assessment is complicated by the ever-present contribution from natural background radiation which constitutes the

most significant source of exposure to the human population. Natural background occurs from cosmic and terrestrial radiation and ranges from doses of less than 50 millirem/yr to greater than 400 millirem/yr. This variation is due to temporal (i.e. seasonal) and spatial (i.e. geology) differences in the environment.

Radiation Dose Limits

In Title 40, Code of Federal Regulations, Part 141, the EPA sets forth a limit on the annual dose equivalent to the whole body or any organ of 4 millirem from man-made beta/gamma-emitting radionuclides in drinking water. This limit represents only a fraction of the annual dose limit to members of the public from sources other than natural background radiation. To place a perspective on these dose levels, one of the Texas public drinking water systems of concern was calculated as having a potential dose to the public consumer of 125 millirem per year from radium. This is approximately 30 times the EPA allowable dose limit for the public from drinking water (125 versus 4 millirem per year). This increased dose would cause the total potential dose to the public consumer of this water system (excluding natural background radiation and medical contributions) to be more than twice the maximum allowable federal dose limit.

Radiation Risks

Radiation risk analysis is a very subjective area of radiation protection. The radiation standards recommended by the International Commission on Radiological Protection (ICRP) are some of the most widely recognized and accepted. Although, not a regulating or governing body, the ICRP has established risk estimates for radiation protection. The ICRP Report 60 provides risk estimates for fatal cancer to the whole population from low dose-rate radiation to be 5×10^{-4} per rem received. The EPA's assessments for cancer risks were published in the radionuclide NODA and are depicted in Table 1. These radionuclide concentration levels represent some of the highest calculated cancer risks of any EPA-regulated drinking water contaminants. Presently, about 25 public water systems in Texas have concentrations that exceed the MCLs adopted by the EPA.

TDH Cancer Study

In response to concerns regarding a possible excess of cancer, the Cancer Registry Division of the Texas Department of Health (TDH)

(11/24/2010) Alicia Diehl - NORM WHITE PAPER 9-2003.wpd

conducted an investigation into the occurrence of cancer in Concho, McCulloch, San Saba, and Tom Green counties. The public drinking water systems of these counties have some of the highest measured levels of radionuclides in Texas. Specifically, TDH evaluated 1995-1997 cancer incidence data and 1990-1998 mortality data for cancers of the nose/nasal cavity/middle ear, bone, and acute myelogenous leukemia. Incidence data are the best indicators of the occurrence of cancer in an area. Based on the relatively small sample size of this investigation, the results do not allow for any firm conclusions regarding the incidence of excess cancer in these Texas counties.

Table 1: EPA Maximum Concentration Levels and Associated Cancer Risks

Contaminant	Proposed Maximum Concentration Level (MCL)	Risk of Developing Cancer at these MCL levels
Radium-226	5 picoCuries/liter	1/13,700 (7.3×10^{-5})
Radium-228	5 picoCuries/liter	1/5,000 (2.0×10^{-4})
Uranium	30 picoCuries/liter	1/15,000 (6.7×10^{-5})

Water Planning

Over 200,000 Texans drink water from public water systems which are contaminated with relatively high levels of radium and other naturally occurring

radioactive material. TNRCC projections show that as many as 140 systems in Texas may violate the combined radium, gross alpha or uranium standards for drinking water. Some of these systems contain levels of radioactive contaminants with a calculated cancer risk of 1/400 (1/10,000 being the allowable federal and state cancer risk for most contaminants), posing a potentially serious health concern.

Radon Evaluation

The Texas Department of Health (TDH) is currently investigating cancer rates in these areas (page 7). In addition, the impact from Radon-222, a gaseous daughter product of radium, is also present. Radon is being addressed in a separate multimedia mitigation evaluation to limit health effects related to its inhalation in indoor air.

Hickory Aquifer

The TCEQ has divided the state into regions for purposes of water use planning. The Region F Water Planning Area (Figure 1) includes the Hickory Aquifer which contains concentrations of radium, uranium, and other alpha particle emitters at levels that exceed the new EPA standards for radionuclides. The Region F planning group has studied the impact of these radionuclides on the availability of water in this area. Without a feasible means to treat the drinking water and manage the residuals, the Hickory Aquifer would become unusable as a public drinking water source. Many towns using the Hickory Aquifer are remote and alternate sources of drinking water would be very expensive and unavailable for many years.

Appendix A, on page 24, and Appendix B, page 27, provide a statewide list of current and potentially affected water systems. These lists include the location of the facilities by county along with their regional state representative and senator(s).

Figure 1: Texas Water Systems Currently In Violation

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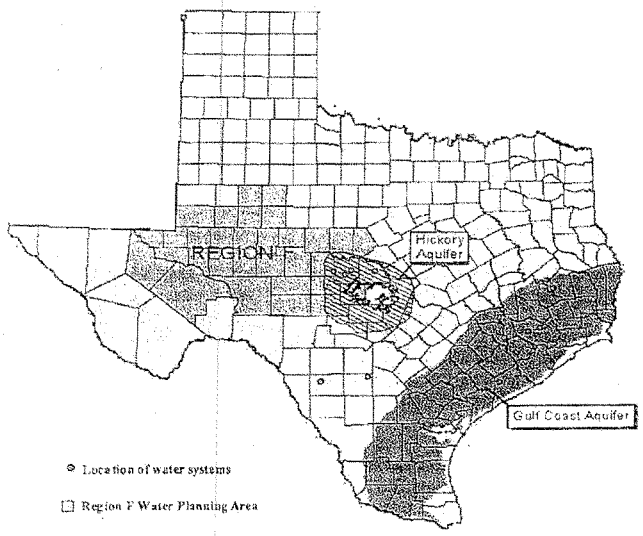


Implementing the EPA Standard

Water systems with radionuclide exceedances have only a few options to bring their water quality into compliance. One option is to develop alternate groundwater or surface water supplies that meet the EPA Standard. Another is to connect to neighboring, compliant drinking water systems for either exclusive use or blending. A third viable option is water treatment which can be less expensive than either development of other sources or connecting to other water systems.

Treatment Methods

Two radionuclide removal technologies have been evaluated by staff Cation Exchange water softening and Reverse Osmosis.

Cation Exchange

Cation exchange resins, such as those used in home water softeners to remove the components of hardness (calcium and magnesium), can also be used to remove radium and uranium. Table 2 demonstrates the calculated volume and concentration of radionuclides in the waste stream if cation exchange were used to treat a representative sample of the radium affected plants. These calculations are based on typical efficiencies and volumes of water used to regenerate the resin beds and show the volume of regenerant produced for disposal. These calculations show that even small systems may produce large volumes of waste.

Reverse Osmosis

Reverse osmosis (RO) is an effective treatment for all radionuclides in drinking water except for radon which is a gas. Table 2 shows the calculated waste volume and concentration of radionuclides in an RO waste stream. In general, by using "off the shelf" technologies for reverse osmosis, about 25% of the influent water is rejected to form a brine stream. Therefore, the brine stream generally contains a concentration of contaminants about four times greater than the influent water concentration. As shown in the table, reverse osmosis produces much more liquid radioactive waste than does ion exchange but at a lower concentration of radionuclides.

Point-of-Entry/Point-of-Use

Treatment at a centralized location may not be feasible in some areas, due to small population size, because centralized treatment may be cost prohibitive. In these instances, home water treatment may be an options. This home based treatment can consist of either whole-house or single faucet treatment. Whole house, or point-of-entry (POE) treatment is necessary when exposure to the contaminant by modes other than consumption is a concern. Single faucet or point-of-use (POU) treatment is preferred when treated water is needed only for drinking and cooking purposes. POU treatment usually involves single-tap treatment. POE and POU systems generally offer ease of installation, with lower capital costs and simplified operation and maintenance. They may also reduce engineering, legal and other fees typically associated with centralized treatment options. Specific requirements for the use of POU

devices exist within the federal regulations. Regulatory allowance of the use of POU devices are made for each contaminant on an individual basis based on the potential exposure reduction of such a device. In either case, EPA regulations require that the devices be owned, maintained and tested by the public water system. The Current policy of EPA is to allow states to approve POU/POE technology only if the water system gains 100% perticipation by the customers. This requirement as well the maintenance and testing burden, may make POU/POE less desirable than potentially less capital intensive centralized treatment systems. Use of POE and POU does not reduce the need for a well-maintained water distribution system.

Table 2: List of City Treatment Facilities and Quantities of Liquid Radium Waste

			Type of Treatment:	Ion Exchange		Reverse Osmosis	
Facility Name	County	Number of Connections	Waste Volume (gal/day)	Radionuclide Concentration (pCi/L)		Waste Volume (gal/day)	Radionuclide Concentration (pCi/L)
CITY OF JERSEY VILLAGE	Harris	1810	19,134	340		126,333	227
MILLERSVIEW-DOOLE WSC	Concho	1377	11,945	3,669		168,122	192
ZAVALA COUNTY	Zavala	522	12,429	217		55,941	137

TEXLINE MUNICIPAL WATER SYSTEM	Dallam	250	696	354	6590	175
OAK HOLLOW SUBDIVISION	Matagorda	22	682	105	1253	96

Residuals Management Options

Options available under existing TCEQ rules

Studies of various disposal options have been performed for NORM waste within the oil and gas industry. These studies are directly applicable to various drinking water systems since the radionuclides of concern are the same. The various options include: discharge to a Publicly Owned Treatment Works (POTW), land application, discharge to a water body, disposal in an underground injection well or shipment out of state. Disposal of NORM waste using these methods, at the concentrations provided in the following paragraphs, would meet all state and federal regulations.

Discharge to a POTW

In accordance with current state and federal regulations, release to a Publicly Owned Treatment Works (POTW) through a sanitary sewer system is allowed for radium up to 600 pCi/L average monthly concentration of Radium 226 and Radium 228 each in the waste stream. Natural uranium may be released at an average monthly concentration of 3,000 pCi/L. These limits have been set to preclude any problems disposing of the sludge and effluents from the wastewater treatment plants.

Land Application

Land application involves disposal by spreading or spraying liquid or sludge on the surface of open lands in an area where NORM was not originally present above background levels. This method is land intensive and has limited applicability in densely populated areas or areas with limited land availability. Only two land application methods were evaluated, landspreading of POTW sludge and effluents (which had received waste from an ion exchange treatment plant), and irrigation of RO reject water. Direct land application of ion exchange regenerate was not included in this study. Only ion exchange regenerate that has been discharged to a sewage collection facility can be land applied. This is because the ion exchange effluent with its high salt content, can not be directly applied to land or the land would become unfit for vegetation. Other treatment techniques such as lime softening or coagulation/filtration produce a sludge that could be land applied but these methods have been ruled out by the EPA as not being cost effective treatment methods.

Non Commercial Underground Injection ClassV

Liquid injection into usable quality groundwater could under the Class V injection rules is possible if the effluent meets the limits prescribed for discharges to the environment. This would allow for onsite management in areas where a sewage collection system does not exist, where there is no recieving water body available and there is not sufficient land available for land application. Because ion exchange technology would add a large concentration of salt, and an efficiently operated ion exchange system would concentrate radium to levels above the effluent concentration limits allowed under TCEQ rules, this residuals management method is not practical for ion exchage radium

Non Commercial Underground Injection Class I

Sludge, liquids, and some filter media could be injected into formations which are isolated geologically and mechanically from U.S. Drinking Waters (USDW). This would involve transport, storage, and then injection of the waste. There are many geologic requirements for an underground injection well outlined in TNRCC rules at 30 TAC 331.121. The injection zone must have sufficient permeability, porosity, thickness, and areal extent to prevent migration into USDW. There are few drinking water systems located in geologically favorable areas for underground injection well disposal. In addition, drilling and operating an injection well is very expensive. Only large communities would be able to absorb the additional cost.

Options Not available under existing TCEQ rules

Commercial Class I Underground injection

While non commercial Class I injection could be authorized under existing TCEQ regulations. There are no regulations in place that allow for the licensing or permitting of a Class I injection well for NORM disposal. As new technologies become available which are capable of

concentrating NORM at levels much higher than what can be managed within effluent concentration limits, commercial Class I disposal within Texas may provide a significant cost reduction in treatment costs compared with out of state disposal and non commercial Class I options.

Onsite or Commercial Buried Waste Facility

Technical studies, using the federal maximum radiation exposure limit of 25 millirem per year, indicate that sludge and equipment wastes having low NORM concentrations could be buried below 15 feet (4.6 m) and still allow for unrestricted use of the site once the facility is abandoned. Commercial NORM waste disposal facilities could be allowed to bury much higher concentrations of waste material. TCEQ does not have in place any regulations which would allow for the licensing or permitting of such an operation.

Low Level Radioactive Waste Disposal Site

Another possible alternative would be collocation of NORM at a low-level radioactive waste disposal facility. This is not allowed under the present legislation governing low level radioactive waste disposal. While technically possible, a change to the legislation would have to be made in order to facilitate the disposal of NORM at such a site.

NORM Waste Treatment and Disposal in Other U.S. States

The States of Illinois and Wisconsin have developed disposal criteria for water treatment plant wastes containing radium. The Conference of Radiation Control Program Directors is developing suggested standards for the disposal of NORM wastes.

Figure 2 shows the results of a survey of 33 states and summarizes their NORM waste disposal status. Seventeen of the surveyed states (52%) reported radium drinking water exceedances above the EPA's MCL of 5 pCi/L.

Six of these seventeen states currently have NORM drinking water rules in place. The other eleven are faced with the same concerns for complying with the newly adopted standards. Some may develop methods to treat and dispose of their drinking water NORM waste in-state and others may wish to transport and dispose out of state. Legal incentives for these states to develop their own facilities are addressed in this paper under the following section entitled "Supremacy Clause & Interstate Commerce Act."

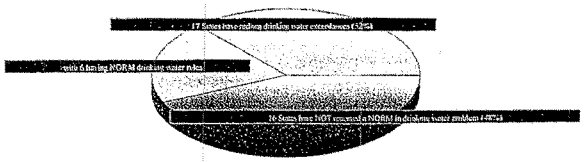


Figure 2: States with NORM Drinking Water Regulations

Supremacy Clause & Interstate Commerce Act

The State of Texas has experienced an ever-increasing need to address problems associated with the disposal of Naturally Occurring Radioactive Material (NORM). Few states have developed commercial NORM disposal programs, due in part to the obstacles encountered by the Supremacy Clause and the Interstate Commerce Clause of the United States Constitution.

Supremacy Clause

The Interstate Commerce Clause and the Supremacy Clause of the Constitution make it difficult to create a rule which restricts NORM waste generated by the federal government or by other states from entering Texas to be disposed of at a commercial disposal site. The Supremacy Clause declares that the laws of the United States shall be the supreme law of the land. Anything in the constitution or laws of any state to the contrary is preempted and without effect if it conflicts with federal law. In sum, a Texas law or regulation which purposefully prevents the federal government from enjoying the same benefits available to Texas entities would be invalid.

Interstate Commerce Clause

In addition to the Supremacy Clause, any rule governing NORM disposal would also need to take into consideration the Interstate Commerce Clause, which has the effect of restricting a state's power to enact laws that interfere with interstate commerce. Therefore, any law that excludes one state, while benefitting another, would be declared unconstitutional. Texas may be legally bound to dispose of NORM wastes from both federal and state entities if a commercial NORM waste facility is constructed in the state. This does not effect non-commercial

disposal of NORM waste. A non-commercial disposal facility may be licensed to prohibit out-of-state NORM waste being disposed of in Texas.

Costs

A desk top treatment and disposal cost study was conducted by TCEQ staff for five facilities in Texas. These facilities represent a variety of treated flowrates and contamination concentrations. These figures do not include costs to process and store waste. Costs to treat each of the systems waters are shown in Table 3 on page 17.

Licensing Costs

The NORM associated with a water treatment plant would be generally licensed and would therefore not be subject to any licensing fees or even requirements to have the radiation safety program approved. The general license only requires that a program be evaluated and, if necessary, implemented to ensure doses to the public and/or workers do not exceed legal limits. At a minimum, each facility should retain a consultant to evaluate the facility and submit recommendations as to whether a radiation protection program is needed. The consultant would cost about $2500-$4000 depending on the size of the facility.

Radiation Equipment Costs

If a program is required then equipment will need to be purchased. Initial costs for equipment should not exceed $2000-$3000 depending on the size of the facility. Once the program has been setup any ongoing costs would be minimal (i.e. dosimetry, wipe tests, etc.). Unless the facility chooses to hire an outside consultant to run the program, the only other costs would be hours taken away from other duties while an employee attends to the program and for specialized training. A procedure should be included in the approval process for this type of facility for applicants to indicate what they have done to evaluate whether there is a need for a radiation protection program. Aspects that would need to be addressed would be external exposure, airborne problems, and discharge to the environment. This evaluation would be greatly influenced by the treatment method chosen, any on-site processing of waste, and the residuals management method used.

Economic Feasibility of Compliance

The Texas Water Development Board (TWDB) administers the Texas Drinking Water State Revolving Fund (DWSRF) and other state drinking water funds. The Rural Utility Service (RUS) administers other sources of federal funding for public water system improvements to achieve or maintain compliance. In reviewing applications for loans and grants, both of these agencies evaluate a public water system's financial infrastructure and the economic feasibility of loan repayment.

The RUS is not inclined to lend money to a public water system that required customers to pay more than $45.00 per month for the first 8,000 to 10,000 gallons. This quantity of gallons per month has been chosen by them

Radionuclides in Drinking Water

based on historical winter water usage records and reflects necessary in-house water consumption for a family.

The TWDB does not have a single maximum rate for all applicants. Instead they look at what economic income group a public water system's customers fall into to decide what is an economically feasible monthly rate. If the customer base of the water systems is economically disadvantaged, the TWDB evaluates the public water system to see if it qualifies for grant monies or loan forgiveness instead of or in addition to low interest loans. However, some of the public water systems have an economically diverse group of customers that may complicate this process.

Radionuclides in Drinking Water

Table 3: Costs to Treat and Dispose of NORM in Drinking Water for Five Systems in Texas

	System Name:	Oak Hollow Subdivision	Millersview-Doole WSC	City of Jersey Village	City of Texline MWS	Zavala Co. WCID No. 1
	Average Flow Rate (mgd):	0.012	0.530	1.001	0.032	0.317
	Current monthly 6,000 gal water bill:	$31.35	$51.20	$19.10	$18.25	$13.65
	Combined Radium Concentration:	8 pCi/L	66 pCi/L	7 pCi/L	14 pCi/L	6 pCi/L
	Population:	66	4131	5430	429	1566
Alternate Source or Treatment Type	Disposal Method	($/mo water bill increase)	($/mo water bill increase)	($/mo water bill increase)	($/mo water bill increase)	($/mo water bill increase)
Drill a New Well	N/A	$8.87 (28%)	$2.89 (5%)	$48.02 (265%)	$1.92 (11%)	$9.05 (66%)
Pipe in Water	N/A	$84.75[4,5]	$5.95 (12%)	<$5.00 (26%)	$53.69 (294%)	$10.71 (78%)
Ion Exchange	Direct Discharge -1000' Pipe	$56.66 (180%)	$4.19 (8%)	$7.26 (40%)	$7.44 (41%)	$11.35 (83%)
	Discharge POTW - 1000' Pipe	$58.11 (185%)	$6.15 (10%)	$9.12 (50%)	$7.44 (41%)	$13.04 (96%)
	Evaporation Ponds and Non-Hazardous Landfill	>$1000.00	>$1000.00	>$1000.00	$23.02 (126%)	>$1000.00
	POTW Sludge Landspreading	$86.67	$11.17 (22%)	$23.74 (131%)	$11.39 (63%)	$27.70 (202%)
	Landfill Burial of Ion Exchange Sludge	>$100.00	$12.66 (26%)	$17.85 (98%)	$29.66 (163%)	$32.68 (239%)
	Burial of Ion Exchange Sludge in a Commercial Waste Facility	>$300.00	>$1000.00	>$1000.00	$33.89 (186%)	>$1000.00
	Commercial LLRW Facility disposal of Ion Exchange Sludge	>$400.00	>$1000.00	>$1000.00	$35.93 (196%)	>$1000.00
	Non-Commercial Injection Well	>$1000.00	$25.06 (49%)	$23.12 (127%)	>$100.00	$66.51 (487%)
Reverse Osmosis	Direct Discharge -1000' Pipe[2]	$12.46 (40%)	$11.05 (22%)[4]	$6.12 (34%)	$5.76 (32%)	$9.92 (73%)
	Discharge POTW-1000' Pipe[3]	$27.58 (88%)	$15.73 (31%)	$11.33 (62%)	$9.23 (51%)	$21.84 (160%)
POU Reverse Osmosis[1]	Disposed as exempt waste	$24.61 (78%)	$24.46 (48%)	$24.47 (136%)	$24.63 (134%)	$24.51 (180%)
POU Calgon Exchange[1]	Disposed of in household waste	$24.51 (78%)	$24.40 (48%)	$24.39 (135%)	$24.44 (134%)	$24.42 (179%)
POE Calgon Exchange[1]	Disposed of as exempt liquid waste	>$300.00	>$200.00	>$200.00	>$200.00	>$200.00

Notes [1] POU and POE are Point of Use and Point of Entry systems. Reverse osmosis or ion exchange waste water would go to sewer, septic tank, or drain field.
[2] Direct discharge - 1000' Pipe means discharge of liquid waste to a surface water body for dilution.
[3] Discharge POTW- 1000' Pipe means discharge of liquid waste to a Publicly Operated Treatment Works
[4] Methods considered to be infeasible due to high costs are shown with a blue background. Methods considered infeasible due to other water quality issues in yellow.
[5] A cost feasibility cut off point was chosen at a maximum total cost of $80 per month per customer. This amount is based upon the Rural Development Board's recommended amount for repayment of a loan along with the availability of grant monies and/or low interest loans to achieve an economically feasible rate schedule.

Outline of Proposed Changes to the TNRCC Rules

Drinking water plants, which need to treat their drinking water to meet the new standards, will have to find an economically feasible method to manage their treatment resuiduals. Currently, there are no TNRCC rules which specifically address disposal of naturally occurring radioactive material (NORM) waste. There are several limits listed in the TNRCC rules for discharge of radium, uranium, and other NORM material to sanitary sewers. There are also limits for land application and other discharges to the environment. However, other new disposal rules and/or amendments to existing rules will be required before some types of residual management methods could be allowed.

Drinking Water Rules

The new EPA MCL for naturally occurring uranium and the requirement for separate monitoring of radium-228 will have to be incorporated into TNRCC's 30 TAC Chapter 290, *Public Drinking Water*. To accomplish this, the TNRCC would submit a request for revisions to our rules to have them adopted by December 2002. The actual effective date of the new state requirements will be Dec. 8, 2003.

The requirements for gross alpha, beta particle, photon radioactivity, and combined radium-226 and -228 are unchanged in the new EPA rulemaking and are considered to be already in effect. The TNRCC will negotiate as soon as possible with the EPA for schedules to place the affected water systems into compliance. Chapter 290 already requires TNRCC to be notified and to approve all new construction for water treatment facilities. The TNRCC will share this notification information with the Texas Department of Health (TDH). The TDH will be involved with much of the regulation of these plants since they have jurisdiction over the treatment of radioactive material.

Health Department Rules

Drinking water treatment plants will be under the jurisdiction of the TDH for storage of their radioactive wastewater. Under TDH's new 25 TAC §289.259, *Licensing of Naturally Occurring Radioactive Material*, the drinking water treatment plants will have a "general license to possess" the radioactive waste. General licenses require a radiation safety program for workers and, if needed, record keeping of all radioactive waste transferred for disposal. No changes will be necessary to the existing TDH rules.

Discharge to Sewer

One of the simplest and most cost effective methods for disposal of radioactive waste brine is to discharge to a sanitary sewer leading to a Publicly Owned Treatment

Works (POTW). The radioactivity limits for sewer discharge of radioactive wastewater are already established in the current TNRCC rules and will not require a license or permit. However, sanitary sewer disposal is not available for all treatment plants and some plants with sewer hookup could not directly discharge due to radionuclide concentrations above the limits.

There are no know problems currently existing with radiation levels exceeding safety standards at POTWs or with radiation levels

exceeding safety standards in the sludge created at these POTWs, although EPA and the NRC are currently studying these levels. Some areas of Texas which have elevated concentrations of NORM in their drinking water are disposing of their waste water in a sewage system.

Concentrating the wastewater into a brine before discharge into the sewage system could increase the total amount of radioactivity introduced to the POTW. This could cause problems with disposal of the POTW effluent sludge and water. Concentration in the sludge would be due to the loss of dilution water especially in the summer months from watering lawns and other uses. Water systems which discharge their waste to a POTW will likely need to have a sampling program established at the treatment works and at the POTW. If necessary, the brine solution could be stored at the drinking water treatment facility and metered at an acceptable rate into the sewage system. Rules may be required to allow for permitting of treatment facilities to limit the quantity and concentration of radionuclides that they may safely discharge to the POTW.

If discharge to a sewage system is determined to be the preferred disposal method for a water system then 30 TAC Chapters 309 (*Domestic Wastewater Effluent Limitation and Plant Siting*) and 312 (*Sludge Use, Disposal, and Transportation*) would need to be modified. Acceptable radioactivity limits would have to be developed and added to these rules.

Radioactivity limits and methods for land application of treated sludge would also be
needed in 30 TAC Chapters 312 and 336.

Discharge to Receiving Streams

Another method for disposal of wastewater is to discharge controlled quantities into an appropriate receiving stream (one where the contaminates will not concentrate). To use this disposal method, a general permit for discharge into surface water would have to be developed under 30 TAC Chapter 205, General Permits for Wastewater Discharges. The limit for radioactivity in the discharged water in 30 TAC §336.359 would have to be cited in the newly developed general permit. A radioactive material license would not be required for this discharge.

Sludge Disposal

If it turns out to be economically feasible to create a sludge from a radioactive brine at the drinking water plant, that radioactive sludge would be regulated under 30 TAC Chapter 312, Subchapter F, Disposal of Water Treatment Sludge. Those rules relate to permits for disposal in landfills and require an annual report and possibly an annual fee. A radioactivity limit for radioactive sludge disposal going into a

landfill would then need to be developed and incorporated into 30 TAC Chapter 336.

Disposal in MSW and IHW Landfills
30 TAC Chapter 336, §§336.225(c) and 336.365 already authorize disposal of certain radionuclides in a Municipal Type I Landfill or a Hazardous Waste Landfill. However, radium radionuclides and uranium are not listed in these landfill provisions. Currently, these TNRCC landfill rules address only radionuclides with a short half-life (300 days or less). To dispose of drinking water treatment NORM wastes in a Chapter 330 or Chapter 335 landfill, 30 TAC Chapter 336 would need to be changed to address the longer half-life radium and uranium radionuclides.

Underground Injection
If disposal of the radioactive brine down a Class I underground injection well is economically feasible and necessary, a permit would be required under current 30 TAC Chapter 331, Subchapter D. Also, 30 TAC Chapter 336 would need to be amended to authorize licensing of radioactive waste (NORM) disposal in an underground injection well. TNRCC rules currently exempt inactive radioactive waste sites with radium wastes containing less than 2,000 pCi/gm from having to decommission. This is only if the waste remains on-site at an inactive facility. If necessary, this rule could be amended to make this a disposal exemption which would allow on-site injection of radium waste water by an active water treatment system.

Private Non-Commercial Landfills
Construction of a private non-commercial hazardous waste landfill is not recommended due to the difficulty in meeting various licensing requirements (such as a public review and approval of a facility). The costs to build a small facility appears to be feasible for larger communities. It may also be possible for several smaller water systems to combine their resources to build a small regional landfill. However, due to potential licensing problems, the TNRCC Staff will not pursue the use of private non-commercial landfills as an viable option for disposal of NORM wastes.

Reinjection into Aquifer
It is also technically feasible to reinject the radioactive wastewater from drinking water treatment back into the aquifer from which it came without a significant increase in the concentration of radionuclides. Injection of wastewater into a Class V well is currently permitted by rule under 30 TAC Chapter 331 if the injectate meets drinking water MCLs (40 Code of Federal Regulations §144.12 and §141.15). TNRCC 30 TAC Chapter 336 (and possibly Chapter 331) would have to be amended to authorize a licensee to inject NORM wastewater into an aquifer through a Class V well. Because the NORM wastewater would have a higher radionuclide concentration than the MCL, an exception or rule change will be needed to inject it. The likelihood for obtaining an exception or change to the federal rule is not known at this time.

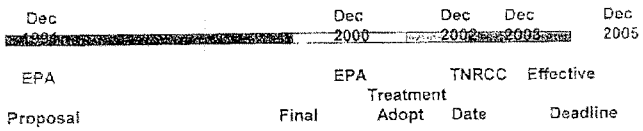
Table 4: Summary of Rule Changes

POTENTIAL STATE AND FEDERAL RULE CHANGES	RULES **NOT** TO BE ADDED OR CHANGED
• Discharge to Sanitary Sewer	• New Commercial Landfill
• Point or Entry & Point of Use Systems	• New Commercial Injection Well Facility
• Water Treatment Sludge Disposal	• Land Application of Ion Exchange Brine
• Municipal & Hazardous Landfill Disp. of POTW Sludge	• Private Non-Commercial Landfills
• POTW Sludge Land Application	• Municipal & Hazardous Landfill Disp. of Liquid Wastes
• POTW Sludge Landfill Disposal	
• Discharge to Surface Water	
• Private Injection Wells	
• Land Application of RO Waste Water	
• Reinjection of RO Waste Water into an Aquifer	

Regulation Time Line

The EPA Drinking Water Standard: Radionuclides was first issued in December 1991. Because of apparent changes which were being proposed to the rules, many states held off on adopting the standard. Now, a revision to the radionuclide standard has been adopted by EPA which not only upholds the original radionuclide MCLs but introduces a new MCL for Uranium. Figure 3 provides a time line for implementation of the new radionuclide standard.

Figure 3: Time Line of Key Events for Regulation Implementation



Conclusions

Public drinking water systems are now faced with final regulations for radionuclides and must address health concerns for many citizens of Texas. Options for achieving compliance are limited to either finding an alternate source or to treat the water to lower the radionuclide concentration to acceptable levels. Alternate water supplies are not available at a reasonable cost in some parts of the state. Even where available, developing alternate sources or purchasing water from other systems may be more expensive than applying available treatment technologies. Treatment, however, is not an option if there are no rules to allow for disposal of the treated waste.

The staff of Public Drinking Water, Underground Injection Control and Radioactive Waste, Toxicology & Risk Assessment, and Legal have reviewed this issue. They have determined that there is a human health concern associated with radionuclides in some drinking water systems in Texas. The preferred option for some violators will be implementation of treatment technologies. However, this would result in producing NORM waste which must be disposed of in a proper manner.

There is a need to develop rules for the safe, economical disposal of NORM waste to protect human health and the environment. A rules revision is needed to address standards for licensing and permitting requirements for facilities which dispose of non-oil & gas NORM.

Appendix A

Currently Identified NORM Affected Facilities

by County, State Representative and Senator(s)

County	System Name	Representative	Senator(s)
Burnet	Council Creek Village	HARVEY HILDERBRAN	TROY FRASER
	South Silver Creek I, II, III	HARVEY HILDERBRAN	TROY FRASER
Concho	Millersview-Doole WSC	BOB TURNER	TROY FRASER
Dallam	Texline Municipal Water System	WARREN CHISUM	TEEL BIVINS
El Paso	Gaslight Square Mobile Home Park	JOSEPH "JOE" PICKETT	ELIOT SHAPLEIGH
Erath	Pigeon Road Estates	SID MILLER	DAVID SIBLEY
Frio	Bigfoot Water Supply Corporation	TRACY KING	JUDITH ZAFFIRINI
Gillespie	Northwest Hills Water Supply	HARVEY HILDERBRAN	JEFF WENTWORTH
Grayson	Ridgecrest	RON CLARK	TOM HAYWOOD
Harris	HCO MUD No. 130	GARY ELKINS	JON LINDSAY
	Jersey Village - City of	GARY ELKINS	JON LINDSAY
	Rolling Creek Utility District	WILLIAM CALLEGARI	JON LINDSAY
	Trail of the Lakes MUD	SENFRONIA THOMPSON	JON LINDSAY
	West Houston Mobile Home Comm.	GARY ELKINS	JON LINDSAY
Jeff Davis	Ft. Davis Water Supply Corporation	PETE GALLEGO	FRANK L. MADLA
Kleburg	Utility Development & Research	IRMA RANGEL	CARLOS F. TRUAN
Llano	Bridgepoint Water System	HARVEY HILDERBRAN	TROY FRASER
	Tow Village Property Owners Assn	SUZANNA GRATIA HUPP	TROY FRASER
Lubbock	Pecan Grove Mobile Home Park	CARL ISETT	ROBERT L. DUNCAN
	Shallowater - City of	DELWIN JONES	ROBERT L. DUNCAN
	Valley Estates	CARL ISETT	ROBERT L. DUNCAN
	Ft. Jackson Mobile Estates	DELWIN JONES	ROBERT L. DUNCAN
Matagorda	**Oak Hollow Subdivision**	D.R. "TOM" UHER	KENNETH H. ARMBRISTER
McCulloch	Live Oak Hills Subdivision	SUZANNA GRATIA HUPP	TROY FRASER
	Melvin - City of	SUZANNA GRATIA HUPP	TROY FRASER
	Brady - City of	SUZANNA GRATIA HUPP	TROY FRASER
	Richland Special Utility District - Brady	SUZANNA GRATIA HUPP	TROY FRASER
	Rochelle Water Supply Corporation	SUZANNA GRATIA HUPP	TROY FRASER
Medina	Benton City Water Supply Corp.	TRACY KING	FRANK L. MADLA
Nueces	Golden Acres Water Company	JAIME CAPELO	CARLOS F. TRUAN
Polk	Tempe Water Supply Corporation	DAN ELLIS	TODD STAPLES
San Saba	North San Saba Water Supply Corp.	SUZANNA GRATIA HUPP	TROY FRASER
	San Saba - City of	SUZANNA GRATIA HUPP	TROY FRASER
Tyler	Chester Water Supply Corp.	DAN ELLIS	TOD STAPLES
Zavala	Zavala County WCID No. 1.	TRACY KING	JUDITH ZAFFIRINI

Note: Water systems shown in bold were used in the cost study.

Appendix B

Facilities Potentially Affected by NORM

by County, State Representative, and Senator

	System Name	Representative(s)	Senator(s)
Bexar	Atascosa Rural Water Supply Corp.	JOHN LONGORIA	FRANK L. MADLA
	Nico Tyme Water Cooperative	CARLOS URESTI	FRANK L. MADLA
Bosque	Iredell - City of	ARLENE WOHLGEMUTH	DAVID SIBLEY
Brazoria	Brazoria Freshwater Supply District	D.R. "TOM" UHER	J.E. "BUSTER" BROWN
	Wolf Glen Water System	DENNIS BONNEN	J.E. "BUSTER" BROWN
Burnet	Bananza Beach Water Association	HARVEY HILDERBRAN	TROY FRASER
Comal	Comal Hills Water Supply Corp.	HARVEY HILDERBRAN	JEFF WENTWORTH
Concho	Eden - City of	BOB TURNER	TROY FRASER
Crockett	West Texas Utilities Rio Pecos Power Station	PETE GALLEGO	FRANK L. MADLA
Fort Bend	Thunderbird Utility District 1	CHARLIE HOWARD	RODNEY ELLIS
	Fort Bend County MUD 25	DORA OLIVO	J.E. "BUSTER" BROWN
Gillespie	Livenoks Mobile Home Park	HARVEY HILDERBRAN	JEFF WENTWORTH
Grayson	Rocky Point A	RON CLARK	TOM HAYWOOD
	Rocky Point B	RON CLARK	TOM HAYWOOD
Grimes	Grassy Creek Mobile Home Park	THOMAS WILLIAMS	STEVE OGDEN
	Richards Water System	THOMAS WILLIAMS	STEVE OGDEN
Hardin	Kountze - City of	ZEB ZBRANEK	DAVID BERNSEN
	Bullocks Mobile Home Park	ZEB ZBRANEK	DAVID BERNSEN

Harris	Bertrand Water System	KEVIN BAILEY	JOHN WHITMIRE
	Nitsch & Son Utility Company	KEN YARBROUGH	JOHN WHITMIRE
	Hall Park Subdivision	KEVIN BAILEY	MARIO GALLEGOS
	Harris County MUD 25	GARY ELKINS	JON LINDSAY
	Harris County Utility District 6	GARY ELKINS	JON LINDSAY
	Harris County MUD 102	GARY ELKINS	JON LINDSAY
	Jackrabbit Road Public Utility District	GARY ELKINS	JON LINDSAY
	Emerald Forest Utility District	PEGGY HAMRIC	JON LINDSAY
	Harris Count MUD 136	GARY ELKINS	JON LINDSAY
	Windfern Forest Utility District	GARY ELKINS	JON LINDSAY
	Harris County MUD 105 Settlers Village	WILLIAM CALLEGARI	JON LINDSAY
	Langham Creek Utility District	WILLIAM CALLEGARI	JON LINDSAY
	Harris County MUD 157	WILLIAM CALLEGARI	JON LINDSAY
	Quailwood Water System	HAROLD DUTTON	JON LINDSAY
	Northwest Harris County MUD 16	WILLIAM CALLEGARI	JON LINDSAY
	Harris County MUD 162	GARY ELKINS	JON LINDSAY
	Barker Cypress MUD	GARY ELKINS	JON LINDSAY
	Fry Road MUD	WILLIAM CALLEGARI	JON LINDSAY
	Horsepen Bayou MUD	GARY ELKINS	JON LINDSAY
	West Harris County MUD 9	PEGGY HAMRIC	JOHN WHITMIRE
	Harris County MUD 189	HAROLD DUTTON	JON LINDSAY
	Harris County MUD 71	WILLIAM CALLEGARI	JON LINDSAY
	Harris County MUD 183	GARY ELKINS	JON LINDSAY
	Rolling Oaks	THOMAS WILLIAMS	DAVID BERNSEN
	Harris County MUD 185	GARY ELKINS	JON LINDSAY
	West Harris County MUD 10	PEGGY HAMRIC	JOHN WHITMIRE
	Harris County MUD 167	WILLIAM CALLEGARI	JON LINDSAY
Irion	Mertzon - City of	ROBERT JUNELL	ROBERT L. DUNCAN
Kendall	Kendall County WCID 1	HARVEY HILDERBRAN	JEFF WENTWORTH
Kerr	Horseshoe Oaks Subdivision Water System	HARVEY HILDERBRAN	JEFF WENTWORTH
	Elmwood Mobile Home Park	HARVEY HILDERBRAN	JEFF WENTWORTH
Lavaca	Moulton - City of	GEANIE MORRISON	KENNETH ARMBRISTER
McCulloch	Lohn Water Supply Corporation	SUZANNA GRATIA HUPP	TROY FRASER
	Brady Lake Water System	SUZANNA GRATIA HUPP	TROY FRASER
	Lakeland Services	SUZANNA GRATIA HUPP	TROY FRASER

Mason	Mason - City of	BOB TURNER	JEFF WENTWORTH
Montgomery	Keenan Water Supply Corporation	THOMAS WILLIAMS	TODD STAPLES
	Oak Ridge North - City of	RUBEN HOPE	DAVID BERNSEN
	Woodridge Estates Water System	RUBEN HOPE	DAVID BERNSEN
	Crystal Forest Subdivision	RUBEN HOPE	DAVID BERNSEN
	Lake Bonanza Water Supply Corporation	RUBAN HOPE	TODD STAPLES
	White Oak Hills	DAN ELLIS	STEVE OGDEN
	Settlers Crossing	RUBEN HOPE	DAVID BERNSEN
Moore	Moortex Water Supply Corporation	DAVID SWINFORD	TEEL BIVINS
Parker	Shangri La Subdivision	PHIL KING	CHRIS HARRIS
	Crazy Horse Water Company	PHIL KING	DAVID SIBLEY
	Abrexas Utilities	PHIL KING	CHRIS HARRIS
	Diamond Oaks Subdivision	PHIL KING	CHRIS HARRIS
Pecos	Pecos County WCID 1	PETE GALLEGO	FRANK L. MADLA
Polk	Indian Springs Lake Estate LL	DAN ELLIS	DAVID BERNSEN
	Crystal Lake Estates Water System	DAN ELLIS	DAVID BERNSEN
	Pinwah Pines Water System	DAN ELLIS	DAVID BERNSEN
	Texas Landing Utility Company	DAN ELLIS	DAVID BERNSEN
San Jacinto	Cape Royale Utility District	DAN ELLIS	DAVID BERNSEN
	Holiday Shores 4 LL	DAN ELLIS	DAVID BERNSEN
Tarrant	White Settlement - City of	CHARLIE GEREN	DAVID SIBLEY
	Chart House Condominium	CHARLIE GEREN	JANE NELSON
	Sandy Oaks Subdivision	CHARLIE GEREN	JANE NELSON
Val Verde	San Pedro Canyon Water Co.	PETE GALLEGO	FRANK L. MADLA
Victoria	Arroyosa Creek Estates	DAN ELLIS	STEVE OGDEN
Walker	Annr Water System 1	DAN ELLIS	STEVE OGDEN
	Emeraldwood D&S Water	DAN ELLIS	STEVE OGDEN
	Walker County Rural WSC System C	DAN ELLIS	STEVE OGDEN
	Lake Jackson Estates III	DAN ELLIS	STEVE OGDEN
Washington	Country Place Northwest	LOIS KOLKHORST	STEVE OGDEN
Wichita	Electra - City of	RICK HARDCASTLE	TOM HAYWOOD
Williamson	Liberty Hill Water Supply Corporation	MIKE KRUSEE	STEVE OGDEN
Wise	Rhome - City of	PHIL KING	DAVID SIBLEY
Zavala	Loma Alta Water System	TRACY KING	JUDITH ZAFFIRINI

Conclusions

Public drinking water systems are now faced with final regulations for radionuclides and must address health concerns for many citizens of Texas. Options for achieving compliance are limited to either finding an alternate source or to treat the water to lower the radionuclide concentration to acceptable levels. Alternate water supplies are not available at a reasonable cost in some parts of the state. Even where available, developing alternate sources or purchasing water from other systems may be more expensive than applying available treatment technologies. Treatment, however, is not an option if there are no rules to allow for disposal of the treated waste.

The staff of Public Drinking Water, Underground Injection Control and Radioactive Waste, Toxicology & Risk Assessment, and Legal have reviewed this issue. They have determined that there is a human health concern associated with radionuclides in some drinking water systems in Texas. The preferred option for some violators will be implementation of treatment technologies. However, this would result in producing NORM waste which must be disposed of in a proper manner.

There is a need to develop rules for the safe, economical disposal of NORM waste to protect human health and the environment. A rules revision is needed to address standards for licensing and permitting requirements for facilities which dispose of non-oil & gas NORM.

Senator BARRASSO. I would also like to submit for the record a number of letters supporting both Ms. White and Mr. Wheeler, including a letter of support for Mr. Wheeler from the United Mine Workers of America. Without objection, so ordered.

[The referenced information follows:]

United Mine Workers of America

CECIL E. ROBERTS
INTERNATIONAL PRESIDENT

TELEPHONE
(703) 291-2420
FAX (703) 291-2451

UNITED MINE WORKERS' HEADQUARTERS
18354 QUANTICO GATEWAY DRIVE, SUITE 200
Triangle, VA
22172-1779

November 8, 2017

The Honorable Tom Barrasso
Chair, Senate Committee on Environment and Public Works

The Honorable Tom Carper
Ranking Member, Senate Committee on Environment and Public Works

Dear Chairman Barrasso, Ranking Member Carper and Members of the Committee:

As you consider the nomination of Andrew R. Wheeler for Deputy Administrator of the Environmental Protection Agency, I ask that you take into consideration his hard work on behalf of America's active and retired coal mine workers. For the past five years, Mr. Wheeler has been an ally as the United Mine Workers of America has worked to preserve the health care and pensions that retired miners worked for over their lifetimes.

Andrew worked alongside our UMWA team to successfully pass legislation that has ensured that our miners will have the health care that was promised to them, and that they earned. As you are aware, this effort lasted years, and we faced major setbacks along the way. However, Andrew was a strong partner to us and we are very appreciative of that.

Andrew will bring a wealth of experience, from both the public and private sectors, to EPA. It is our belief that he will be a reasonable voice within the agency, and will recognize the impact on both the workers and mining communities that are directly affected as EPA develops future emissions regulations.

We look forward to working productively with Andrew in this role at EPA. I am available to discuss this further at your convenience.

Sincerely,

Cecil E. Roberts

Cecil E. Roberts

CORY GARDNER
COLORADO

SUITE SR-354
SENATE RUSSELL OFFICE BUILDING
WASHINGTON, DC 20510
(202) 224-5941

United States Senate

COMMITTEES:
BUDGET
COMMERCE, SCIENCE, AND TRANSPORTATION
ENERGY AND NATURAL RESOURCES
FOREIGN RELATIONS

November 7, 2017

The Honorable John Barrasso
Chairman
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

The Honorable Thomas R. Carper
Ranking Member
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

I write today in support of Andrew Wheeler to be Deputy Administrator of the U.S. Environmental Protection Agency (EPA). During my time serving as a legislative staffer to former Senator Wayne Allard I came to know Andrew in his position as Staff Director and Chief Counsel to the Senate Committee on Environment and Public Works. In that position, he displayed a strong understanding and respect for the law while also working across the aisle whenever and wherever possible in a professional manner to achieve policy outcomes that benefitted all Americans.

He also took time to develop expertise amongst staffers both on and off the committee, helping build a knowledge base on important policy matters.

I'm confident that Andrew will take that same approach as Deputy Administrator of the EPA, where he will be responsible for overseeing the day-to-day operation and implementation of policies that are designed to both clean up contamination of the environment and return these areas to their communities to be put to a useful purpose, and protect the environment from further contamination. I also believe Andrew will build important state partnerships to advance mutual goals of bettering the environment.

As you consider this nomination, I believe you will come to a similar opinion of Andrew that I have of him and urge you to support his nomination out of committee.

Sincerely,

Cory Gardner
United States Senator

ROB PORTMAN
OHIO

United States Senate
WASHINGTON, DC 20510

COMMITTEES
ENERGY AND NATURAL RESOURCES
FINANCE
FOREIGN RELATIONS
HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS

November 8, 2017

Senator John Barrasso
Chairman
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

Senator Tom Carper
Ranking Member
Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

I am writing to recommend Andrew Wheeler to be the Deputy Administrator of the Environmental Protection Agency (EPA). Andrew was nominated for this position by President Trump on October 5, 2017.

Andrew is a native of my home state of Ohio, and has experience in both the legislative and executive branches on energy and environment policy. He began his career at EPA and subsequently worked for Senator James Inhofe and my predecessor former Senator George Voinovich on the Senate Environment and Public Works Committee. Andrew served as the Majority Staff Director, Minority Staff Director and Chief Counsel of the Senate Environment and Public Works Committee.

Andrew has continued his work on energy and environment policy as a Principal at Faegre Baker Daniels Consulting. Andrew received his MBA from George Mason University School of Management and his JD from Washington University School of Law, and has been a keynote speaker before the American Bar Association.

I trust that this information will be useful to you as you review Andrew's nomination. Please feel free to follow up with me with any additional questions.

Sincerely,

Rob Portman

Rob Portman
U.S. Senator

448 Russell Senate Office Building
Washington, DC 20510
Phone: (202) 224-3353

312 Walnut Street
Suite 3425
Cincinnati, OH 45202
Phone: (513) 684-3265

1240 East 9th Street
Suite 3061
Cleveland, OH 44199
Phone: (216) 522-7095

37 West Broad Street
Suite 200
Columbus, OH 43215
Phone: (614) 469-6774

420 Madison Avenue
Suite 1210
Toledo, OH 43604
Phone: (419) 259-3895

www.portman.senate.gov

BLAKE FARENTHOLD
27TH DISTRICT, TEXAS

2231 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-4327
202-225-7742

101 NORTH SHORELINE BLVD, SUITE 300
CORPUS CHRISTI, TX 78401-2341
361-884-2222

5606 NORTH NAVARRO STREET, SUITE 203
VICTORIA, TX 77904-1727
361-894-8448

Congress of the United States
House of Representatives
Washington, DC 20515–4327

DEPUTY WHIP

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE

COMMITTEE ON
OVERSIGHT AND
GOVERNMENT REFORM
CHAIRMAN, SUBCOMMITTEE ON
INTERIOR, ENERGY, AND ENVIRONMENT

JUDICIARY

November 3, 2017

The Honorable John Barasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Dear Senators Barasso and Carper,

I am writing to recommend fellow Texan, Kathleen Hartnett White, who has been nominated by President Trump to Chair the White House Council on Environmental Quality. I am supportive of this nomination and believe that Ms. White would be an exceptional choice for this position. I have attached her resume for your reference.

Kathleen has a wealth of knowledge and experience in environmental policy that make her extraordinarily qualified for this role. Her views favor environmental protection without burdensome regulations that stifle economic growth.

I, like many others, support Kathleen Hartnett White's nomination for Chair the White House Council on Environmental Equality. If you have any questions regarding her, please do not hesitate to contact me at 202-225-7742.

Sincerely,

Blake Farenthold

BLAKE FARENTHOLD
Member of Congress

KATHLEEN HARTNETT WHITE email:knbwhite@gmail.com

CURRENT SUMMARY

DISTINGUISHED SENIOR FELLOW IN RESIDENCE
DIRECTOR-ARMSTRONG CENTER FOR ENERGY AND ENVIRONMENT — **January 2008-Present**
Texas Public Policy Foundation — Austin, Texas

Directing a policy area at TPPF devoted to energy, environmental and natural resource policy. The Armstrong Center conducts research on major federal and state environmental and energy policy issues.

Topics include air quality, climate policy, energy, water supply, water rights, water quality, environmental flows, waste management and disposal, endangered species and wildlife. Through published research studies, editorials, public speaking and educational forums, the Armstrong Center provides opinion leaders, policy makers, media and the general public rigorous analysis of policy alternatives.

AUTHOR OF *FUELING FREEDOM: EXPOSING THE MAD WAR ON ENERGY* — **2016**
Regnery Publishing
Co-authored with Stephen Moore

EDITORIALS
Contributor to The Hill and published in national and state media including National Review, Washington Examiner, Daily Caller, Investors' Business Daily, Town Hall, Roll Call, Forbes, and Houston Chronicle. Research publications include "Fossil Fuels: The Moral Case," "EPA's Pretense of Science: Regulating Phantom Risks," "Taming the Fourth Branch," "Clean Air Act: The Case for Reform," "The Clean Air Act: Reform Proposals," "EPA's Approaching Regulatory Avalanche," "Texas Energy and the Energy of Texas," "Environmental Policy Constraints on U.S. Oil Supply: Outdated and Unjustified"

TESTIMONY
Invited testimony to include "The State of the Environment: Evaluating Progress and Priorities," (U.S. House Science Committee, 2013) and "Review of the President's Climate Action Plan," (U.S. Senate Environment and Public Works Committee, 2014).

MEDIA APPEARANCES
Has appeared as a commentator on Fox Business Channel, CNN and other broadcast outlets as well as nationally syndicated regional and local radio.

MEMBER: Donald Trump Economic Advisory Council for Campaign — **2016**

CHAIRMAN - COMMISSIONER — **November 2001-August 2007**
Texas Commission on Environmental Quality — Austin, TX

As Chairman, served as presiding officer and one of three full-time commissioners. The Commissioners act as final decision makers for the state, responsible for policy, rule promulgation, permits, enforcement orders and contested matters. The TCEQ is the primary environmental agency of Texas, with jurisdiction under federal and state law over air quality, waste management, water quality and water supply, and water rights.

- Oversaw a staff of approximately 3,000, engineers, scientists, attorneys, and other technical and administrative employees in headquarters and sixteen regional offices
- Responsible for 2006 operating budget of $510 million
- Responsible for the regulation of more than 315,000 public and private entities, including authorizations or registrations for almost 49,000 entities
- Issued approximately 9,000 permits annually
- Issued more than 1,000 administrative enforcement orders, imposing administrative penalties of more than $12 million annually
- Oversight of 5 interstate river compacts, including the Rio Grande Compact

KATHLEEN HARTNETT WHITE email:knbwhite@gmail.com

TCEQ: Achievements & Priority Projects

- Development of EPA required State Implementation Plans (SIP) for Texas, especially for ozone non-attainment areas in six urban regions of the state. Implementation for the SIP for Houston issued in 2007 led to attainment of Ozone National Ambient Air Quality Standard in 2010 and 2011.
- Implementation of Texas Emission Reduction Program- a grant program annually awarding in excess of $125 million for replacement and retrofit of diesel engines and equipment.
- Water rights administration, including National Academy of Science review of state's scientific methodology for environmental flows.
- Compliance with US-Mexico 1940 Treaty on Rio Grande, including successful negotiations in March 2005 for repayment of the Mexican Water Debt to Texas.
- Achieved second-only "No-Take Concurrence" agreement with U.S. Fish and Wildlife Service that state water quality rules adequately protected over twenty listed species, significantly shortening cost and time required to receive federal approvals.
- Water conservation public education programs.
- Development of state licensing program for low-level radioactive waste disposal site.
- Development and implementation of Clean Water Act Total Maximum Daily Load (TDML) to reduce non-point source pollutants. Created Technical Task Force for bacterial source tracking.
- Permit streamlining, development of performance-based permitting standards, physical measurement of environmental conditions & trends, compliance assistance & incentive programs.
- Small business & local government compliance assistance programs.
- Streamlined rule development.

RANCHER /BREEDER/WRITER/CONSULTANT **1994- Present**
Private Ranching Operation Rosanky, TX

Partner with husband, Beau Brite White, in 130 year-old Hereford family ranching operation in Presidio County of far West Texas. Breed, show, and hunt national champion working terriers. Write and consult on environmental, energy and natural resource issues.

BOARD OF DIRECTORS BOARD - OFFICER **January 2008-July 2013**
Lower Colorado River Authority Austin, TX

Provided leadership and policy direction to the LCRA. This public water and electric utility was established by the Texas legislature in 1934 to provide water, wholesale electric power, transmission as wells as environmental and community services. Responsibilities included oversite of LCRA financial assets and functions including 3,670 megawatts of power, 5,200 miles of transmission lines, six dams, and 11,000 acres of parkland. This role included serving on the Board of Directors for GenTex Power Corporation, a wholly owned LCRA affiliated corporation.

FORMER BOARDS AND COMMISSIONS
Texas Commission on Environmental Quality 2001-2007
Texas Water Development Board, Austin, Texas 2000-2002
Texas Strategic Economic Development Planning Commission 1997-1998
Texas Environmental Flows Commission 2003-2005
Texas Environmental Flows Advisory Committee 2006-2007
Texas Water Foundation 2008-2014
Texas Emission Reduction Advisory Committee 2008-2017
Western States Water Council 2002-2007
Dividing the Waters 2004-2006
Texas Coastal Coordination Council 2005-2007
Texas Wildlife Association 1996-1999

KATHLEEN HARTNETT WHITE email:knbwhite@gmail.com

AWARDS
Texas Water Conservation Association President's Award, 2007
Colorado River Foundation - Friend of the River Award, 2005
Texas Chemical Council Leadership Award, 2007

PROFESSIONAL BACKGROUND

Ranching Heritage Association 1993-1994
Lubbock, Texas

Executive Director responsible for museum administration of Ranching Heritage Center with Texas Tech University while attending law school.

National Cattlemen's Association 1987-1993
Washington, DC

Director of Private Lands and Environment. Responsible for natural resource and property rights issues in U.S. Congress, federal agencies, and media. Public speaking, writing, testimony, legislative analysis, lobbying, conference planning, coalition-building. Helped create and manage large Endangered Species Act and Clean Water Act Reauthorization coalitions.

White House 1985-1987
Washington, DC

Office of the First Lady in East Wing. Press and Special Project (full time volunteer).

EDUCATION

STANFORD UNIVERSITY Palo Alto, California
1975

B.A. cum laude and M.A. degrees in Honors Humanities and Religion.
Lyman Award (3 years, full academic scholarship) for Distinguished Woman in the Humanities.

PRINCETON UNIVERSITY Princeton, New Jersey
1976-1979

Doctoral Program in Religion, specializing in East Asian and Comparative Religions.
Danforth National Fellowship for all doctoral study. Jonathan Edwards Award for Academic Excellence.

TEXAS TECH UNIVERSITY LAW SCHOOL Lubbock, Texas
1993-1994

Completed first year of law school. Awarded Lineberry and Regents full academic scholarships.

BILL JOHNSON
6TH DISTRICT, OHIO

COMMITTEE ON ENERGY AND COMMERCE
COMMITTEE ON THE BUDGET

WASHINGTON OFFICE
1710 Longworth House Office Building
Washington, DC 20515

(202) 225-5705

billjohnson.house.gov

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES

November 6, 2017

Chairman John Barrasso
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510-6175

Dear Chairman Barrasso,

I write in support of Andrew Wheeler's nomination to become the next Deputy Administrator of the Environmental Protection Agency (EPA).

Mr. Wheeler has served as an EPA staffer, and brings a wealth of experience working in environmental policy from several different perspectives. He earned the EPA Bronze Medal three times, as Staff Director and Chief Counsel for the U.S. Senate Committee on Environment and Public Works (EPW), and as a principal consultant helping businesses with federal regulatory and policy issues.

Since my election in 2010, my team and I have worked with Andrew on several different major policy issues, and I've found him to be knowledgeable, professional, and a tremendous resource on environmental and energy policy.

I am confident Mr. Wheeler will do a fine job at EPA, helping to ensure the agency's mission of protecting the environment is maintained, while also ensuring the EPA becomes a partner in progress in responsible energy exploration and job creation.

Sincerely,

Bill Johnson

Bill Johnson
Member of Congress

MARIETTA OFFICE
248 Front Street
Marietta, OH 45750

(740) 376-0868

SALEM OFFICE
192 East State Street
Salem, OH 44460

(330) 337-6951

CAMBRIDGE OFFICE
116 Southgate Parkway
Cambridge, OH 43725

(740) 432-2366

IRONTON OFFICE
202 Park Avenue
Suite C
Ironton, OH 45638

(740) 534-9431

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RANDY WEBER
MEMBER OF CONGRESS
FOURTEENTH DISTRICT, TEXAS

October 12, 2017

The Honorable John Barasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Dear Senators Barasso and Carper,

I am writing in strong support of Kathleen Hartnett White's appointment as Chairman of the White House Council on Environmental Quality. Ms. White has years of experience crafting and analyzing environmental policy for the State of Texas. She is a dedicated public servant committed to responsible and efficient environmental policy. Her knowledge of environmental regulation is on par with the demands of this job.

As a former chairman and commissioner of the Texas Commission for Environmental Quality (TCEQ), Ms. White managed one of the world's largest environmental agencies. TCEQ issues approximately 9,000 permits and 1,000 administrative enforcement orders annually. Their budget is over $450 million. Furthermore, as chairman of the agency, Ms. White was responsible for developing Texas' State Implementation Plans (SIP), managing the Texas Emission Reduction Program, and streamlining the agency's permitting and rule development processes.

TCEQ's 2007 SIP, developed under Ms. White's leadership, succeeded in achieving attainment of Ozone National Ambient Air Quality Standards in 2010 and 2011. Additionally, Ms. White administered Texas' water rights and secured the National Academy of Science's approval of the state's scientific methodology.

Ms. White served on the boards of the Lower Colorado River Authority, the Texas Wildlife Association, and the Texas Water Foundation. She currently serves on the board of the Texas Emission Reduction Program. Ms. White's extensive background in environmental regulation makes her highly qualified to evaluate the efficacy and burden of our federal environmental regulations.

I have known Ms. White for many years and can personally attest to her commitment to responsible environmental regulation. She is more than capable of filling this position and succeeding as the Chairman of the White House Council on Environmental Quality. I hope you will move quickly to confirm her appointment.

Sincerely,

Randy K. Weber

1708 LONGWORTH BUILDING
WASHINGTON, DC 20515

505 ORLEANS STREET, SUITE 103
BEAUMONT, TX 77701

122 WEST WAY, SUITE 301
LAKE JACKSON, TX 77566

174 CALDER ROAD, SUITE 150
LEAGUE CITY, TEXAS 77573

November 6, 2017

The Honorable John Barrasso
Chairman
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

GPA Midstream Association strongly supports President Trump's nomination of Andrew Wheeler to be Deputy Administrator of the Environmental Protection Agency (EPA).

Andrew Wheeler will be a positive addition to Administrator Scott Pruitt and his team at EPA. Andrew brings a wealth of legislative and regulatory expertise to EPA. He is a seasoned environmental and energy policy expert who knows how important sound science based regulations are to creating American jobs while protecting our environment.

GPA Midstream has served the U.S. energy industry since 1921. GPA Midstream is composed of nearly 100 corporate members of all sizes that are engaged in the gathering and processing of natural gas into merchantable pipeline gas, commonly referred to in the industry as "midstream activities." Such processing includes the removal of impurities from the raw gas stream produced at the wellhead, as well as the extraction for sale of natural gas liquid products ("NGLs") such as ethane, propane, butane, and natural gasoline. GPA Midstream members account for more than 90 percent of the NGLs produced in the United States from natural gas processing. Our members also operate hundreds of thousands of miles of domestic gas gathering lines and are involved with storing, transporting, and marketing natural gas and NGLs.

GPA Midstream strongly supports the nomination of Andrew Wheeler to serve as Deputy Administrator of EPA and thanks you for your consideration of his nomination.

Respectfully submitted,

Matthew Hite
Vice President of Government Affairs
GPA Midstream Association

GPA Midstream Association
Sixty Sixty American Plaza, Suite 700
Tulsa, Oklahoma 74135
(918) 493-3872

National Cattlemen's
Beef Association

November 7, 2017

The Honorable John Barrasso
Chairman, U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6176

The Honorable Thomas Carper
Ranking Member, U.S. Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, D.C. 20510-6176

Dear Chairman Barrasso and Ranking Member Carper:

The National Cattlemen's Beef Association (NCBA) and the Public Lands Council (PLC) urge you to support the confirmation of Andrew Wheeler as the Deputy Administrator of the Environmental Protection Agency. NCBA is the cattle industry's largest and oldest national trade association, representing American cattle producers who manage a large part of America's private property. PLC is the only national organization dedicated to the representation of nearly 22,000 ranchers operate on federal lands.

Mr. Wheeler has an extensive background in environmental and administrative law. He worked on a number of environmental issues as Staff Director and Chief Counsel of the Senate Environment and Public Works Committee, including greenhouse gas emissions and the renewable fuel standard. Additionally, Mr. Wheeler's time working with the EPA and Departments of Transportation, Energy, and Interior in the private sector provide him with the requisite knowledge for tackling cross-agency issues.

In addition to his knowledge on a wide range of environmental programs, Mr. Wheeler has extensive leadership experience that is key for success in the Deputy Administrator position. Prior to his work for the Senate's Environment and Public Works committee, he served both in the EPA and for Senator Inhofe. At the EPA, Mr. Wheeler was a Special Assistant to the Information Management Division Director in the Office of Pollution Prevention and Toxics. In this position, Mr. Wheeler provided policy and management support, and facilitated communication throughout the agency regarding rules and other priorities. Following his time at EPA, Mr. Wheeler served as the Chief Counsel for Senator Inhofe, providing legal counsel for a wide range of issues.

Mr. Wheeler's substantive knowledge and years of experience show that he is prepared to take on the EPA's Deputy Administrator position. NCBA and PLC strongly support his confirmation, and look forward to working with him to protect and conserve our nation's natural resources.

Sincerely,

Craig Uden
President
National Cattlemen's Beef Association

David Eliason
President
Public Lands Council

R. Wayne Smith Consulting LLC

October 19, 2017

The Honorable John Barasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Re: Kathleen Hartnett-White
Nomination for Chairman of the White House Council on Environmental Quality

Dear Senator Barasso:

As you know, President Trump has nominated Kathleen Hartnett-White to be Chairman of the White House Council on Environmental Quality. This is to express my support for her nomination. Ms. Hartnett-White brings a wealth of environmental regulatory experience and understanding that will be needed to expedite the Federal permitting involved in the rebuilding and strengthening of the United States' infrastructure. She shares my concern that excessive environmental regulation has paralyzed our ability to undertake large infrastructure projects and that it is time to restore balance and reason to the process.

Ms. Hartnett-White's views on environmental policy are well known, and she has broad support for this appointment. Her record reflects her commitment to genuine environmental protection in ways that do not stifle economic growth and thus impair human welfare. From 2003 -- 2007, as a Texas State Representative and Member of the Texas House of Representatives Environmental Regulation Committee, I worked closely with Ms. Hartnett-White during her term as Chairman of the Texas Commission on Environmental Quality (TCEQ). Later, as Chairman of the Texas House of Representatives Environmental Regulation Committee, I carried and passed the Sunset legislation in the Texas House of Representatives when the TCEQ was under Sunset Review by the Texas Legislature.

It is my pleasure to recommend Kathleen Hartnett-White to be appointed Chairman of the Council on Environmental Quality. As former Chairman of the Energy Council (a multi-state organization comprised of state legislators), former Chairman of the Texas House of Representatives Environmental Regulation Committee, and former President of Wayne Smith and Associates (a multi-discipline consulting engineering firm in Houston), I strongly support her nomination as Chairman of the White House Council on Environmental Quality in recognition of the valuable insight and wisdom she will provide on environmental regulatory issues. Please let me know if you have questions or would like additional information.

Very truly yours,

R. Wayne Smith

The Honorable R. Wayne Smith, PE, FNSPE

122 North Burnet | Baytown, TX 77520
713.248.8776
wayne@rwsconsulting.net

R. Wayne Smith Consulting LLC

October 19, 2017

The Honorable Thomas R. Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Re: Kathleen Hartnett-White
Nomination for Chairman of the White House Council on Environmental Quality

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Very truly yours,

R. Wayne Smith

The Honorable R. Wayne Smith, PE, FNSPE

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RONNIE MUENNINK
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BOB REED
Bay City

ZACHARY X. YANTA
Runge

SCOTT FRAZIER
Chapman Ranch

October 30, 2017

The Honorable John Barrasso
Chairman
Senate Committee on Environment and Public Works
307 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso:

Texas Farm Bureau offers its support and endorsement for the consideration of Kathleen Hartnett White for an appointment to the Council of Environmental Quality (CEQ).

She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment. Kathleen served a six year term as chairperson of Texas Commission on Environmental Quality (TCEQ). Prior to the TCEQ appointment she served on the Texas Water Development Board. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She recently completed her term as an officer and director of the Lower Colorado River Authority. Kathleen continues to serve Texas in many other capacities.

In the environmental regulatory endeavors that Kathleen has worked, she has been mindful of the impacts to private landowners and agriculture. The US, Texas, and Agriculture would be well-served by Kathleen Harnett White. It is our pleasure to support Kathleen's desire to continue to serve our state of Texas and now the nation.

Sincerely,

Russell W Boening

Russell W. Boening
President

RWB:RB

7420 Fish Pond Rd.
Waco, TX 76710
o 254.772.3030
TEXASFARMBUREAU.ORG

Senator BARRASSO. Members may submit other questions and follow up written questions for the record. They can do that by Monday, November 13, at noon. The nominees will please respond to those questions by Monday, November 20, at noon.

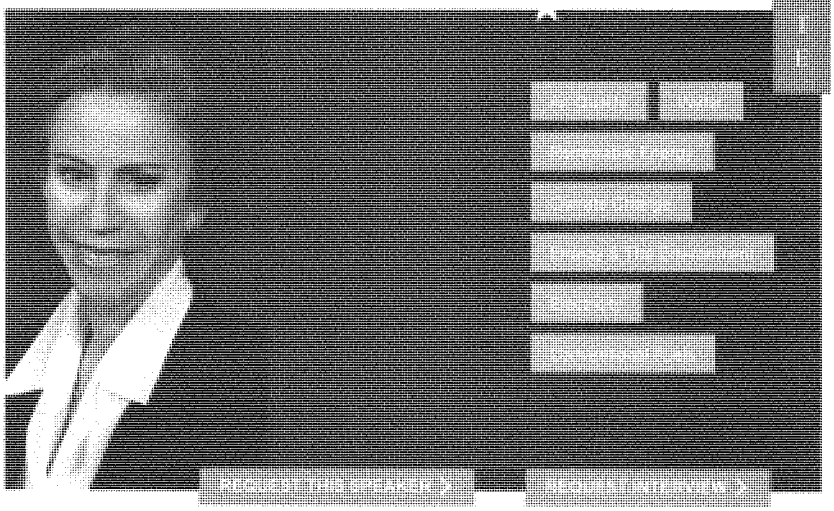
I want to thank the nominees and congratulate you both on your nomination.

With that, this hearing is adjourned.

[Whereupon, at 12:39 p.m., the Committee was adjourned.]

[Additional material submitted for the record follows:]

KATHLEEN HARTNETT WHITE, DISTINGUISHED SENIOR FELLOW-IN-RESIDENCE & DIRECTOR, ARMSTRONG CENTER FOR ENERGY & THE ENVIRONMENT



The Honorable Kathleen Hartnett White joined the Texas Public Policy Foundation in January 2008. She is a Distinguished Senior Fellow-in-Residence and Director of the Armstrong Center for Energy & the Environment.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights & utilities, storage and

disposal of waste, TCEQ's staff of 3,000, annual budget of over $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then Governor George Bush appointee to the Texas Water Development Board where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission. She recently completed her term as an officer and director of the Lower Colorado River Authority. White now sits on the editorial board of the *Journal of Regulatory Science*, the Texas Emission Reduction Advisory Board, and the Texas Water Foundation. Her writing has appeared in numerous publications including *National Review, Investors' Business Daily, Washington Examiner, Forbes, Daily Caller, The Hill*, and major Texas newspapers. She most recently testified before the U.S. Senate Environment and Public Works Committee.

A writer and consultant on environmental laws, free market natural resource policy, private property rights, and ranching history, White received her bachelor cum laude and master degrees from Stanford University where for three years she held the Elizabeth Wheeler Lyman Scholarship for an Outstanding Woman in the Humanities. She was also awarded a Danforth National Fellowship for doctoral work at Princeton University in Comparative Religion and there won the Jonathan Edwards Award for Academic Excellence. She also studied law under a Lineberry Foundation Fellowship at Texas Tech University

White was Director of Private Lands and the Environment for the National Cattlemen's Association in Washington, D.C. She has served as director of the Ranching Heritage Association, and was a special assistant in the White House Office of the First Lady Nancy Reagan.

She is a member of the Texas and Southwestern Cattleraisers Association, the Texas Hereford Association, and the American Hereford Association. She is a former commissioner of the Texas Strategic Economic Development Planning Commission, a former board member of the Texas Wildlife Association and the National Cattlemen's Legal Defense Fund.

A long-time breeder of National Champion Jack Russell Terriers, Kathleen Hartnett White lives with her husband Beau Brite White in Bastrop County, Texas outside of Austin and in Presidio County Texas on the far southwestern border of Texas.

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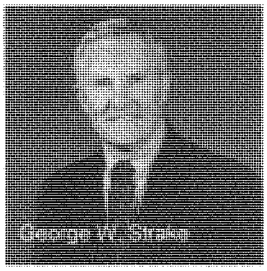
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Texas Public Policy Foundation

The **Texas Public Policy Foundation** (TPPF) is a conservative think tank founded in 1989 by James R. Leininger. It is a member of the right-wing State Policy Network (SPN) and is based in Austin, Texas. It has ties to Texas Governor and former presidential candidate Rick Perry , Ted Cruz , and many other powerful politicians.[1]

According to the TPPF's website, its mission "is to promote and defend liberty, personal responsibility, and free enterprise in Texas and the nation by educating and affecting policymakers and the Texas public policy debate with academically sound research and outreach."[2]

But according to critics, TPPF's research and advocacy is influenced by donations from a relatively small group of major corporations. Craig McDonald, director of Texans for Public Justice, told the *Texas Observer*, "Most think tanks work for their funders and TPPF's donors are a Who's Who of Texas polluters, giant utilities and big insurance companies. TPPF is thinking the way its donors want it to think."[1]

Contents

1 News and Controversies
1.1 TPPF's Doug Domenech Heads up President-elect Trump's Interior Department Transition Team
1.2 TPPF Listed as Creditor in Peabody Energy Bankruptcy Filings
2 Lobbying
2.1 Allegations of Unreported Lobbying
2.2 Advocating ALEC Model Bills
3 Ties to the American Legislative Exchange Council
4 Ties to the Bradley Foundation
5 Ties to the Koch Brothers
6 Ties to the Franklin Center for Government and Public Integrity
6.1 Franklin Center Funding
7 Funding
7.1 Major Funders
7.2 2010 Disclosure Uncovers Koch Money and Mystery SPN Slush Funds
7.3 Over $3.3 Million in Koch Funding
7.4 TPPF Skilled Fundraisers
8 Core Financials
9 Personnel
9.1 Staff
9.2 Board of Directors
10 Contact Information
11 Articles and Resources
11.1 Related SourceWatch Articles
11.2 Related PRWatch Articles

12 External Resources
13 External articles
14 References

News and Controversies

TPPF's Doug Domenech Heads up President-elect Trump's Interior Department Transition Team

Doug Domenech , the director of the Fueling Freedom Project at the Texas Public Policy Foundation, is leading President-elect Trump's Interior Department Transition team. As *Think Progress* reported, "The project's goals include explaining "the forgotten moral case for fossil fuels" and ending the EPA's regulation of carbon dioxide. (The EPA has the authority—and, indeed, must—regulate carbon dioxide as a pollutant. Not only is carbon dioxide a greenhouse gas that fuels climate change, it also contributes to ocean acidification. Significantly reducing greenhouse gas emissions is likely the only way humanity can avoid triggering catastrophic climate disruption.)"[3] Since the Department of Interior's mission is to protect and manage the nation's environmental and cultural resources, Trump's choice of Domenech to lead the transition team suggests that the President-elect may have a different vision for the Department of Interior.

Domenech thinks so as he wrote in *Real Clear Energy*, "Much has been said about what's next for energy and climate policy under the new Trump Administration. Elections have consequences and, in this case, Americans just rejected the "keep it in the ground" extremism espoused by those whose only operating focus is their view that CO2 is a pollutant and climate change is real."[4]

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TPPF Listed as Creditor in Peabody Energy Bankruptcy Filings

The Center for Media and Democracy found in obtained Peabody Energy bankruptcy filings that the Texas Public Policy Foundation was a creditor to the world's largest private-sector coal company.[5] Although the documents filed so far do not show the scale or precise dates of funding—they only list current creditors—they demonstrate for the first time that Peabody Energy has financial ties to a very large proportion of the network of groups promoting disinformation around climate change.

Lobbying

Allegations of Unreported Lobbying

The Progress Texas and CMD report also notes that TPPF "claimed in 2008 that it spent nothing on lobbying," however, "it told the IRS that it spent $981,869 on lobbying between 2009 and 2010." While federal tax reports for 2012 are not yet available, "forms filed with the state of Texas indicate that between 2011 and 2013, TPPF has spent at least $100,000 on lobbying the Texas Legislature – largely on gifts, food, drinks, and transportation to Texas legislators and state offices."[6] In 2011, TPPF's tax records also indicate the organization "paid its executive corporate-level salaries that dwarf the rates paid for most other public interest groups in Austin..." (specifically, $1.391 million of the $5.7 million budget was used to pay executive salaries).[6]

Advocating ALEC Model Bills

According to Progress Texas and the Center for Media and Democracy (CMD), "in the 2013 legislative session, TPPF advocated for at least 28 different laws that mirrored ALEC model bills..."[6] The following

table --which compares ALEC's model legislation to the current agenda of TPPF --was taken directly from the organizational report created by Progress Texas and CMD in November 2013:[6]

Issues	TPPF 2013-2014 Agenda	ALEC Model Bills
Limiting Government Spending	TPPF recommends state and local spending increases only by the sum of population growth plus inflation, the growth in gross state product or the growth personal income, whichever is less. TPPF [also] recommends requiring a supermajority vote in the state legislature to override Texas's constitutional limits on government spending.	ALEC's "Tax and Expenditure Limitation Act" would amend the state constitution to set revenue and spending limits, by capping total expenditures by inflating the current year's expenditures to account only for population growth and inflation. ALEC's "Super-Majority Act" would amend the state constitution to require all tax and "license fee" increases or impositions be approved by two-thirds of all member s of each house of the legislature, except when there is insufficient revenue to pay interest on the state's debt.[6]
Opposing Health Care Reform	TPPF calls for allowing Texans to buy health insurance across state lines, offered by insurance companies in other states. TPPF recommends eliminating all state-level insurance mandates.	ALEC's "Resolution Opposing Employer-Paid Health Care Mandates" opposes efforts by state legislatures to mandate that private employers purchase health insurance for workers. ALEC's "Freedom of Choice in Health Care Act" would prohibit the legislature from requiring individuals to purchase health insurance, even though states like Texas require drivers to purchase auto insurance under the state's financial responsibility law.[6]
Attacking Environmental Protections and Pollution Regulation	TPPF dedicated an entire section in its 2013-2014 agenda demonizing the Environmental Protection Agency's regulations, including greenhouse gas limits, coal plant regulations, and air quality monitoring.	ALEC's "Resolution in Opposition to EPA's Regulation of Greenhouse Gases from Mobile Sources" opposes a Supreme Court case allowing the EPA to regulate carbon dioxide and greenhouse gases as pollutants. The ALEC resolution uses straw man arguments and other rhetoric to dismiss climate change concerns. ALEC also published an entire pamphlet attacking environmental regulation called the EPA Train Wreck.34 ALEC's "Intrastate Coal and Use Act" would prevent the EPA from overruling state permits for coal mining and dirty coal products if all the company's coal operations are conducted within the borders of a single state (although air pollution crosses state lines). ALEC's "Resolution in Opposition of Carbon Dioxide Emission Standards" opposes environmental protections on carbon dioxide emissions.[6]

Denying Climate Change	TPPF questions the science of climate change, and urges federal lawmakers to implement a "rigorous" review of scientific facts dealing with climate change, along with calling for the suspension of all state programs that regulate greenhouse gases and federal mandates to reduce carbon dioxide.	ALEC's "State Withdrawal from Regional Climate Initiatives" removes states from the Regional Greenhouse Gas Initiative or the Western Climate Initiative, cap-and-trade programs to cut greenhouse gases and carbon-dioxide emissions. It uses language denying that climate changes exist and are manmade.[6]
Attacking Renewable Energy	TPPF calls for the elimination of the Renewable Portfolio Standard.	ALEC's "Electricity Freedom Act" repeals renewable energy mandates and constitutes an attack on states with plans requiring companies to get a certain percentage of their electricity from renewable sources.[6]
Advocating for the 10th Amendment	In the section entitled "10th Amendment" in TPPF's 2013-2014 agenda, TPPF calls interstate compacts an "effective way" to regulate areas of mutual concern of two or more states. It further states that Texas should "examine the benefits" of using constitutional amendments aimed at limiting government spending, including calling for a constitutional convention.	ALEC's "Article V Repeal Amendment Resolution" calls for a constitutional convention in order propose an amendment permitting the repeal of any federal law by the vote of two-thirds of state legislatures. ALEC's "Resolution Reaffirming Tenth Amendment Rights" asserts that federal mandates violates the Tenth Amendment, but fails to acknowledge the many express powers granted to Congress, including powers over interstate commerce. ALEC's "Resolution Calling for the Congress of the United States to Call a Constitutional Convention Pursuant to Article V of the United States" urges Congress to call a constitutional convention for the purpose of proposing a constitutional amendment that permits the repeal of any federal law or regulation by two-thirds of the state legislatures, which is dubbed the Madison Amendment (another ALEC model).[6]
Protecting Corporations in Asbestos Related Claims	TPPF recommends that there should be a "measureable standard" for a plaintiff in an asbestos-related case to prove negligence and that the "causation standards" for asbestos-related claims should remain at the same level as all toxic exposure claims.	ALEC has several "model" bills aimed at protecting corporations from liability for an injured American in an asbestos-related case, including the "Asbestos and Silica Claims Priorities Act," the "Asbestos Claims Transparency Act," and the "Successor Asbestos-Related Liability Fairness Act."[6]

Deforming Public Pensions	TPPF calls for new state workers to be moved into a risky defined-contribution pension plan.	ALEC's "Public Employees' Portable Retirement Option (PRO) Act" is a move towards eliminating defined benefit pension plans for public employees, which better protects retirees.[6]
Pushing Parent Trigger	TPPF calls for changes to in the Texas Education Code to make it easier to force a "parent trigger" scenario.	ALEC's "Parent Trigger Act" would allow a small group of parents to close public school for current and future students, and turn the school into a charter school or require the state to use taxpayer dollars for vouchers to subsidize private tuition.[6]
Pushing for Virtual Schools	TPPF recommends expanding the funding for "virtual schools" in Texas to give "greater freedom" to private virtual education corporations.	ALEC's "Virtual Public Schools Act" requires virtual or online education company courses to be recognized as public schools and require that such companies receive the same per pupil funding as traditional schools that provide classrooms, sports training facilities, lunch, and transportation, resulting in windfall profits for online "schools."[6]
Privatizing Public Education	TPPF calls for Texas to "increase competition in the Texas education system" by implementing education scholarships, tax credits, and expanding charter schools and vouchers.	ALEC's "Family Education Tax Credit Program" creates a tax paying corporations and individuals that give money to be used as "scholarships" to pay tuition and fees at private schools, reducing tax revenue for public schools and other public services. ALEC's "Parent Choice Scholarship Program Act-Universal Eligibility" creates a voucher program to use taxpayer funds that would have been spent on public schools to subsidize private for-profit, religious, or other primary and secondary schools. ALEC's "Parental Choice Scholarship Accountability Act" enables taxpayer money to subsidize for-profit, religious, or other private schools. ALEC's "Charter Schools Act" would allow the state to grant charters to create and operate schools outside of traditional public schools, while also exempting these charter schools from state laws that apply to public schools. ALEC's "Resolution Supporting Private Scholarship Tax Credits" urges tax cuts for corporations and others to subsidize non-public corporate schools through funding "scholarships."[6]
	TPPF calls for radical attacks on teachers in Texas,	ALEC's "Great Teachers and Leaders Act" changes seniority rules that reward education and experience of teachers and allows tenure to be revoked based on limited measures of success without regard to underlying conditions in the schools or environment.

Attacking Teachers	including lowering the barriers for teacher certification, eliminating the minimum salary a teacher must be paid based on experience, discouraging school districts from paying teachers with a master's degree more money, and eliminating tenure rights.	ALEC's "Alternative Certification Act" attempts to allow students to be taught by people who have no training in how to teach children and the different ways kids learn at various ages and based on different learning styles. This paves the way for for-profit schools to pay "teachers" less than educators who are actually trained in teaching. ALEC's "Career Ladder Opportunities Act" and "Teacher Quality and Recognition Demonstration Act" undermines post-secondary education and tenure rights of teachers, placing more emphasis on tests (regardless of the underlying conditions in the schools or the socio-economic environment of the school district) than other established measures.[6]

Ties to the American Legislative Exchange Council

The Texas Public Policy Foundation has been very active in the American Legislative Exchange Council . TPPF was a member of the now defunct Public Safety and Elections Task Force , and has been an ardent defender of ALEC activities. [7] In May 2012, Wendy Lee Gramm, the Foundation's chairman of the board, and Brooke Rollins, its president and chief executive officer, published an op-ed in the *Wall Street Journal*, entitled " Why the Left Wants to Blacklist ALEC ," in defense of the organization.

TPPF was a "Chair" level sponsor of the ALEC Annual Conference in 2016, which equated to $50,000 in 2010.[8]

TPPF has been a member of several other ALEC task forces. Dr. Thomas Lindsay, Director of TPPF's Center for Higher Education, was vice chairman of the Higher Education Subcommittee of ALEC's Education Task Force as of November 2013. [9] Executive Director, Arlene Wohlgemuth, was a member of the Health and Human Services Task Force where she sponsored model legislation (the "Health Professional Modernization Act" and the "Health Care Compact Act").[10] Mario Loyola, director of the Center for Tenth Amendment Studies was a member of the Energy, Environment and Agriculture Task Force and sponsored model legislation (the "Regional Air Quality Interstate Compact").[11]

Marc Levin, who is the director of the Center for Effective Justice for TPPF, was a member of the Civil Justice Task Force in 2011, where he was the private chair of the "Overcriminalization Subcommittee."[12] Previously, Levin was a member of the Public Safety and Elections Task Force where he sponsored several pieces of model legislation, including the "Resolution in Support of Victim Offender Mediation," the "Criminal Intent Protection Act," the "Treating Accused Persons Fairly Act," the "Civil Liability Relief for Employers Hiring Ex-Offenders Act," the "Resolution on the Sex Offender Registration and Notification Act," the "Provisional Licenses for Ex-Offenders Act," the "Juvenile Offender Performance Incentive Funding Act," and the "Resolution on Transparency and Accountability in Criminal Law."[13][14][15]

Talmadge Heflin, director of TPPF's Center for Fiscal Policy, was a member of the Tax and Fiscal Policy Task Force in 2011. [16]

SPN, of which TPPF is a prominent member, has deep ties to ALEC. Please see SPN Ties to ALEC for more.

About ALEC

ALEC is a corporate bill mill. It is not just a lobby or a front group; it is much more powerful than that. Through ALEC, corporations hand state legislators their wishlists to benefit their bottom line. Corporations fund almost all of ALEC's operations. They pay for a seat on ALEC task forces where corporate lobbyists and special interest reps vote with elected officials to approve "model" bills. Learn more at the Center for Media and Democracy's ALECexposed.org, and check out breaking news on our PRWatch.org site.

Ties to the Bradley Foundation

Through 2016 the Texas Public Policy Foundation received $315,000 from the Lynde and Harry Bradley Foundation.

Bradley detailed the most recent grants in internal documents examined by the Center for Media and Democracy (CMD). Below is a description of the grant prepared by CMD. The quoted text was written by Bradley staff.

2016: $75,000 to support the Center for Fiscal Policy (CFP).
"One of nine TPPF policy centers, CFP covers issues surrounding the state budget and spending, taxes and fees, pensions, local governance, and transparency… TPPF's CFP has demonstrated its ability to encourage meaningful change during the last Texas Legislative Session, and it has an experienced and widely respected fiscal policy team. In fact, its STR Fund sales tax reform measure, which would authorize the comptroller to lower the sales tax rate temporarily, was recently accepted by ALEC as model legislation."

Bradley Files

In 2017, the Center for Media and Democracy (CMD), publishers of SourceWatch, launched a series of articles on the Milwaukee-based Lynde and Harry Bradley Foundation, exposing the inner-workings of one of America's largest right-wing foundations. 56,000 previously undisclosed documents laid bare the Bradley Foundation's highly politicized agenda. CMD detailed Bradley's efforts to map and measure right wing infrastructure nationwide, including by dismantling and defunding unions to impact state elections; bankrolling discredited spin doctor Richard Berman and his many front groups; and more.

Find the series here at ExposedbyCMD.org.

Ties to the Koch Brothers

Texas Public Policy Foundation has deep ties to the Koch brothers. The organization has received funding from the Charles G. Koch Charitable Foundation, the Claude R. Lambe Foundation, Donors Capital Fund

and DonorsTrust . (See below)

As of January 2017, TPPF is listed as a "partner organization" in the Charles Koch Institute 's Liberty@Work program.[17]

Koch Wiki

The Koch brothers -- David and Charles -- are the right-wing billionaire co-owners of Koch Industries As two of the richest people in the world, they are key funders of the right-wing infrastructure, including the American Legislative Exchange Council (ALEC) and the State Policy Network (SPN). In SourceWatch, key articles on the Kochs include: Koch Brothers , Koch Industries , Americans for Prosperity, American Encore , and Freedom Partners .

Ties to the Franklin Center for Government and Public Integrity

The Texas Public Policy Foundation has hosted writers from the ALEC-connected Franklin Center for Government and Public Integrity, which screens potential reporters on their "free market" views as part of the job application process.[18] The Franklin Center funds reporters in over 40 states.[19] Despite their non-partisan description, many of the websites funded by the Franklin Center have received criticism for their conservative bias.[20][21] On its website, the Franklin Center claims it "provides 10 percent of all daily reporting from state capitals nationwide."[22]

Franklin Center Funding

Franklin Center Director of Communications Michael Moroney told the Center for Public Integrity (CPI) in 2013 that the source of the Franklin Center's funding "is 100 percent anonymous." But 95 percent of its 2011 funding came from DonorsTrust , a spin-off of the Philanthropy Roundtable that functions as a large "donor-advised fund," cloaking the identity of donors to right-wing causes across the country (CPI did a review of Franklin's Internal Revenue Service records).[23] *Mother Jones* called DonorsTrust "the dark-money ATM of the conservative movement" in a February 2013 article.[24] Franklin received DonorTrust's second-largest donation in 2011.[23]

The Franklin Center also receives funding from the Wisconsin-based Lynde and Harry Bradley Foundation,[25] a conservative grant-making organization.[26]

The Franklin Center was launched by the Chicago-based Sam Adams Alliance (SAM),[27] a 501(c)(3) devoted to pushing free-market ideals. SAM gets funding from the State Policy Network ,[28] which is partially funded by The Claude R. Lambe Foundation.[29] Charles Koch , one of the billionaire brothers who co-own Koch Industries, sits on the board of this foundation.[30] SAM also receives funding from the Rodney Fund .

Funding

Major Funders

The Texas Public Policy Foundation is not required to disclose its funders. Its major foundation funders, however, can be found through a search of the IRS filings. Here are some of the known funders of the Texas Public Policy Foundation:

- Claude R. Lambe Foundation : $522,500 (1998-2012)

- Charles G. Koch Foundation : $529,554 (2004-2015)
- DonorsTrust and Donors Capital Fund : $1,786,705 (2010-2014)
- Lynde and Harry Bradley Foundation : $315,000 (2010-2016)
- State Policy Network : $209,400 (2012-2014)

2010 Disclosure Uncovers Koch Money and Mystery SPN Slush Funds

In 2012, a list of 2010 funders of TPPF that was disclosed to the IRS was inadvertently made public. The list of funders revealed is an important case study in how the Kochs' disclosed foundation spending is an under-representation of their overall political giving: Koch gave more to TPPF from its corporate Koch Industries treasury than it gave from its Koch Family Foundations . Contributions from the latter are disclosed on the foundation's IRS filings, but donations from the former are largely untraceable. [31]

Koch Industries gave $159,834 directly to TPPF in 2012, versus $69,788.61 from the Claude R. Lambe Foundation, which is a Koch Family Foundation.

The financial revelations also provide an important case study in how SPN's member think tanks are funded, and by whom.

SPN itself gave TPPF $49,306.90, but what's more, Tracie Sharp , SPN's executive director, was the contact person for an additional $495,000. These two grants, for $300,000 and $195,000, were listed as being received from the "State Think Tank Fund" and the "Government Transparency Fund," respectively -- two funds about which virtually nothing is known.[31]

Over $3.3 Million in Koch Funding

According to a November 2013 report by Progress Texas and the Center for Media and Democracy (CMD), over the past few years TPPF "has received at least $3,314,591 from the billionaire Koch brothers or the organizations they support." This includes $733,333 received from the Koch family foundations and from Koch Industries, and $2,581,258 from the Donors Trust & Donors Capital Fund.[6] TPPF also "received nearly $300,000 from the Searle Freedom Trust between 2007 to 2011."[6]

TPPF Skilled Fundraisers

TPPF's "laissez-faire bent and championing of big-business agendas (tort reform, tax cuts, deregulation) [have] created wealthy allies," as noted by the *Texas Observer*.[32] The newspaper spoke with a former TPPF vice president, who described the organization's corporate fundraising strategy this way:

> "Melinda Hasting -- who served as the foundation's vice president from 1996 to 1998 but has since broken with the conservative movement -- says one fundraising tactic involved approaching corporations, wealthy businessmen, and corporate-funded foundations with a pitch. Hasting (formerly Melinda Wheatley) describes it: 'We think this is beneficial to your industry and would you consider providing us with a non-profit contribution. ... Here's the timeline for the completion of the research; the parameters of the research are this; we expect it will result in some savings or outsourcing.'"[32]

The TPPF's 2005 annual report states that the groups budget was $1,759,602 million, an almost 30% increase on its 2004 budget. Individual contributors accounted for just over half the contributions, unspecified corporations $259,000 or 15% with the remainder from unspecified foundations.[33]

Media Transparency lists TPPF as having received 26 grants totalling $491,749 (unadjusted for inflation) between 1998 and 2004 from a range of foundations including [1]:

- Armstrong Foundation

- Claude R. Lambe Charitable Foundation
- Charles G. Koch Charitable Foundation
- Gordon and Mary Cain Foundation
- Jaquelin Hume Foundation
- JM Foundation
- Roe Foundation
- Ruth and Lovett Peters Foundation

TPPF has received $15,000 from ExxonMobil since 1998, $5,000 in 2001 [2] and $10,000 in 2004. [3]

Core Financials

2015[34]

- Total Revenue: $10,821,798
- Total Expenses: $7,286,003
- Net Assets: $4,298,827

2014[35]

- Total Revenue: $8,887,301
- Total Expenses: $5,636,703
- Net Assets: $4,687,842

2013[36]

- Total Revenue: $5,288,989
- Total Expenses: $4,731,140
- Net Assets: $7,545,929

2012[37]

- Total Revenue: $7,612,280
- Total Expenses: $4,364,605
- Net Assets: $6,988,080

2011[38]

- Total Revenue: $5,756,074.00
- Total Expenses:$4,948,598.00
- Net Assets: $4,235,880.00

2010[39]

- Total Revenue: $4,674,836.00
- Total Expenses: $3,390,188.00
- Net Assets: $3,428,404.00

2009[40]

- Total Revenue: $3,223,804.00
- Total Expenses: $3,026,663.00
- Net Assets: $2,143,756.00

Personnel

Staff

As of September 2017: [41]

- Brooke L. Rollins , President and CEO
- Kevin Roberts, Executive Vice President
- Greg Sindelar, Chief Operating Officer
- Robert Henneke, General Counsel and Director, Center for the American Future
- Chuck DeVore, Vice President of National Initiatives
- Sarah French, Vice President of Development
- Bill Peacock , Vice President of Research; Director, Center for Economic Freedom
- Clint Nesmith, Vice President of Engagement
- Briand Phillips, Vice President of Communications
- Christy Anderson, Publications Manager
- Rafael Bear, Outreach Coordinator/Policy Advisor
- Jennifer Carter, Executive Assistant to the President and CEO
- Jaimie Ailshire, Office Manager
- Sarah Atnipp, Development Officer
- Alex Billups, Associate Filmmaker and Editor
- Chris Chapman, Senior Director of Advancement
- Annie Casteel, Director of Major Gifts
- Derek M. Cohen, Deputy Director, Center for Effective Justice
- Cara Dublin, Grants and Donor Communications Manager
- Trisha Dunbar, Director of Donor Communications
- Elain Ellerbe, Louisiana State Director, Right on Crime
- Jess Fields, Article V Project Coordinator
- Greg Glod, Manager, State Initiatives for Right on Crime and Senior Policy Analyst
- Vance Ginn, Director of the Center for Economic Prosperity & Senior Economist
- David Guenthner, Senior Director for Public Affairs
- Michael Haugen, Staff Writer, Right on Crime
- Talmadge Heflin, Director, Center for Fiscal Policy
- Megan Ingram, Research Assistant
- Shari Hanraham, Special Campaigns Director
- Ted Hadzi-Antich, Center for the American Future
- Haley Holik, Attorney
- Christ Jacobs, Senior Healthcare Policy Analyst
- Katie Kerschner, Project Coordinator, Center for Tenth Amendment Action
- Marc Levin , Director, Center for Effective Justice and Right on Crime
- Thomas Lindsey, Director, Center for Higher Education
- Joe Luppino-Esposito, Policy Analyst, Center for Effective Justice & Right on Crime
- Whitney Klenzendorf, Development Manager
- Elizabeth Lincicome, Media Relations Manager
- Brandon J. Logan, Director, Center for Families and Children

- Noelle Mandell, Deputy Director of Events and Communications
- Stephanie Matthews, Senior Policy Advisor
- Tarah Nypaver, Director of Strategic Partnerships
- Carine Martinez-Gouhier, Managing Editor
- Elizabeth Moore, Development Officer
- Bryan T. Mathew, Policy Analyst, Center for Local Governance
- Trevor McGuire, Policy Analyst, Center for Higher Education & Center for Tenth Amendment
- Currie Myers, Senior Visiting Fellow
- Randy Petersen, Senior Researcher
- James Quintero, Director, Center for Local Governance
- Sarah Silberstein, Communications Associate
- Alicia Pierce, Communications Director
- Chip Roy, Director, Center for the Tenth Amendment Action
- J.D. Rimann, Policy Analyst
- Stephen Robinson, Audio-Video Production Manager
- Emily Sass, Policy Analyst
- Yvonne Simental, Paralegal
- Joshua Trevino
- Ryan Walters, Attorney
- Andrew Speno, Oklahoma State Director, Right on Crime
- Peggy Venable, Senior Visiting Fellow
- Josey Theal, Grants Manager
- Gina Van Dyke, Operations Coordinator
- Deane Waldman, Director, Center for Healthcare Policy
- Chance Weldon, Attorney, Center for the American Future
- Kathleen White, Distinguished Senior Fellow-in-Residence; Director, Armstrong Center for Energy & the Environment
- Olivia White, Events Manager
- Jennifer Minjarez, Policy Analyst
- Drew White, Senior Federal Policy Analyst
- Erin Wilcox, Attorney

Former Staff

- Dianna Muldrow, Policy Analyst, Center for Effective Justice and Right on Crime
- Clint Nesmith, Director of Events
- Avik Roy, Visiting Fellow
- Shannon Tracy, Communications & Events Manager, Right on Crime
- Dan Isett, Communications Director, Right on Crime
- Caroline Espinosa, Director of Communications
- Jody Gibson, Publications and Marketing Manager
- Olivia Gustin, Events Manager
- Doug Domenech , Director, Fueling Freedom Project
- Jamie Bennett, Communications Associate
- Joshua Trevino, Vice President of Strategic Communications
- Arlene Wohlgemuth , Executive Director; Director, Center for Health Care Policy

- Ellen Marie Bartling
- Robert Croft , Vice President of Strategic Partnerships
- Colin Monaghan , Grants and Donor Communications Manager
- Geoffrey Tahuahua , Donor Relations Manager
- John Davidson , Senior Health Care Policy Analyst
- Josiah Neeley , Policy Analyst, Armstrong Center for Energy & the Environment
- Karen Lugo , Director, Center for Tenth Amendment Action
- Kathleen Hunker , Policy Analyst, Center for Economic Freedom
- Kristen Indriago , Director of Communications
- Nancy Druart , Publications Manager
- Michael Joyce , Director of Events
- Rikki Risinger , Accounting & Operations Manager
- Vikrant Reddy , Senior Policy Analyst, Center for Effective Justice
- Michael Quinn Sullivan
- Chris Patterson
- Byron Schlomach
- Mary Katherine Stout
- Shari Hanrahan
- Nancy Druart
- Nathan Thompson

Former Fellows

- John Barrett
- Scott Brister
- James C. Capretta
- Wendell Cox
- Robert W. Crandall
- Candace de Russy
- John W. Diamond
- Susanna Dokupil
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- Richard Epstein
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- Maurice P. McTigue
- Haavi Morreim
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- Randal O'Toole
- John Pisciotta
- Nat Shapo
- James C. Smith
- Ronald Trowbridge
- David G. Tuerck
- Richard Vedder, Ph.D.
- Bob Williams
- Patrick Wolf

Board of Directors

As of September 2017: [42]

- Dr. Wendy Gramm , Chairman
- Tim Dunn , Vice Chairman
- Brooke L. Rollins , President and CEO
- James Leininger, Chairman Emeritus
- Ernest Angelo , Treasurer
- Tim Lyles , Secretary
- Rick Fletcher
- Windi Grimes
- Stacy Hock
- Linda Mays McCaul
- L.C. "Chaz" Neely
- Brenda Pejovich
- Jeff Sandefer
- Kevin Sparks
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- George W. Strake

Former Directors

- Mayes Middleton
- Victor Leal
- Phil Adams
- William A. McMinn
- James R. Leininger
- Phil D. Adams
- Ramiro Galindo
- Bill Jones
- Dale Laine
- Vance C. Miller
- John L. Nau, III

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- Michael Stevens
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Facebook: https://www.facebook.com/TexasPublicPolicyFoundation

Articles and Resources

Related SourceWatch Articles

- State Policy Network :
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  - SPN Political Activity
  - SPN Funding
    - SPN 2011 Funding
    - SPN 2010 Funding
    - SPN 2009 Funding
  - SPN Agenda
  - SPN Founders, History, and Staff
  - SPN Members
  - SPN Ties to ALEC
  - Thomas A. Roe
  - Tracie Sharp
  - Byron S. Lamm
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- American Legislative Exchange Council (ALEC)
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THE RIGHT OPINION

Green Energy Policies May Haunt Democrats This Fall

Ken Blackwell · Jul. 2, 2016

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Who is working overtime to paint themselves into the biggest political corner of this election cycle? Democrats obviously don't recognize it yet, but they have placed themselves in an inescapable trap with extreme positions on energy and the environment — irresponsible positions that have fragmented their party and could easily produce dire consequences for Democrats at the polls in November.

The extreme fringe of the environmental movement has emerged as a powerful faction within the Democratic Party, in large measure due to colossal political spending by billionaire and former hedge fund manager Tom Steyer. Its new dominance has translated into a long list of policy initiatives for "green" energy. Wind and solar companies today are lavished with generous federal subsidies, government-backed loan guarantees (remember the Solyndra debacle?), grants, tax preferences, incentives and beneficial mandates.

The raw deal that American taxpayers are getting is nothing short of scandalous. "Green energy remains an inconsequential source of energy in America despite more than $80 billion in direct federal taxpayer subsidies under Presidents George W. Bush and Barack Obama," write authors Stephen Moore and Kathleen Hartnett White in their new book *Fueling Freedom: Exposing the Mad War on Energy*. "Wind and solar combined produce less than 3 percent of our energy, and only about 5 percent of our electricity."

It gets worse. Democrat policymakers are deliberately targeting fossil fuels by making them less accessible and more expensive to produce. The Obama administration and its allies have killed the Keystone XL pipeline project; slow-walked oil and natural gas drilling permits; closed public lands to drilling; imposed staggeringly expensive new regulations; and proposed billions of dollars in new taxes aimed at oil and natural gas producers.

Meanwhile, Democratic operatives are oblivious to the fact that in pandering to fringe environmental activists they are alienating traditional, loyal Democratic voting blocs.

Officials from eight building trade unions recently sent a letter to the AFL-CIO expressing outrage over its decision to create a super PAC with Steyer, who led the battle against the Keystone pipeline — along with many high-paying union jobs. The letter took issue with an environmental agenda that "has produced mixed results at best and

disastrous results at worst for our members and their employment prospects in many instances throughout the country."

Hillary Clinton might be in trouble with union members as well for declaring her opposition to Keystone. Additionally, natural gas drilling and energy production employs thousands of union members who may be troubled by her declaration, "By the time we get through all of my conditions, I do not think there will be many places in America where fracking will continue to take place." Curiously, as U.S. Secretary of State, Clinton was a major force behind bringing hydraulic fracturing to other countries.

Green groups, unimpressed with the need to protect union jobs and heel the interparty rift, have declared open season on energy employers by making prosecution of climate change skeptics part of the Democratic Platform.

In my home state of Ohio, which is a key swing state, the United Mine Workers of America's political arm endorsed Republican Sen. Rob Portman for reelection over Democratic challenger Ted Strickland — who they supported both times he ran for Governor. Strickland's work for anti-coal organizations angered the union, which depends on the industry for thousands of jobs in Ohio.

Poor minority families and seniors on fixed incomes are two more voting groups that Democrats may have trouble keeping in the fold. Energy bills generally already account for one-fifth of struggling Americans' income, which proportionately represents three times more than what high-income households must allocate. By mandating a shift from affordable energy to green energy, environmental extremists are, in essence, imposing a devastating regressive energy tax on the poor. Rising electricity bills put increasing numbers of Americans at risk for green energy poverty, which is when 10 percent or more of a household's income is spent on home energy costs.

And in North Carolina environmental extremists are running false, misleading ads attacking the GOP governor and making false claims of threats to drinking water quality while the state legislature works on a responsible, affordable solution to the states coal ash management issues.

Democrats who expect their traditional base to turn out to say "thank you" in November may be disappointed.

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KFILE

Trump pick for top environmental post once wrote Texas would be 'better off' as an independent republic

By Andrew Kaczynski and Nathan McDermott, CNN

Updated 4:33 PM ET, Thu October 26, 2017

Kathleen Hartnett White arrives at Trump Tower, November 28, 2016 in New York City.

STORY HIGHLIGHTS

"Although I reverently pledge allegiance to the United States, with regret I hazard the claim that Texas would be better off today as an independent republic free of the yoke of the present federal government," White wrote in 1995.

In her essay, White called the sesquicentennial of Texas statehood "not a happy occasion."

(CNN) — President Donald Trump's nominee to be White House senior adviser for environmental policy wrote an essay in 1995 in which she argued that because of federal overreach, including environmental regulations, Texas would be better off as an independent republic.

Kathleen Hartnett White, the nominee to head the White House Council on Environmental Quality, authored the essay for a 1995 edition of the now-defunct Texas Republic magazine marking the 150 year anniversary of Texas statehood. In her essay, White called the sesquicentennial of Texas statehood "not a happy occasion."

White's past writings on politics and policy, particularly as they relate to the federal government's role in regulating the environment, could be a subject to scrutiny during the Senate confirmation process. If confirmed, White would oversee environmental policy across the government. In her 1995 essay, White singled out "onerous" environmental regulations such as the Clean Water Act and the Endangered Species Act as examples of federal overreach on states' rights.

CNN's KFile obtained a full copy of White's essay from Edward H. Sebesta, an expert of the Texas secessionist and neo-Confederate movements who is writing a book on the Texas Secession movement. White was a rancher at the time she authored the essay. Before that, she had served as the director for private lands for the National Cattlemen's Association.

White did not respond to a CNN request for comment. The Senate Committee on Environment and Public Works has not yet scheduled a confirmation hearing for White. Spokespeople for the committee's Republican chairman, Wyoming's John Barrasso, and ranking Democrat, Delaware's Tom Carper, did not immediately respond to requests to comment.

"Although I reverently pledge allegiance to the United States, with regret I hazard the claim that Texas would be better off today as an independent republic free of the yoke of the present federal government," White wrote in 1995. "I pledge allegiance to my country and to the 'republic' 'for which it stands -- a republic composed of states sovereign within their own borders -- a republic with a national government of very limited, specifically enumerated powers -- a republic that actively upholds the 10th Amendment of its Constitution, guaranteeing states' rights against federal encroachment.

"The current federal government, in my opinion, has grossly departed from the republican vision of national government that inspired the signers of the U.S. Constitution and the early Texans who chose annexation."

In her essay, White wrote that federal government began to transform after the Civil War, which saw the expansion of federal powers during Reconstruction. This expansion, White argued, led to a resentment among Texans.

"Reconstruction policies and laws justified the broad exercise of federal powers. Originally acting as a government with the narrowly circumscribed powers of a republic composed of states largely sovereign unto and among themselves, the national government began to acquire massive, centralized power, actively intervening in state affairs," White wrote.

"If Texans viewed the federal government as impotent and aloof before the Civil War, resistance to the victorious Yankees and their interventionist 'know what's best for Texas' ways took hold after the war," she continued. "Congress began to pass one after another of the now innumerable federal laws implemented by huge federal bureaucracies manned by millions of bureaucrats writing volumes of regulations - federal mandates that directly affect and dominate the internal affairs of the states."

White further argued that the federal income tax, unfunded mandates, federal money with conditions, and direct federal regulation are all examples of "federal domination." White specifically identified federal environmental laws as "graphic examples of federal shackles on basic state rights in Texas," arguing that "the U.S. Congress and the courts have stretched the commerce clause to preposterous lengths."

She concluded her essay by writing, "The desire of many Texans to be free of the federal yoke

is far more than historical nostalgia for the Lone Star Republic. It is a well-warranted desire, shared by increasing numbers in every state, to reduce the domain of federal power and to return to the understanding of federalism that informed the founding of the United States as a republic. The sesquicentennial of Texas statehood is not a happy occasion."

Read the full essay here.

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CLEAN AIR ACT

The Environmental Protection Agency (EPA) has exponentially expanded regulation under the Clean Air Act (CAA) at great expense to Americans. States also have been robbed of their statutory role in environmental protection. Therefore, Congress must employ legislation, the budget process, and its oversight powers to constrain the EPA's regulatory abuses.

MAJOR POINTS

- The EPA claims authority under the CAA to impose an economically damaging and environmentally counterproductive regulatory regime designed to eliminate fossil fuel as a domestic energy source—a policy repeatedly rejected by Congress. The agency's energy policy is jeopardizing thousands of jobs, U.S. competitiveness, the affordability and reliability of the nation's electric power, and national security.
- Without any statutory authority, the EPA has extended its regulatory reach into other federal agencies' actions—including the Departments of Energy, Transportation, and State, and the Federal Energy Regulatory Commission.
- The technical risk assessment and regulatory impact analyses with which the EPA justifies many of its rules are fraught with implausible assumptions and extrapolation based on absurd use of the precautionary principle. As noted by Dr. Thomas Burke, who chairs the National Academy of Sciences' Committee on Improving Risk Analysis, the EPA's science is "on the rocks,"[2] meaning that the agency's regulations often lack a sound scientific basis.
- To restore rationality and accountability to environmental protection, Congress must limit the EPA's abuse of regulatory power and re-establish lawmakers' authority to set environmental and energy policy.

APPROPRIATIONS

Congress should prohibit the EPA from expending any funds for:

- Development, implementation, and enforcement of greenhouse gas regulations, including the proposed Carbon Pollution Standards for New and Existing Electric Generating Units, also known as the Clean Power Plan rules.
- Development, implementation, and enforcement of 2014 National Ambient Air Quality Standards (NAAQS) for ozone.
- Regulation under the CAA of any pollutant not expressly included in the language of the CAA.
- Regulation of source categories under Section 111(d) of the CAA if those source categories have been regulated under Section 112.
- Development, implementation, and enforcement of regulatory standards that do not comply with Section 111(a)(1) of the CAA. That is, the regulatory standard based on or derived from "best system of emission reduction" cannot exceed emission limits achievable with available technology that is commercially and economically demonstrated at scale.

LEGISLATION

To achieve the necessary statutory reforms of the EPA, Congress must:

- Restate and clarify in law that the Clean Air Act was never intended to regulate greenhouse gases as air pollutants, and declare in statute that greenhouse gases are not pollutants subject to regulation under the CAA.
    - Rescind the EPA's Endangerment Finding that greenhouse gases and climate change pose a serious threat to public health and safety.
- Overturn the waiver issued by the EPA that allows the California Air Resources Board to set fuel economy standards.
- Prohibit the EPA from setting low-carbon-emissions standards or fuel economy standards for on-road vehicles.
- Restate and clarify in law that the EPA is prohibited from regulating source categories under Section 111(d) of the CAA if those source categories have previously been regulated under Section 112.

- Restate and clarify in law that the EPA is prohibited from developing, implementing. or enforcing regulatory standards that do not comply with Section 111(a)(1) of the CAA. That is, the regulatory standard derived from "best system of emission reduction" cannot exceed emission limits achievable through available technology that is commercially and economically demonstrated at scale.
- Restate and clarify in law that the EPA's regulatory reach extends no further than the "source" of emissions originating from specific facilities rather than entire sites or regions in which emission sources are located. Also clarify that a "source" of emissions applies to individual stationary industrial units, and not to an entire industrial sector or state.
- Restate and clarify in law the parameters of federal and state authorities under the CAA. The prevention and control of air pollution is the primary responsibility of state government. The federal government sets NAAQS and New Source Performance Standards (NSPS); the states determine how the standards will be attained and/or applied.
- Require by law that the EPA must issue final assessments of states' emission reduction obligations.
- Make the Information Quality Act (IQA) enforceable, and shift the burden of proof to the EPA for demonstrating that the agency's risk assessments meet the IQA standards.
- Require that the NAAQS, NSPS, and Existing Source Performance Standards cannot be implemented until enacted by law.
- Repeal the Renewable Fuel Standard and all related programs.

OVERSIGHT SUBJECTS

Congress should examine the following:

- The legality of the carbon rules for new and existing power plants.
- The near-term impacts of the Clean Power Plan rule on electric power reliability and power plant closures.
- The EPA's plans to control CO_2 within other sectors, including surveying, drilling, extracting, and processing oil and gas.
- The rigor and plausibility of the EPA's risk assessment for ozone NAAQS and other regulations.

- The potential regulatory inconsistencies among various EPA regions that would arise if the agency undertakes its planned rule change.
- The reform of the State Implementation Process per the National Research Council's recommendations from 2004.[3]
- The reform of the EPA's methodology for risk assessments, especially its application of a "No Safe Threshold" (NST) linear regression analysis.
- The reform of the EPA's methodology for benefit-cost analyses, especially for the monetization of impacts and the use of particulate matter ($PM_{2.5}$) co-benefits.