

**SCIENCE AND TECHNOLOGY AT THE  
ENVIRONMENTAL PROTECTION AGENCY**

---

---

**HEARING**  
BEFORE THE  
**COMMITTEE ON SCIENCE, SPACE, AND  
TECHNOLOGY**  
**HOUSE OF REPRESENTATIVES**

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

SEPTEMBER 19, 2019

**Serial No. 116-46**

Printed for the use of the Committee on Science, Space, and Technology



Available via the World Wide Web: <http://science.house.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

37-664PDF

WASHINGTON : 2020

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HON. EDDIE BERNICE JOHNSON, Texas, *Chairwoman*

ZOE LOFGREN, California  
DANIEL LIPINSKI, Illinois  
SUZANNE BONAMICI, Oregon  
AMI BERA, California,

*Vice Chair*

CONOR LAMB, Pennsylvania  
LIZZIE FLETCHER, Texas  
HALEY STEVENS, Michigan  
KENDRA HORN, Oklahoma  
MIKIE SHERRILL, New Jersey  
BRAD SHERMAN, California  
STEVE COHEN, Tennessee  
JERRY McNERNEY, California  
ED PERLMUTTER, Colorado  
PAUL TONKO, New York  
BILL FOSTER, Illinois  
DON BEYER, Virginia  
CHARLIE CRIST, Florida  
SEAN CASTEN, Illinois  
KATIE HILL, California  
BEN McADAMS, Utah  
JENNIFER WEXTON, Virginia

FRANK D. LUCAS, Oklahoma,

*Ranking Member*

MO BROOKS, Alabama  
BILL POSEY, Florida  
RANDY WEBER, Texas  
BRIAN BABIN, Texas  
ANDY BIGGS, Arizona  
ROGER MARSHALL, Kansas  
RALPH NORMAN, South Carolina  
MICHAEL CLOUD, Texas  
TROY BALDERSON, Ohio  
PETE OLSON, Texas  
ANTHONY GONZALEZ, Ohio  
MICHAEL WALTZ, Florida  
JIM BAIRD, Indiana  
JAIME HERRERA BEUTLER, Washington  
JENNIFFER GONZALEZ-COLÓN, Puerto Rico  
VACANCY

# C O N T E N T S

September 19, 2019

	Page
Hearing Charter .....	2
<b>Opening Statements</b>	
Statement by Representative Eddie Bernice Johnson, Chairwoman, Committee on Science, Space, and Technology, U.S. House of Representatives ....	14
Written statement .....	15
Statement by Representative Frank Lucas, Ranking Member, Committee on Science, Space, and Technology, U.S. House of Representatives .....	16
Written statement .....	18
<b>Witness:</b>	
The Honorable Andrew Wheeler, Administrator, Environmental Protection Agency	
Oral Statement .....	19
Written Statement .....	22
Discussion .....	26
<b>Appendix I: Answers to Post-Hearing Questions</b>	
The Honorable Andrew Wheeler, Administrator, Environmental Protection Agency .....	68
<b>Appendix II: Additional Material for the Record</b>	
Article submitted by Representative Zoe Lofgren, U.S. House of Representatives .....	116
Article submitted by Representative Brian Babin, Committee on Science, Space, and Technology, U.S. House of Representatives .....	119
Letter submitted by Representative Lizzie Fletcher, Committee on Science, Space, and Technology, U.S. House of Representatives .....	122
Documents submitted by Representative Sean Casten, Committee on Science, Space, and Technology, U.S. House of Representatives .....	124
Study submitted by Representative Sean Casten, Committee on Science, Space, and Technology, U.S. House of Representatives .....	126
Additional material submitted by The Honorable Andrew Wheeler, Administrator, Environmental Protection Agency .....	137



**SCIENCE AND TECHNOLOGY AT THE  
ENVIRONMENTAL PROTECTION AGENCY**

---

**THURSDAY, SEPTEMBER 19, 2019**

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,  
*Washington, D.C.*

The Committee met, pursuant to notice, at 10:00 a.m., in room 2318 of the Rayburn House Office Building, Hon. Eddie Bernice Johnson [Chairwoman of the Committee] presiding.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
U.S. HOUSE OF REPRESENTATIVES

HEARING CHARTER

*Science and Technology at the Environmental Protection Agency*

Thursday, September 19, 2019  
10:00 a.m.  
2318 Rayburn House Office Building

**PURPOSE**

The purpose of this hearing is to review the science and technology activities at the Environmental Protection Agency (EPA) including: agency-wide policies and practices related to the development and use of science in regulatory and deregulatory decisions; the role of independent scientific advisory bodies such as the EPA Science Advisory Board and the EPA Clean Air Scientific Advisory Committee; and the importance of transparency and integrity in the agency's science activities.

**WITNESS**

- **The Honorable Andrew Wheeler**, Administrator, Environmental Protection Agency

**OVERARCHING QUESTIONS**

- What is the role of science and technology at the EPA?
- What is the EPA's approach to scientific integrity across the agency?
- How does the EPA utilize science in its decision-making processes?
- What role did internal and external scientific review play in recent regulatory and deregulatory actions the EPA has taken?

**BACKGROUND**

Since it was established in 1970, science has been the backbone of decision-making at the EPA. The EPA was founded to consolidate federal research, monitoring, standard-setting, and enforcement activities around environmental protection into one agency.<sup>1</sup> In order to meet its mission to protect human health and the environment, "EPA works to ensure that national efforts to reduce environmental risks are based on the best available scientific information."<sup>2</sup>

*Role of Science within EPA*

EPA is required by various statutes to support decisions with sound science. The central statute for EPA research is the 1978 Environmental Research, Development, and Demonstration

<sup>1</sup> U.S. EPA, "The Origins of the EPA," Accessed here: <https://www.epa.gov/history/origins-epa>

<sup>2</sup> U.S. EPA, "Our Mission and What We Do," Accessed here: <https://www.epa.gov/aboutepa/our-mission-and-what-we-do>

Authorization Act (ERDDAA).<sup>3</sup> ERDDAA broadly authorized environmental research at EPA and established the non-regulatory Office of Research and Development (ORD) to house research programs and created the Science Advisory Board (SAB). Other landmark environmental statutes that grant authority to EPA to conduct R&D include: the Clean Air Act (CAA);<sup>4</sup> the Safe Drinking Water Act (SDWA);<sup>5</sup> the Clean Water Act (CWA);<sup>6</sup> and the Toxic Substances Control Act (TSCA).<sup>7</sup>

Research and development activities fall under EPA’s Science and Technology Account. The budget authority for S&T has been following a downward trend since FY 2010, despite an increase in the total agency budget authority in FY2018. The FY2019 S&T budget for EPA was \$693 million, down 29% since 2010.

**Table 1. U.S. Environmental Protection Agency (EPA) Discretionary “Budget Authority” (Actual) as Reported by the Office of Management and Budget: Total, Science and Technology (S&T) Account, and Research and Development (R&D) FY2010 - FY2020**  
(billions of dollars adjusted for inflation, FY2018 dollars)

Fiscal Year	Total U.S. EPA	U.S. EPA Total S&T	U.S. EPA R&D
2010	\$11.758	\$0.972	\$0.676
2011	\$9.757	\$0.914	\$0.656
2012	\$9.320	\$0.876	\$0.627
2013	\$9.175	\$0.806	\$0.576
2014	\$8.713	\$0.806	\$0.573
2015	\$8.545	\$0.772	\$0.549
2016	\$8.466	\$0.765	\$0.516
2017	\$8.357	\$0.722	\$0.508
2018	\$8.900	\$0.707	\$0.492
2019 Estimated	\$8.647	\$0.693	\$0.479
<b>President’s Budget Request</b>			
2020 Estimated	\$5.830	\$0.423	\$0.274

**Source:** Prepared by the Congressional Research Service (CRS) based on data reported by the White House Office of Management and Budget (OMB) documents accompanying the President’s annual budget requests for FY2010 through FY2020 available at <https://www.govinfo.gov/app/collection/BUDGET/>. U.S. EPA Totals are as reported in *Budget of the United States Government Fiscal Year 2020, Historical Tables*, Table 5.4; Science and Technology account and EPA R&D as reported in *Federal Budget (Programs) by Agency and Account* (table numbers vary from fiscal year to fiscal year), and *Research and Development* (table numbers vary from fiscal year to fiscal year) respectively as reported in *Analytical Perspectives*, included with President’s budgets for FY2010 through FY2020.

**Notes:** As defined by OMB: “Budget authority (BA) means the authority provided by law to incur financial obligations that will result in outlays. The specific forms of budget authority are appropriations, borrowing authority, contract authority, and spending authority from offsetting collections.....” Section 20 – Terms and Concepts of OMB Circular A-

<sup>3</sup> PL95-155

<sup>4</sup> PL88-206

<sup>5</sup> PL93-523

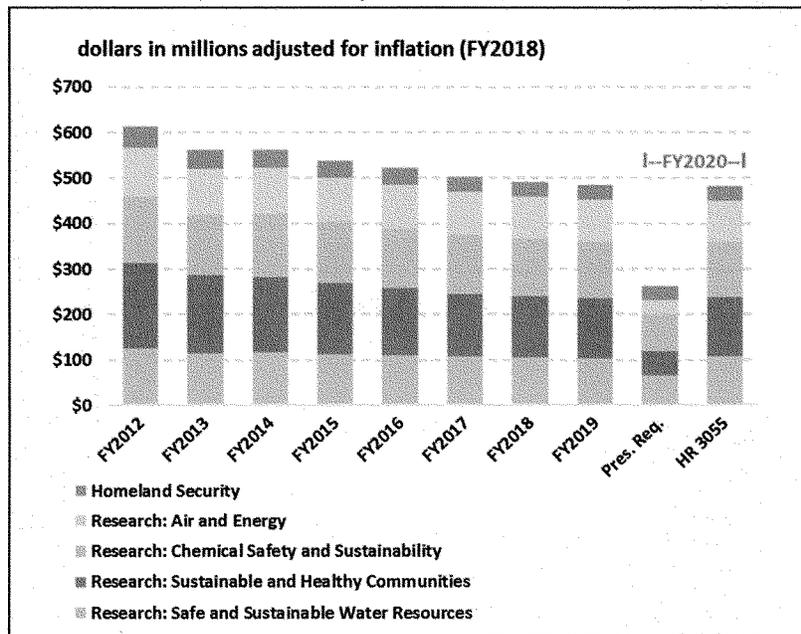
<sup>6</sup> PL92-500

<sup>7</sup> PL94-469

11 (2016)(see section 20.4), available at [https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/a11\\_current\\_year/s20.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/a11_current_year/s20.pdf). All amounts have been adjusted for inflation in FY2018 dollars by CRS using the “GDP (Chained) Priced Index” reported by OMB in *Budget of the United States Government Fiscal Year 2020, Historical Tables, Table 10.1—Gross Domestic Product and Deflators Used in the Historical Tables - 1940–2024*.

EPA ORD is comprised of six national research programs that engage with external partners and work to meet the agency’s mission through robust research and development on the most pressing environmental concerns. The research programs include: Air and Energy, Chemical Safety for Sustainability, Human Health Risk Assessment, Homeland Security, Safe and Sustainable Water Resources, and Sustainable and Healthy Communities. Figure 1. shows enacted appropriations for the six research programs within the Science & Technology Account since 2012. Appropriations levels for each research program can be found in Table 2 in Appendix A at the end of this charter.

**Figure 1. U.S. EPA Science and Technology Account: Selected Programs Enacted Appropriations FY2010-FY2019 and Proposed FY2020**  
(millions of dollars adjusted for inflation, FY2018 dollars)



Source: Prepared by the Congressional Research Service using the most recent information available from annual appropriations acts, committee reports accompanying the annual appropriations bills that fund the Environmental Protection Agency (EPA), and explanatory statements published in the *Congressional Record*. The FY2013 post-sequestration enacted

amounts are as reported in EPA's FY2013 Operating Plan and reflect the application of a 0.2% across-the-board rescission, and the application of sequestration under the Budget Control Act of 2011 (BCA, P.L. 112-25).

**Notes:** All amounts presented in the table have been adjusted for inflation in FY2018 dollars by CRS using the "GDP (Chained) Priced Index" reported by the White House Office of Management and Budget (OMB), *Budget of the United States Government Fiscal Year 2020, Historical Tables*, Table 10.1—Gross Domestic Product and Deflators Used in the Historical Tables - 1940–2024.

EPA's Annual Congressional Budget Justifications for FY2012-FY2020 report requested appropriation amounts for "Human Health Risk Assessment" as a sub-program line item activity under the sub-account program activity heading "Research: Chemical Safety and Sustainability" within the S&T appropriations account. See EPA's Planning, Budget, and Results website at <https://www.epa.gov/planandbudget> for the FY2020 and prior fiscal year budget justifications.

The amounts for the Total S&T Account reflect rescissions and supplemental appropriations and include transfers from the EPA Hazardous Substance Superfund appropriations account.

Prior to FY2018, the title for the sub-account heading "Research: Air and Energy," was "Research: Air, Climate and Energy."

ORD's six research programs are currently supported by a network of four national centers, three national research laboratories, and the independent Office of Science Advisor (OSA) and Office of Science Policy (OSP) spread out across 13 facilities nationwide.<sup>8</sup> In addition to ORD laboratories, some program offices within EPA have their own laboratories to help support regulatory implementation, and each of EPA's 10 regional offices have regional laboratories to support the states and territories within their region.<sup>9</sup>

ORD supports extramural research to supplement its intramural research primarily through the Science to Achieve Results (STAR) program. In FY2016, the funding for STAR fellowships for graduate students was eliminated to consolidate graduate fellowships at the National Science Foundation. However, in 2017 the National Academies of Sciences, Engineering, and Medicine (NASEM) released a study entitled *A Review of the Environmental Protection Agency's Science to Achieve Results Research Program* which found that "STAR plays a distinctive role in the nation's overall environmental-research portfolio," and recommended that EPA "continue to use STAR to respond to the nation's emerging environmental challenges."<sup>10</sup> The STAR program has been proposed for elimination in the President's Budget Request for FY2018-FY2020.<sup>11</sup>

In September 2018, EPA informed staff that the independent Office of Science Advisor (OSA) would be eliminated and its duties merged with ORD's Office of Science Policy as part of a

<sup>8</sup> U.S. EPA, "About the Office of Research and Development (ORD)," Accessed here: <https://www.epa.gov/aboutepa/about-office-research-and-development-ord>

<sup>9</sup> U.S. EPA, "About EPA," Accessed here: <https://www.epa.gov/aboutepa>

<sup>10</sup> The National Academies of Sciences, Engineering, and Medicine. *A Review of the Environmental Protection Agency's Science to Achieve Results Research Program*. June 15, 2017. <https://doi.org/10.17226/24757>

<sup>11</sup> U.S. EPA Fiscal Year 2018 Justification of Appropriations Estimates for the Committee on Appropriations. May 2017. <https://www.epa.gov/sites/production/files/2017-05/documents/fy-2018-congressional-justification.pdf>; U.S. EPA Fiscal Year 2019 Justification of Appropriations Estimates for the Committee on Appropriations. February 2018. <https://www.epa.gov/sites/production/files/2018-02/documents/fy-2019-congressional-justification-all-tabs.pdf>; U.S. EPA Fiscal Year 2020 Justification of Appropriations Estimates for the Committee on Appropriations. March 2019. <https://www.epa.gov/sites/production/files/2019-03/documents/fy-2020-congressional-justification-all-tabs.pdf>

broader reorganization of ORD.<sup>12</sup> The proposed ORD reorganization would combine the existing four national centers and three national research laboratories into a total of four new centers.<sup>13</sup>

#### *Scientific Integrity at the EPA*

In accordance with the American COMPETES Act of 2007,<sup>14</sup> EPA established its scientific integrity policy in 2012.<sup>15</sup> A 2019 GAO report found that EPA's internal scientific integrity policy is generally consistent with 2010 OSTP guidance on scientific integrity, which focuses on four principles: scientific integrity in government, public communications, use of federal advisory committees, and professional development of scientists and engineers.<sup>16</sup> This policy describes science as the "backbone" of EPA decisions. It states that the success of EPA's mission to protect human health and the environment is dependent on scientific integrity, including that all EPA employees "conduct, utilize, and communicate" science with transparency. Further, it specifies that in order "[t]o operate an effective science and regulatory agency like the EPA, it is also essential that political or other officials not suppress or alter scientific findings."<sup>17</sup>

On August 29, 2019 the EPA Office of Inspector General (OIG) announced<sup>18</sup> that it is initiating an evaluation based on a request from this Committee<sup>19</sup> regarding its May 23, 2017 hearing, *Expanding the Role of States in EPA Rulemaking*.<sup>20</sup> The OIG will examine reports that a senior EPA political appointee acquired testimony by Dr. Deborah Swackhamer, a member of EPA's Board of Scientific Counselors (BOSC), in advance of the hearing, and then pressured Dr. Swackhamer to change her testimony. The OIG will investigate whether employees in the Administrator's office received training on federal prohibitions against interfering with or intimidating Congressional witnesses.

#### *Scientific Advice at the EPA*

EPA solicits internal scientific advice on agency actions through the Office of Science Policy and the Office of Science Advisor. ORD's Office of Science Policy (OSP) works to coordinate and integrate scientific information and advice across ORD, and between ORD and other EPA

<sup>12</sup> Davenport, Coral. The New York Times. *E.P.A. to Eliminate Office That Advises Agency Chief on Science*. September 27, 2018. <https://www.nytimes.com/2018/09/27/climate/epa-science-adviser.html>

<sup>13</sup> Hegstad, Maria. Inside EPA.com. *ORD Reorganization Plan Prompts Mixed Reaction From EPA Employees*. October 10, 2018. <https://insideepa.com/daily-news/ord-reorganization-plan-prompts-mixed-reaction-epa-employees>

<sup>14</sup> PL110-69

<sup>15</sup> U.S. Government Accountability Office. "Scientific Integrity Policies: Additional Actions Could Strengthen Integrity of Federal Research," April, 2019, GAO-19-265. Accessed here: <https://www.gao.gov/assets/700/698231.pdf>

<sup>16</sup> Ibid.

<sup>17</sup> U.S. EPA, "Scientific Integrity Policy, 2012". Accessed here: [https://www.epa.gov/sites/production/files/2014-02/documents/scientific\\_integrity\\_policy\\_2012.pdf](https://www.epa.gov/sites/production/files/2014-02/documents/scientific_integrity_policy_2012.pdf)

<sup>18</sup> U.S. EPA, "Project Notification: Response to Congressional Request Over Concerns with EPA Access to Witness Testimony Prior to Hearing Project No. OA&E-FY19-0313". August 29, 2019, Accessed here: [https://www.epa.gov/sites/production/files/2019-08/documents/epaig\\_notificationmemo\\_8-29-19\\_witness testimony.pdf](https://www.epa.gov/sites/production/files/2019-08/documents/epaig_notificationmemo_8-29-19_witness testimony.pdf)

<sup>19</sup> House Committee on Science, Space, and Technology. "Letter to EPA Inspector General Elkins Requesting Investigation into Interference with Dr. Swackhamer's Testimony to Committee," June 26, 2107, Accessed here: <https://science.house.gov/news/letters/letter-to-epa-inspector-general-elkins-requesting-investigation-into-interference-with-dr-swackhamers-testimony-to-committee>

<sup>20</sup> U.S. House of Representatives Committee Repository, "Committee of Science, Space, and Technology, Subcommittee on Environment Hearing: Expanding the Role of States in EPA Rulemaking" May 23, 2017, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106025>

program and regional offices, and external entities.<sup>21</sup> EPA's Office of Science Advisor works across the EPA to ensure the highest caliber science is integrated into the agency's policies and decisions. The EPA Science Advisor chairs the agency's Science and Technology Policy Council (STPC), "which reviews selected science issues that have implications across program and regional offices."<sup>22</sup> At the March 27, 2019 joint subcommittee hearing *EPA's IRIS Program: Review its Progress and Roadblocks Ahead*, EPA Science Advisor Dr. Jennifer Orme-Zavaleta noted that the STPC was not involved in the development of the "Strengthening Transparency in Regulatory Science" proposed rule prior to its publication in the Federal Register.<sup>23</sup> Plans to reorganize ORD would eliminate the independent OSA and merge it with ORD's OSP and other management offices.<sup>24</sup>

EPA's also receives external, independent scientific advice from 22 science advisory committees. The most active and influential among them are the Science Advisory Board (SAB), the Clean Air Scientific Advisory Committee (CASAC), and the Board of Scientific Counselors (BOSC). For more background, see the charter<sup>25</sup> and addendum<sup>26</sup> for the July 16, 2019 hearing in this Committee, *EPA Advisory Committees: How Science Should Inform Decisions*.

On June 14, 2019, President Trump issued an Executive Order on *Evaluating and Improving the Utility of Federal Advisory Committees*,<sup>27</sup> requiring termination of at least one third of all non-statutorily required Federal Advisory Committees by September 30, 2019 and setting a government-wide maximum of 350 FACs. EPA has 10 Committees that would be at risk of elimination, including the Board of Scientific Counselors, the Children's Health Protection Advisory Committee and the National Environmental Justice Advisory Council. The implementation of this EO at EPA remains an ongoing oversight issue for the Committee.<sup>28</sup>

#### *Regulatory and Deregulatory Actions at EPA*

EPA has acted to roll back at least 35 regulations since January 2017. These deregulatory actions range in progress from the first notice of planned action in the Regulatory Agenda, to a formal Notice of Proposed Rulemaking, to a finalized rule.<sup>29</sup> On January 30, 2017, President Trump

<sup>21</sup> U.S. EPA. "About the Office of Science Policy (OSP)". Accessed here: <https://www.epa.gov/aboutepa/about-office-science-policy-osp>

<sup>22</sup> U.S. EPA. "About the Office of the Science Advisor." Accessed here: <https://www.epa.gov/aboutepa/about-office-science-advisor>

<sup>23</sup> House Committee on Science, Space, and Technology. "EPA's IRIS Program: Reviewing its Progress and Roadblocks Ahead." March 27, 2019. Accessed here: <https://science.house.gov/hearings/epas-iris-program-reviewing-its-progress-and-roadblocks-ahead>

<sup>24</sup> Hegstad, Maria. Inside EPA. *ORD Overhaul on Schedule to Begin in FY20 As OPPT Reform Stalls*. August 13, 2019. <https://insideepa.com/daily-news/ord-overhaul-schedule-begin-fy20-oppt-reform-stalls>

<sup>25</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, Hearing Charter: EPA Advisory Committees: How Science Should Inform Decisions, July 16, 2019, Accessed here:

<https://docs.house.gov/meetings/SY/SY21/20190716/109799/HHRG-116-SY21-20190716-SD002.pdf>

<sup>26</sup> Ibid.

<sup>27</sup> Executive Order 13875, "Evaluating and Improving the Utility of Federal Advisory Committees," June 14, 2019, accessed here: <https://www.federalregister.gov/documents/2019/06/19/2019-13175/evaluating-and-improving-the-utility-of-federal-advisory-committees>

<sup>28</sup> House Committee on Science, Space, and Technology. "Letter to Department and Agency Heads on Trump Administration's FACA Executive Order," July 12, 2019, Accessed here: <https://science.house.gov/letter-to-department-and-agency-heads-on-trump-administrations-faca-executive-order>

<sup>29</sup> U.S. EPA. "EPA Deregulatory Actions," Accessed here: <https://www.epa.gov/laws-regulations/epa-deregulatory-actions>

issued an Executive Order on *Reducing Regulation and Controlling Regulatory Costs*, which required federal agencies to cut two existing regulations for every new regulation. An August 9, 2019 the EPA Office of Inspector General found that in the EPA far exceeded this deregulatory goal (26 deregulations and 4 regulations).<sup>30</sup> The OIG notes that EPA has not developed adequate internal guidance for implementation of the Order. OIG recommended that EPA enhance transparency around the Order's implementation by releasing more information to the public and allowing for more stakeholder input. The agency did not concur with any of these recommendations.

The March 28, 2017 Executive Order on *Promoting Energy Independence and Economic Growth* also has implications for the use of science in deregulatory actions, in its requirement of agencies to review actions that “potentially burden the safe, efficient development of domestic energy resources.”<sup>31</sup> The executive order directed EPA to review and “suspend, revise, or rescind” the Clean Power Plan and several other regulations including those regulating greenhouse gases from oil and gas facilities, cars and light trucks, and new power plants. The Committee has conducted oversight on select regulatory and deregulatory actions by the EPA, which are listed in Appendix B at the end of this charter.

---

<sup>30</sup> U.S. EPA Office of Inspector General, “EPA Exceeded the Deregulatory Goals of Executive Order 13771, Report No. 19-P-0267,” Accessed here: [https://www.epa.gov/sites/production/files/2019-08/documents/\\_epaig\\_20190809-19-p-0267.pdf](https://www.epa.gov/sites/production/files/2019-08/documents/_epaig_20190809-19-p-0267.pdf)

<sup>31</sup> Executive Order 13783, “Promoting Energy Independence and Economic Growth,” March 28, 2017, accessed here: <https://www.federalregister.gov/documents/2017/03/31/2017-06576/promoting-energy-independence-and-economic-growth>

## Appendix A – EPA Science and Technology Account Enacted Appropriations

**Table 2. U.S. EPA Science and Technology Account: Selected Programs and Total Enacted Appropriations FY2012-FY2019 and Proposed FY2020**  
(millions of dollars adjusted for inflation, FY2018 dollars)

EPA Science and Technology Account: Selected Programs							
Fiscal Year	Homeland Security	Research: Air and Energy	Research: Chemical Safety and Sustainability	Research: Sustainable and Healthy Communities	Research: Safe and Sustainable Water Resources	Total for Selected S&T Activities	Total S&T Account
2012	\$46.29	\$109.03	\$144.81	\$188.33	\$125.16	\$613.62	\$900.83
2013	\$42.55	\$100.61	\$133.54	\$170.50	\$115.57	\$562.77	\$829.13
2014	\$40.75	\$100.91	\$139.01	\$164.67	\$117.96	\$563.30	\$827.03
2015	\$38.97	\$96.48	\$133.25	\$157.44	\$112.78	\$538.92	\$791.00
2016	\$38.61	\$95.60	\$132.03	\$145.60	\$111.75	\$523.59	\$783.77
2017	\$33.84	\$93.90	\$129.68	\$137.24	\$108.56	\$503.22	\$737.62
2018	\$33.12	\$91.91	\$126.93	\$134.33	\$106.26	\$492.54	\$721.97
2019	\$32.46	\$93.02	\$124.40	\$131.65	\$104.14	\$485.68	\$707.50
<b>FY2020 Proposed</b>							
Requested	\$31.51	\$30.46	\$83.15	\$51.52	\$67.20	\$263.84	\$461.87
H.R. 3055	\$33.06	\$91.64	\$121.92	\$129.03	\$108.79	\$484.44	\$728.22

**Source:** Prepared by the Congressional Research Service (CRS) using the most recent information available from annual appropriations acts, committee reports accompanying the annual appropriations bills that fund the Environmental Protection Agency (EPA), and explanatory statements published in the *Congressional Record*. The FY2013 post-sequestration enacted amounts are as reported in EPA's FY2013 Operating Plan and reflect the application of a 0.2% across-the-board rescission, and the application of sequestration under the Budget Control Act of 2011 (BCA, P.L. 112-25).

**Notes:** All amounts presented in the table have been adjusted for inflation in FY2018 dollars by CRS using the "GDP (Chained Priced Index)" reported by the White House Office of Management and Budget (OMB), *Budget of the United States Government Fiscal Year 2020, Historical Tables*, Table 10.1—*Gross Domestic Product and Deflators Used in the Historical Tables - 1940–2024*.

EPA's Annual Congressional Budget Justifications for FY2012-FY2020 report requested appropriation amounts for "Human Health Risk Assessment" as a sub-program line item activity under the sub-account program activity heading "Research: Chemical Safety and Sustainability" within the S&T appropriations account. See EPA's Planning, Budget, and Results website at <https://www.epa.gov/planandbudget> for the FY2020 and prior fiscal year budget justifications.

The amounts for the Total S&T Account reflect rescissions and supplemental appropriations and include transfers from the EPA Hazardous Substance Superfund appropriations account.

Prior to FY2018, the title for the sub-account heading "Research: Air and Energy," was "Research: Air, Climate and Energy."

### Appendix B: Select Deregulatory Actions taken by the EPA

**Defining Waters of the United States Rule:** On September 12, 2019 EPA announced that it has finalized its repeal of the 2015 Waters of the United States (WOTUS) regulation.<sup>32</sup> WOTUS had clarified which freshwater bodies are subject to pollution standards under the CWA. The EPA plans to propose a new rule with a definition that would include fewer waterways than in the 2015 Rule and which lessens existing protections. This Committee has held hearings on proposed definitions of “Waters of the United States” under multiple administrations.<sup>33,34</sup>

**EPA Methane and VOC Standards for Oil and Gas Facilities:** On August 29, 2019, EPA released a proposal to roll back Obama-era New Source Performance Standards (NSPS) for volatile organic compounds (VOCs) and methane, a rule which was originally finalized on June 3, 2016. The proposal rescinds emission limits for methane in oil and gas production.<sup>35</sup>

**Coal Ash Rule:** On July 29, 2019<sup>36</sup> and August 6, 2019,<sup>37</sup> EPA proposed changes to rules finalized in 2015 that address disposal of coal ash, a type of industrial waste produced when coal is burned at power plants. EPA has proposed to eliminate a requirement that companies had to prove that coal ash deposits of a certain size won’t harm the environment, to revise groundwater monitoring requirements, and to postpone retrofits to coal ash ponds.

**Corporate Average Fuel Economy (CAFE) Standards:** On August 2, 2019 EPA and National Highway Transportation Safety Administration (NHTSA) finalized changes to the greenhouse gas emissions standards and fuel economy standards for cars and light trucks of model years 2021-2026, originally set in 2012 and affirmed in 2017. The new versions of the standards propose maintaining the CAFE and greenhouse gas standards applicable in model year 2020 until 2026, rather than tightening the standards over time.<sup>38</sup>

**Bristol Bay / Pebble Mine:** Pebble Limited Partnership has proposed to build an open pit mine in the Bristol Bay watershed in Alaska, a culturally and economically important location for fishing interests and Alaska Natives. On July 30, 2019, EPA rescinded a long-standing proposed

<sup>32</sup> U.S. EPA, “EPA, Army Repeal 2015 Rule Defining ‘Waters of the United States’ Ending Regulatory Patchwork,” Accessed here: <https://www.epa.gov/newsreleases/epa-us-army-repeal-2015-rule-defining-waters-united-states-ending-regulatory-patchwork>

<sup>33</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, Subcommittee on Environment, “Hearing The Future of WOTUS: Examining the Role of States,” November 29, 2017, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106660>

<sup>34</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, “Hearing: Navigating the Clean Water Act: Is Water Wet?,” July 9, 2014, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=102476>

<sup>35</sup> U.S. EPA, “EPA Proposes Updates to Air Regulations for Oil and Gas to Remove Redundant Requirements and Reduce Burden,” August 29, 2019, Accessed here: <https://www.epa.gov/newsreleases/epa-proposes-updates-air-regulations-oil-and-gas-remove-redundant-requirements-and>

<sup>36</sup> U.S. Federal Register, “Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Enhancing Public Access to Information; Reconsideration of Beneficial Use Criteria and Piles,” August 14, 2019, Accessed here: <https://www.federalregister.gov/documents/2019/08/14/2019-16916/hazardous-and-solid-waste-management-system-disposal-of-coal-combustion-residuals-from-electric>

<sup>37</sup> E&E News, “EPA sends regulatory changes to White House,” August 9, 2019, Accessed here: <https://www.eenews.net/eenewspm/2019/08/09/stories/1060898801>

<sup>38</sup> U.S. Federal Register, “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks; Extension of Comment Period,” September 26, 2018 accessed here: <https://www.federalregister.gov/documents/2018/09/26/2018-20962/the-safer-affordable-fuel-efficient-safe-vehicles-rule-for-model-years-2021-2026-passenger-cars-and>

determination to restrict waste disposal in the area under the CWA.<sup>39</sup> This Committee previously held a hearing examining this proposed project.<sup>40</sup>

Chlorpyrifos Pesticide Use: On July 18, 2019, EPA announced that it would not ban chlorpyrifos, a highly toxic pesticide, saying that its health risks were not supported by “valid, complete, and reliable evidence.” EPA had initially indicated it would delay action on chlorpyrifos until 2022, but the U.S. Court of Appeals for the Ninth Circuit ordered a response.<sup>41</sup>

Once-in, Always-in Rule for Major Sources under the Clean Air Act: On June 25, 2019 EPA released a proposed rule addressing major sources, as defined under the CAA, of hazardous air pollutants (HAPs), which include benzene and metals. If major sources limit their emissions below a certain threshold, they are subject to lower requirements for pollution control technology and compliance.<sup>42</sup>

Affordable Clean Energy Rule, replacement to the Clean Power Plan: On June 19, 2019 EPA released its finalized Affordable Clean Energy (ACE) Rule along with the final repeal of the Clean Power Plan (CPP). The CPP set greenhouse gas emission limits for the power sector to 32% below 2005 levels by 2030. The ACE Rule determines that EPA only has authority to regulate emissions with modifications within the “fenceline” of individual power plants, which limits the required changes to minor heat rate improvements at coal-fired plants.<sup>43</sup> This Committee has previously held a hearing on the original Clean Power Plan.<sup>44</sup>

Mercury and Air Toxics Standards: On December 28, 2018 EPA released a proposal<sup>45</sup> to review the 2016 Supplemental Finding that the benefits of the Mercury and Air Toxics Standards outweigh their cost because of enormous health benefits. The new proposal would limit consideration of co-benefits in regulation.

Ozone National Ambient Air Quality Standards: On December 6, 2018 EPA finalized a rule which implemented requirements for the 2015 NAAQS, after delaying a version of the standards

<sup>39</sup> U.S. Federal Register, “Public Hearings: Proposal To Withdraw Proposed Determination To Restrict the Use of an Area as a Disposal Site; Pebble Deposit Area, Southwest Alaska,” September 21, 2017 accessed here: <https://www.federalregister.gov/documents/2017/09/21/2017-20065/public-hearings-proposal-to-withdraw-proposed-determination-to-restrict-the-use-of-an-area-as-a>

<sup>40</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, “Hearing: Examining EPA’s Predetermined Efforts to Block the Pebble Mine,” November 5, 2015, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=104078>

<sup>41</sup> U.S. Federal Register, “Chlorpyrifos; Final Order Denying Objections to March 2017 Petition Denial Order,” July 24, 2019 accessed here: <https://www.federalregister.gov/documents/2019/07/24/2019-15649/chlorpyrifos-final-order-denying-objections-to-march-2017-petition-denial-order>

<sup>42</sup> U.S. Federal Register, “Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act,” June 26, 2019, Accessed here: <https://perma.cc/GYW9-WAR2>

<sup>43</sup> U.S. Federal Register, “Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” October 16, 2017, Accessed here: <https://www.federalregister.gov/documents/2017/10/16/2017-22349/repeal-of-carbon-pollution-emission-guidelines-for-existing-stationary-sources-electric-utility>

<sup>44</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, “Hearing: Impact of EPA’s Clean Power Plan on States,” May 26, 2016, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=105002>

<sup>45</sup> U.S. EPA, “EPA Releases Proposal to Revise MATS Supplemental Cost Finding and “Risk and Technology Review,” December 28, 2018, Accessed here: <https://www.epa.gov/newsreleases/epa-releases-proposal-revise-mats-supplemental-cost-finding-and-risk-and-technology>

written under the Obama administration, which were originally slated to go into effect October 1, 2017.<sup>46</sup> This Committee previously held a hearing on the 2015 Ozone NAAQS.<sup>47</sup>

GHG New Source Performance Standards for Power Plants: On December 6, 2018 EPA released a proposed rule to amend the October 23, 2015 rule, GHG New Source Performance Standards for Power Plants, eliminating the determination of partial carbon capture and storage as the best system of emission reduction (BSER). The original determination would have required new coal plants to install carbon capture systems.<sup>48</sup>

Strengthening Transparency in Regulatory Science: On April 30, 2018 EPA proposed a rule that would prohibit the use of studies whose underlying research data are not publicly available for “independent validation.”<sup>49</sup> On June 28, 2018, EPA’s Science Advisory Board (SAB) wrote to then-Administrator Pruitt that it would review the scientific and technical basis for the proposed rule.<sup>50</sup> The SAB raised concerns in the letter that it is “had no information regarding the timeline for finalizing the rule and the proposed rule was not identified as a major action in either of the Spring 2017 or Fall 2017 semi-annual Regulatory Agenda,” and that “the precise design of the proposed rule appears to have been developed without a public process for soliciting input specifically from the scientific community.” SAB has noted it will miss next month’s deadline for completing its independent assessment.<sup>51</sup>

Heavy-Duty Truck “Glider Kit” Rule: Glider Kits are new trucks consisting of a new heavy-duty truck chassis into which a buyer can install an old engine. In 2016, EPA and the National Highway Transportation Safety Administration (NHTSA) issued joint regulations of glider kits, including emissions regulations based on the year the entire truck, not simply the engine, was manufactured. On November 16, 2017, EPA issued a proposal to repeal the emissions requirements for gliders.<sup>52</sup> This Committee previously held a hearing on glider truck regulations.<sup>53</sup>

<sup>46</sup> U.S. Federal Register, “Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area State Implementation Plan Requirements,” December 6, 2018, Accessed here: <https://www.federalregister.gov/documents/2018/12/06/2018-25424/implementation-of-the-2015-national-ambient-air-quality-standards-for-ozone-nonattainment-area-state>

<sup>47</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, “Hearing: EPA’s 2015 Ozone Standard: Concerns Over Science and Implementation,” October 22, 2015, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=104077>

<sup>48</sup> U.S. Federal Register, “Review of Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” December 20, 2018, Accessed here: <https://www.federalregister.gov/documents/2018/12/20/2018-27052/review-of-standards-of-performance-for-greenhouse-gas-emissions-from-new-modified-and-reconstructed>

<sup>49</sup> E&E News, “EPA’s controversial ‘secret science’ plan still lacks key details, advisers say,” August 28, 2019, Accessed here: <https://www.sciencemag.org/news/2019/08/epa-s-controversial-secret-science-plan-still-lacks-key-details-advisers-say>

<sup>50</sup> [https://yosemite.epa.gov/sab%5Csabproduct.nsf/4ECB44CA28936083852582BB004ADE54/\\$File/EPA-SAB-18-003+Unsigned.pdf](https://yosemite.epa.gov/sab%5Csabproduct.nsf/4ECB44CA28936083852582BB004ADE54/$File/EPA-SAB-18-003+Unsigned.pdf)

<sup>51</sup> U.S. EPA, “Science Advisory Board (SAB) Consideration of EPA Proposed Rule: Strengthening Transparency in Regulatory Science,” June 28, 2018, Accessed here: [https://yosemite.epa.gov/sab%5Csabproduct.nsf/4ECB44CA28936083852582BB004ADE54/\\$File/EPA-SAB-18-003+Unsigned.pdf](https://yosemite.epa.gov/sab%5Csabproduct.nsf/4ECB44CA28936083852582BB004ADE54/$File/EPA-SAB-18-003+Unsigned.pdf)

<sup>52</sup> U.S. Federal Register, “Repeal of Emissions Requirements for Glider Vehicles, Glider Engines, and Glider Kits,” <https://www.govinfo.gov/content/pkg/FR-2017-11-16/pdf/2017-24884.pdf>

<sup>53</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, “Joint Hearing: Examining the Underlying Science And Impacts of Glider Truck Regulations,” September 13, 2018, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=108674>

The Social Cost of Carbon: In its October 10, 2017 proposal to repeal the Clean Power Plan, EPA introduced a new approach to calculating the social cost of carbon. This method would count only direct domestic benefits of mitigation of greenhouse gas emissions, rather than considering potential benefits worldwide. It also uses a higher discount rate (7%) than lower rates used in standard economic analyses (e.g. 3%), devaluing future cost-savings. As a result, the Trump Administration estimated the social cost of carbon at \$1, differing from April 2016 estimates of \$42. The final rule was published in July 2019.<sup>54</sup> This Committee previously held a hearing on the Social Cost of Carbon.<sup>55</sup>

---

<sup>54</sup> U.S. Federal Register. "Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations." July 8, 2019. Accessed here: <https://www.govinfo.gov/content/pkg/FR-2019-07-08/pdf/2019-13507.pdf>

<sup>55</sup> U.S. House of Representatives, Committee of Science, Space, and Technology, "Joint Hearing: At What Cost? Examining the Social Cost of Carbon," February 28, 2107, Accessed here: <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=105632>

Chairwoman JOHNSON. This hearing will come to order. Without objection, the Chair is authorized to declare a recess at any time.

Good morning. The Administrator's staff has informed us that he must leave this hearing at noon, leaving less than 2 hours for Member questions. So in order to afford more Members the opportunity to engage with the Administrator, I've asked that each Member be limited to a total of 4 minutes to ask questions. Without objection, so ordered.

I want to note for the record that we received Administrator Wheeler's testimony less than 24 hours before the start of the hearing. We did give sufficient notice for this hearing, and it is important for Members and staff to be able to review testimony prior to the hearing to properly prepare. We expect that in the future hearings we'll receive the EPA's testimony at least 48 hours in advance.

I'd like to welcome our Administrator—good morning, Mr. Wheeler—to the Committee on Science, Space, and Technology for the first time. The Members of this Committee look forward to your testimony today and as we all understand and value the important role the EPA plays in the health, safety, and prosperity in our communities.

I know I speak for many of my colleagues when I say that our constituents also understand the importance of a strong EPA, and they are paying attention to the decisions being made here in Washington. They reach out to us when they hear about the dismantling of clean air standards because they are concerned that it could exacerbate their children's asthma. They reach out to us when EPA's own IRIS (Integrated Risk Information System) assessments show that chemicals being released from nearby facilities could pose serious health risks to their families. They reach out to us because Congress has a responsibility to the American public to protect their best interests through dedicated oversight of the Federal agencies that are supposed to be protecting our health and safety.

This Administration has shown that its priorities do not lie with the average American. Draconian cuts in the President's budget requests have sought to cut funding for EPA's research and development (R&D) nearly in half. The research that EPA funds has been vital to the development of its landmark public health protections.

The research conducted and supported by EPA is not replicated by any other local, State, or Federal agency. Cutting this critical research to the levels proposed by this Administration would be an insurmountable loss to environmental science and public health. It is profoundly disturbing to see the actions this EPA has taken to dismantle many of its own standards and regulations that were established primarily to protect public health.

This Administration's push to deregulate seems to be led by political ideologies, with limited input from scientific experts. Remarkably, sometimes this Administration's zeal to roll back public health protection even exceeds the desires of industry.

Many Members of the regulated community have come out in opposition to EPA's recent actions to roll back regulations on glider trucks, methane emissions from the oil and gas industry, and EPA's unprecedented and ill-advised revocation of California's authority to set its own clean car standards.

Since the establishment of the EPA nearly 50 years ago, this country has shown that we can protect everyone, from our most vulnerable populations to our most healthy, without sacrificing economic growth. But it is naive to think that because the EPA has been so successful in accomplishing its mission over the past decades that we can now roll back regulations in order to benefit industry and expect no negative impacts on public health.

Environmental protection is an ongoing process. It requires the persistence that is exemplified by the dedicated scientists and engineers who work at EPA. These committed public servants have the full support of the American people. But they need your full support, Mr. Administrator, as well as full support of Congress, to help them continue to carry out the Agency's mission. Let me be clear, gutting the roles of science in EPA's regulatory and decisionmaking processes will not make our air safer to breathe or our water safer to drink.

As the congressional Committee with jurisdiction over research and development activities at EPA, my colleagues and I take our oversight role very seriously. We have attempted to engage with you and your staff on a number of occasions and issues that directly impact public health. We are still waiting for adequate responses from the Agency on many of these inquiries. Simply stating the total number of pages of documents provided to the Committee does not address whether they are responsive to the requests.

I hope this will not be the only time that we can see you before the Committee, and today marks the start of an open dialog between our Members and yourself. We look forward to working together with you to ensure that the best interests of the American public are at the heart of EPA's actions and that those actions are informed by the high-caliber science that distinguishes EPA on the world stage.

[The prepared statement of Chairwoman Johnson follows:]

Good morning. I would like to welcome Administrator Wheeler to the Committee on Science, Space, and Technology for the first time. The Members of this Committee look forward to your testimony today as we all understand and value the important role the EPA plays in the health, safety, and prosperity of our communities.

I know I speak for many of my colleagues when I say that our constituents also understand the importance of a strong EPA, and they are paying attention to the decisions being made here in Washington. They reach out to us when they hear about the dismantling of clean air standards, because they are concerned it could exacerbate their children's asthma. They reach out to us when EPA's own IRIS assessments show that chemicals being released from nearby facilities could pose serious health risks to their families.

They reach out to us because Congress has a responsibility to the American public to protect their best interests through dedicated oversight of the Federal agencies that are supposed to be protecting their health and safety.

This Administration has shown that its priorities do not lie with the average American. Draconian cuts in the President's budget requests have sought to cut funding for EPA's research and development nearly in half. The research that EPA funds has been vital to the development of its landmark public health protections. The research conducted and supported by the EPA is not replicated by any other local, state, or federal agency. Cutting this critical research to the levels proposed by this Administration would be an insurmountable loss to environmental science and public health.

It is profoundly disturbing to see the actions this EPA has taken to dismantle many of its own standards and regulations that were established primarily to protect public health. This Administration's push to deregulate seems to be led by political ideologues, with limited input from scientific experts. Remarkably, sometimes

this Administration's zeal to roll back public health protections even exceeds the desires of industry. Many members of the regulated community have come out in opposition to EPA's recent actions to roll back regulations on glider trucks, methane emissions from the oil and gas industry, and EPA's unprecedented and ill advised revocation of California's authority to set its own clean car standards.

Since the establishment of the EPA nearly 50 years ago, this country has shown that we can protect everyone, from our most vulnerable populations to our most healthy, without sacrificing economic growth. But it is naive to think that because the EPA has been so successful in accomplishing its mission over the past decades that we can now roll back regulations in order to benefit industry and expect no negative impacts to public health.

Environmental protection is an ongoing process. It requires the persistence that is exemplified by the dedicated scientists and engineers who work at the EPA. These committed public servants have the full support of the American people. But they need your full support, Mr. Administrator, as well as the full support of Congress, to help them continue to carry out the Agency's mission.

Let me be clear, gutting the role of science in EPA's regulatory and decision-making processes will not make our air safer to breathe, or our water safer to drink.

As the Congressional Committee with jurisdiction over research and development activities at EPA, my colleagues and I take our oversight role very seriously. We have attempted to engage with you and your staff, Mr. Administrator, on a number of issues that directly impact public health. We are still waiting for adequate responses from the Agency on many of these inquiries. Simply stating the total number of pages of documents provided to the Committee does not address whether they are responsive to our requests.

I hope this will not be the only time we see you before this Committee, and that today marks the start of an open dialogue between our Members and yourself. We look forward to working together with you to ensure that the best interests of the American public are at the heart of the EPA's actions, and that those actions are informed by the high-caliber science that distinguishes EPA on the world stage.

Chairwoman JOHNSON. The Chair now recognizes the Ranking Member, Mr. Lucas, for an opening statement.

Mr. LUCAS. Thank you, Chairwoman Johnson. And thank you, Administrator Wheeler, for being here today to discuss the EPA's Fiscal Year 2020 budget request.

The EPA is charged with the broad and vital mission of protecting our Nation's air, land, and water. From hazardous waste clean-up to protecting human health to setting clean air and water standards, the EPA's work affects every American.

While much of the EPA's regulatory mission falls under the jurisdiction of other congressional Committees, the Committee on Science, Space, and Technology oversees the EPA's work on environmental research and development. This R&D is critical to providing sound science needed for the EPA to effectively carry out their mission to protect our environment. I'm looking forward to a discussion about the role science and technology play in the Agency's mission, and I'd like to encourage my colleagues to focus on the important jurisdiction when questioning the Administrator.

In my many years on both the Ag and Science Committees, every discussion of the EPA included talk of overregulation. In the past, it seemed like instead of protecting the environment, the EPA was more focused on pursuing a political agenda that led to an expansive, and, I might add, expensive regulatory burdens.

Fortunately, this is no longer the case. Under the leadership of Administrator Wheeler, the EPA has shifted from top-down, one-size-fits-all regulations to a flexible, technology-driven approach that works with local communities to protect our environment and maintain economic growth. I'm confident that under the leadership of Administrator Wheeler, America will remain the gold standard of environmental protection around the world. And by leveraging

new technologies, we can protect our environment without imposing sweeping government mandates.

As the Ranking Member of the Science Committee, I may be biased, but I believe that technology should be the cornerstone of our efforts to reduce global emissions and address our environmental challenges. American industry is already making great strides by investing in technologies like carbon capture, advanced nuclear, and energy storage. EPA should encourage the adoption of innovative ways to monitor and reduce emissions, while allowing us to use all of our natural resources safely and effectively.

This is the kind of approach that has helped significantly improve air quality in the United States. According to the EPA's most recent air trends report, the number of unhealthy air days, along with the emissions of key air pollutants, have declined since 2000. Our fine particulate matter levels are 5-times lower than the global average. And we've made progress while growing our economy.

Under the Trump Administration, I've been pleased to see the EPA focus on using sound, transparent science to develop environmental solutions that will bring all the stakeholders to the table. If we want our policies to be successful, they need to be based on the best available science and also be achievable without damaging our economy. I believe the Administration is working hard on both.

I also want to take a moment and applaud Administrator Wheeler for finalizing the first step to repeal the Obama Administration's WOTUS (Waters of the United States) rule this week. This rule is exactly the wrong way to protect the environment, a Federal Government power grab that made it harder for farmers, ranchers, and landowners to do business. By returning to limited regulatory authority established under the *Clean Water Act*, the EPA has taken a balanced approach that both supports our environment and our economy.

But don't let anyone fool you. Rolling back this regulation had nothing to do with ignoring the science, and it won't lead to more pollution in our waterways. In fact, the Trump Administration has prioritized efforts to improve water quality by investing in water infrastructure.

Although the *Water Infrastructure Finance and Innovation Act* loan program and the State Revolving Funds program, the EPA has helped local communities modernize outdated infrastructure and improve water quality. This investment will improve the health and safety of our Nations' waterways and create jobs.

I'm sure that we'll hear criticisms of the EPA today. I hope that instead of falsely attacking the Agency as anti-science, or focusing on Administrator Wheeler's predecessor, we can make this a productive hearing where we honestly assess the work being done to protect the environment. I believe the EPA is on the right track and is working to find a science-based, collaborative approach to ensure all Americans and future generations can enjoy a cleaner, safer, healthier environment.

I want to thank Administrator Wheeler again for his hard work, along with all of the staff at the EPA, and I look forward to hearing his testimony this morning.

And I yield back, Madam Chair.

[The prepared statement of Mr. Lucas follows:]

Thank you, Chairwoman Johnson, and thank you Administrator Wheeler for being here today to discuss the EPA's fiscal year 2020 budget request.

The EPA is charged with the broad and vital mission of protecting our nation's air, land, and water. From hazardous waste clean-up to protecting human health to setting clean air and water standards, the EPA's work affects every American.

While much of the EPA's regulatory mission falls under the jurisdiction of other Congressional Committees, the Committee on Science, Space, and Technology oversees the EPA's work on environmental research and development. This R&D is critical to providing the sound science needed for the EPA to effectively carry out their mission to protect our environment.

I'm looking forward to a discussion about the role science and technology play in the agency's mission, and I'd like to encourage my colleagues to focus on this important jurisdiction when questioning the Administrator.

In my years on both the Agriculture and Science Committees, every discussion of the EPA included talk of overregulation. In the past, it seemed like instead of protecting the environment, the EPA was more focused on pursuing a political agenda that led to expansive, and might I add expensive, regulatory burdens.

Fortunately, that is no longer the case. Under the leadership of Administrator Wheeler, the EPA has shifted from top-down, one-size-fits-all regulations, to a flexible, technology-driven approach that works with local communities to protect our environment and maintain economic growth.

I'm confident that under the leadership of Administrator Wheeler, America will remain the gold standard of environmental protection around the world. And by leveraging new technologies, we can protect our environment without imposing sweeping government mandates.

As the Ranking Member of the Science Committee, I may be biased - but I believe that technology should be the cornerstone of our efforts to reduce global emissions and address our environmental challenges. American industry is already making great strides by investing in technologies like carbon capture, advanced nuclear, and energy storage.

EPA should encourage the adoption of innovative ways to monitor and reduce emissions, while allowing us to use all of our natural resources safely and effectively.

That is the kind of approach that has helped significantly improve air quality in the United States. According to the EPA's most recent air trends report, the number of unhealthy air days, along with the emissions of key air pollutants, have declined since 2000. Our fine particulate matter levels are five times lower than the global average. And we've made that progress while growing our economy.

Under the Trump Administration, I've been pleased to see the EPA focus on using sound, transparent science to develop environmental solutions that bring all the stakeholders to the table. If we want our policies to be successful, they need to be based on the best available science - and also be achievable without damaging our economy. I believe this Administration is working hard to do both.

I also want to take a moment and applaud Administrator Wheeler for finalizing the first step to repeal the Obama Administration's WOTUS rule this week. This rule was exactly the wrong way to protect the environment - a federal government power grab that made it harder for farmers, ranchers, and landowners to do business.

By returning to limited regulatory authority established under the *Clean Water Act*, the EPA has taken a balanced approach that supports both our environment and the economy.

But don't let anyone fool you. Rolling back this regulation had nothing to do with ignoring the science, and it won't lead to more pollution in our waterways. In fact, the Trump Administration has prioritized efforts to improve water quality by investing in water infrastructure.

Through the *Water Infrastructure Finance and Innovation Act* loan program and State Revolving Funds program, the EPA has helped local communities modernize outdated infrastructure and improve water quality. This investment will improve the health and safety of our nations' waterways and create jobs.

I'm sure that we will hear criticisms of the EPA today. I hope that instead of falsely attacking the Agency as anti-science, or focusing on Administrator Wheeler's predecessor, we can make this a productive hearing where we honestly assess the work being done to protect our environment. I believe the EPA is on the right track, and is working to find a science-based, collaborative approach to ensure all Americans and future generations can enjoy a cleaner, safer, and healthier environment.

I want to thank Administrator Wheeler again for his hard work, along with all the staff at the EPA, and look forward to hearing his testimony this morning.

Chairwoman JOHNSON. Thank you, Mr. Lucas.

If there are other Members who wish to submit additional opening statements, your statements will be added to the record at this point.

Before we open, I want to welcome the Moms Clean Air Force in the audience in red T-shirts—parents united against air pollution. Thank you for coming.

At this time I'd like to introduce our witness. The Honorable Andrew Wheeler currently serves as the 15th Administrator of the Environmental Protection Agency. Mr. Wheeler has spent his career working on environmental topics, started his career as a Special Assistant to the EPA's Pollution Prevention and Toxics Office under the H.W. Bush Administration. He spent 12 years on the Senate Committee of Environmental Public Works serving 6 of those years as Chief Counsel and Minority and Majority Staff Director.

In 2009, Mr. Wheeler shifted to private-sector work and was a principal and team leader of the Energy and Environment Practice Group, as well as co-chair of the Energy and Natural Resources Group at Faegre Baker Daniels consulting. He was nominated to serve as the Deputy Administrator of the EPA in October 2017 and was confirmed as Administrator in February 2019.

He earned his law degree at Washington University in St. Louis and his MBA at George Mason University. He is also an Eagle Scout.

Administrator Wheeler, you will have 5 minutes for your spoken testimony. Your written testimony will be included in the record for the hearing. When you have completed your spoken testimony, we will begin a round of questions. Each Member will have 4 minutes to question the panel. Welcome, and you may begin your testimony.

**TESTIMONY OF THE HONORABLE ANDREW WHEELER,  
ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY**

Mr. WHEELER. Good morning, and thank you, Chairwoman Johnson, for the introduction. And I do agree. I hope today's hearing is the start of a good, open dialog with the Committee between myself and the Committee and my staff. Thank you very much. Good morning, Ranking Member Lucas and Members of the Committee.

The Environmental Protection Agency is one of the world's leading research organizations. Every day, our scientists and researchers develop information and technology that are critical to protecting human health and the environment. Since I've taken the lead at EPA, I visited five of our research facilities and the *Lake Guardian*, our largest research vessel located on the Great Lakes.

I am regularly briefed by agency scientists, and I rely on their work and expertise. I'm always impressed with the rigor, integrity, and dedication of our career scientists and staff. I'm here today to discuss the ways that we are supporting and advancing their efforts.

We are promoting science at the Agency more than it has been in years. And these efforts are leading to groundbreaking advancements in environmental science. Earlier this week, for example, we announced approximately \$6 million in new funding to eight leading research organizations to advance our understanding of PFAS

(Per- and polyfluoroalkyl substances). This is just one of the many ways that we are delivering on our PFAS action plan, the most comprehensive, multimedia research and risk communication plan to address a chemical of concern ever issued by the EPA.

Our scientists, working in concert with the Department of Defense, are providing the research and technology to support the action plan. They're developing methods to detect and quantify PFAS in the air, water, and soil. They are evaluating methods to treat or remove PFAS from drinking water. They developed a draft toxicity assessment for GenX and PFBS, and they are working to understand the potential toxicity for the many other PFAS and their potential degradation products. EPA is one of the few places in the world where this type of cutting-edge science is being conducted day in and day out.

We're also leading the way on research for reducing childhood lead exposure. Our scientists are identifying high-risk areas and providing technical assistance for reducing lead in drinking water and at contaminated sites. Their modeling efforts and research activities are directly impacting major regulatory decisions such as our forthcoming proposal to update the lead and copper rule, the first major update in over 2 decades. And the same outstanding researchers who provided vital information to help Flint, Michigan, are now working with State and local officials in Newark, New Jersey, on their efforts to ensure safe drinking water for the city's residents.

To support our scientists and researchers, we are continuing looking for ways to make the Agency more effective and more responsive. That is why we are restructuring the Office of Research and Development (ORD). We've briefed many of you and your staff on this reorganization, but I'd like to reiterate that it will help ORD better address the increasingly complex environmental challenges of the 21st century. It will not result in the loss of jobs. It does not change any of the important work ORD is tasked with, only how we manage those functions. And I'd like to remind you that this effort was led by EPA career staff. We plan to have the reorganization in place by October 1.

Earlier this month, we took another step in modernizing the Agency by committing to aggressively reduce animal testing. This issue is very important to me personally. Advances in computer modeling and in-vitro testing are surpassing animal testing, and we need to keep pace. I issued a memo that commits the Agency to important goals such as reducing mammal study requests and funding by 30 percent by 2025 and then eliminating all requests and funding by 2035. Any request for funding after 2035 will require the Administrator's approval on a case-by-case basis.

We also announced \$4.25 million in funding to five research universities to advance the development of alternative test methods for evaluating the safety of chemicals that will minimize and hopefully eliminate the need for animal testing.

Finally, we are committed to the highest-quality science. Good science is science that can be replicated and independently validated, science that holds up to scrutiny. That is why we're moving forward to ensure that the science supporting Agency decisions is transparent and available for evaluation by the public and stake-

holders. I cut my teeth as a career employee at the Agency working on the *Community Right-to-Know Act*. I fundamentally believe the more information we provide to the public the better our regulations will be and the more they will trust our decisions. At the same time, we will ensure that we're not disclosing confidential or personal information. Other agencies already do that, and we can do the same. Our proposed rule will apply prospectively to final significant regulatory actions, and we intend to issue a supplemental proposed rule to our science transparency regulation early next year.

I'm very proud of the science we do at the Agency. As you all heard at a recent hearing, EPA has one of the strongest scientific integrity policies in the Federal Government. The GAO (Government Accountability Office) report recently examined our policies and those of nine other agencies, and we are the only agency that received no recommendations to correct deficiencies. That is a testament to the tremendous work of the EPA career staff. I will continue to support them in their work, and we will ensure that the EPA of the 21st century remains a global leader in science and research. Thank you.

[The prepared statement of Mr. Wheeler follows:]

**TESTIMONY OF  
Andrew R. Wheeler**

**ADMINISTRATOR  
U.S. ENVIRONMENTAL PROTECTION AGENCY**

**BEFORE THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY**

**September 19, 2019**

Good morning, Chairwoman Johnson, Ranking Member Lucas, and members of the committee.

The Environmental Protection Agency is one of the world's leading research organizations. Every day, our scientists and researchers develop information and technology that are critical to protecting human health and the environment.

Since I've taken the lead at EPA, I've visited five of our research facilities and the *Lake Guardian* – our largest research vessel. I am regularly briefed by Agency scientists, and I rely on their work and expertise. I am always impressed with the rigor, integrity, and dedication of our career scientists and staff.

I'm here today to discuss the ways we are supporting and advancing their efforts. We are promoting science at the Agency more than it has been in years. And these efforts are leading to groundbreaking advancements in environmental science.

Earlier this week, for example, we announced approximately \$6 million in new funding to eight leading research organizations to advance our understanding of PFAS. This is just one of the many ways we are delivering on our PFAS Action Plan – the most comprehensive, multi-media research and risk communication plan to address a chemical of concern ever issued by the Agency.

Our scientists, working in concert with the Department of Defense, are providing the research and technology to support the Action Plan. They are developing methods to detect and quantify PFAS in the air, water, and soil. They are evaluating methods to treat or remove PFAS from drinking water. They developed the draft toxicity assessments for GenX and PFBS. And they are working to understand the potential toxicity for the many other PFAS and their potential degradation products.

EPA is one of a few places in the world where this type of cutting-edge science is being conducted day in and day out.

We are also leading the way on research for reducing childhood lead exposure. Our scientists are identifying high-risk areas and providing technical assistance for reducing lead in drinking water and at contaminated sites.

Their modeling efforts and research activities are directly impacting major regulatory decisions, such as our forthcoming proposal to update to the Lead and Copper Rule – the first major update in over two decades. And the same outstanding researchers who provided vital information to help Flint, Michigan are now working with state and local officials in Newark, New Jersey on their efforts to ensure safe drinking water for the city's residents.

To support our scientists and researchers, we are continually looking for ways to make the Agency more effective and more responsive. This is why we are restructuring the Office of Research and Development (ORD).

We've briefed many of you and your staff on this reorganization, but I'd like to reiterate that it will help ORD better address the increasingly complex environmental challenges of the 21st century. It will not result in the loss of jobs. It does not change any of the important work ORD is tasked with – only how we manage those functions. And I remind you that this effort is led by EPA career staff. We plan to have the reorganization in place by October 1.

Earlier this month, we took another step to modernize the Agency by committing to aggressively reducing animal testing. This issue is very important to me personally.

I issued a memo that commits the Agency to important goals, such as reducing mammal study requests and funding by 30 percent by 2025 – and then eliminating all requests and funding by 2035. Any requests or funding after 2035 will require Administrator approval on a case-by-case basis. We also announced \$4.25 million in funding to five research universities to advance the development of alternative test methods for evaluating the safety of chemicals that will minimize – and hopefully eliminate – the need for animal testing.

Finally, we are committed to the highest-quality science. Good science is science that can be replicated and independently validated; science that holds up to scrutiny. That is why we are moving forward to ensure that the science supporting Agency decisions is transparent and available for evaluation by the public and stakeholders.

I cut my teeth at the agency working on the Community Right-to-Know Act. I fundamentally believe the more information we provide to the public, the better our regulations will be and the more they will trust our decisions.

At the same time, we will ensure that we're not disclosing confidential or personal information. Other agencies already do that, and we can do the same. Our proposed rule would apply prospectively to final significant regulatory actions. We intend to issue a supplemental proposed rule in 2020.

I am very proud of the science we do at the Agency. As you all heard at a recent hearing, EPA has one of the strongest Scientific Integrity Policies in the federal government. A recent Government Accountability Office report examined the Scientific Integrity Policies of nine federal agencies. EPA was the only regulatory agency that received no recommendations to correct deficiencies.

That is a testament to the tremendous work of EPA career staff. I will continue to support them and their work. And we will ensure that the EPA of the twenty-first century remains a global leader in science and research.

**Administrator Andrew Wheeler**  
**U.S. Environmental Protection Agency**



On February 28, 2019, the U.S. Senate confirmed Andrew Wheeler as the fifteenth Administrator of the Environmental Protection Agency. President Donald J. Trump had announced his appointment as the Acting EPA Administrator on July 5, 2018. Mr. Wheeler had previously been confirmed by the U.S. Senate as the EPA Deputy Administrator on April 12, 2018.

Mr. Wheeler has dedicated his career to advancing sound environmental policies. He began his career during the George H. W. Bush Administration as a Special Assistant in EPA's Pollution Prevention and Toxics office. He was a Principal and the team leader of the Energy and Environment Practice Group at FaegreBD Consulting, as well as Counsel at Faegre Baker Daniels law firm, where he practiced since 2009. He also served as the Co-chair of the Energy and Natural Resources Industry team across the entire firm.

Prior to his work with the firm, Mr. Wheeler served for six years as the Majority Staff Director and Chief Counsel, as well as the Minority Staff Director, of the Senate Committee on Environment and Public Works. Before his time at the full Senate EPW Committee, Mr. Wheeler served in a similar capacity for six years for the Subcommittee on Clean Air, Climate Change, Wetlands and Nuclear Safety.

Mr. Wheeler is the past Chairman of the National Energy Resource Organization (NERO) and a Stennis Fellow. Mr. Wheeler is also an Eagle Scout.

Mr. Wheeler is from Fairfield, Ohio. He completed his law degree at Washington University in St. Louis, his MBA at George Mason University, and his undergraduate work at Case Western Reserve University in English and Biology.

Chairwoman JOHNSON. Thank you, Mr. Wheeler.

I'd like to ask now unanimous consent that Representative Axne be allowed to join us on the dais. And then further, I'd like to acknowledge and recognize Mr. Tonko for the first round of questions since he has to leave. Mr. Tonko.

Mr. TONKO. Thank you very much, Madam Chair. I appreciate your flexibility. And welcome, Mr. Administrator.

EPA established its Scientific Integrity Policy in 2012 in order to formalize the Agency's approach to honesty, communication, professional development, and expert engagement on scientific issues. As you likely know, the Government Accountability Office's review of scientific integrity policies at several Federal agencies highlighted the EPA's robust scientific integrity policies. I would like to congratulate the EPA for its impressive Scientific Integrity Policy, particularly as I worked to pass the *Scientific Integrity Act*, which would codify, standardize, and strengthen scientific integrity policies across our Federal agencies.

I just heard your closing statement, but I want to ask again. Until we can codify this requirement, can I expect your continued support for your Agency's robust scientific integrity policies?

Mr. WHEELER. Yes, absolutely.

Mr. TONKO. Thank you, sir. And chlorpyrifos is a pesticide that causes severe short- and long-term health impacts. Agricultural workers have collapsed from exposure, nauseated and convulsing. Particularly horrifying are the impacts of chlorpyrifos on developing fetuses and young children. When EPA proposed in 2015 to ban the chemical, it cited studies showing that at 3 years old the likelihood of highly exposed children developing mental delays were significantly greater than those with lower prenatal exposure. But just this past July, EPA announced it would allow chlorpyrifos back on the market.

I have a series of questions that I would ask you respond to in yes or no fashion. In rolling back EPA's recommended ban on chlorpyrifos, did the Agency consider its own findings about the severe health and developmental consequences for children and workers exposed to this pesticide, sir? Yes or no?

Mr. WHEELER. Our career staff looked aggressively at the science that we had in making the decision—

Mr. TONKO. That's yes. EPA previously stated that the Agency's assessment contained sufficient evidence to conclude that negative neurodevelopmental effects from chlorpyrifos occur at exposure levels below the currently permitted level. Are you aware of the—yes or no—of the findings in this report the EPA's revised human health risk assessment?

Mr. WHEELER. I'm aware of those, but we are currently reviewing—

Mr. TONKO. So—

Mr. WHEELER [continuing]. The pesticide—

Mr. TONKO. OK.

Mr. WHEELER [continuing]. And we're—

Mr. TONKO. That's a yes.

Mr. WHEELER [continuing]. On track to review it by 2022.

Mr. TONKO. Thank you. Did EPA base its decision to allow industrial use of chlorpyrifos on new, unrevealed scientific evidence that contradicted or discredited the Agency's 2015 analysis? Yes or no?

Mr. WHEELER. I would have to get back to you on that because I want to make sure I don't misstate on the science that the career scientists used for that decision.

Mr. TONKO. Please do so in rapid fashion. Did this specifically include the evidence of chlorpyrifos impairing the brain development of children and fetuses? Yes or no?

Mr. WHEELER. I can't comment on the specific studies of—the career scientists used for their determination. I wouldn't want to—I don't want to misspeak—

Mr. TONKO. Well, these are important—

Mr. WHEELER [continuing]. On behalf of the scientists.

Mr. TONKO. They're important—

Mr. WHEELER. I understand that.

Mr. TONKO [continuing]. Questions, so—

Mr. WHEELER. I take the recommendations from my career scientists on chlorpyrifos. They recommended that we continue with it—

Mr. TONKO. Thank you.

Mr. WHEELER [continuing]. While they undergo the longer review—

Mr. TONKO. Thank you, sir. I just want to use my time here. In 2017, your predecessor Scott Pruitt announced that EPA would delay the 2015 proposed ban on chlorpyrifos citing regulatory certainty for industry as his reason. Mr. Wheeler, can you remind me the stated mission of EPA?

Mr. WHEELER. Our mission is to protect public health and the environment.

Mr. TONKO. Thank you, sir. Is there anywhere the *Federal Insecticide, Fungicide, Rodenticide Act, FIFRA*, where regulatory certainty for industry is named as an evaluation criteria for EPA's decisionmaking?

Mr. WHEELER. We try to provide regulatory certainty for everything that we do, certainty for the American public, certainty for the community—

Mr. TONKO. So is that a yes or no?

Mr. WHEELER. Nothing specifically in that statute, but we try to provide regulatory certainty for all of our decisions, and we try to make all of our decisions open and transparent for everybody to see what scientists—

Mr. TONKO. So I'm assuming—

Mr. WHEELER [continuing]. Are basing their decisions on.

Mr. TONKO [continuing]. That's a no?

Mr. WHEELER. I'd have to go back to remember what the—your—the wording of your exact question.

Mr. TONKO. Well, is there anything within *FIFRA* where regulatory certainty for industry is named as an evaluation criteria?

Mr. WHEELER. Not that I'm aware of, no.

Mr. TONKO. So it's a no.

With that, Madam Chair, I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. Lucas.

Mr. LUCAS. Thank you, Madam Chair. I expect the theme of this hearing to be climate change with particular criticism aimed at the President's decision to withdraw from the Paris climate accord. My colleagues on the other side of the aisle seem to believe that without international agreements, burdensome regulations, or trillions of dollars spent on the Green New Deal it's impossible to protect the environment. But as I said in my opening statement, data tells us another story. The United States is a leader in reducing emissions, yet we remain one of the largest economies in the world.

Administrator Wheeler, can you provide the Committee with the progress the EPA has made to date in cleaning up air, water, and land and what steps you plan to take to keep America as the gold standard of environmental protection around the world?

Mr. WHEELER. Absolutely. We are the gold standard. Everybody else in the world looks to us. We—the EPA measures six criteria air pollutants. We've done that since 1970. Those six criteria air pollutants have been reduced 74 percent since 1970. Our air is 74 percent cleaner. All six of the criteria air pollutants have been reduced during the Trump Administration. In 1970 again at that time on the water side, 40 percent of our water sources did not meet EPA's standards on a day-to-day basis. Today, over 90 percent of our water supply meets the EPA's standards every single day. That doesn't mean to say that the remaining don't meet the standards, but they occasionally may have a blip because of a contaminant. But we work with the States and local governments to make sure that those are very small, short-lasting, and that we get back to having clean, safe drinking water for everyone across the country.

Mr. LUCAS. Administrator, do believe that we need a heavy-handed, top-down approach to environmental regulation, or, based on the EPA's analysis, can a more flexible State-led program be just as effective in the long run?

Mr. WHEELER. It can be. And we are working more cooperatively with the States than the previous Administration. At the—the Obama Administration on the air side issued 10 times as many Federal implementation plans instead of State implementation plans as the three Administrations previous combined. We have been turning those FIPs (Federal Implementation Plans) into SIPs (State Implementation Plans) on the average of one per month. We also inherited 700 SIP backlog. We've already reduced that backlog by 400. So we are working cooperatively with the States to make sure that they are protecting the environment of their residents.

Mr. LUCAS. Administrator, what about incorporating new technology? I've heard from my constituents that it can be difficult to demonstrate new technologies for emissions control or monitoring to meet regulatory standards. Have you considered new ways to encourage the adoption of innovative technology solutions in your regulatory approach?

Mr. WHEELER. Yes, and that's part of what we base for our decision on methane. We want to make sure that we're not stifling technological developments in that industry. Our—on natural gas—methane is natural gas. Natural gas has doubled in production since 1990. At the same time, the industry has reduced their methane emissions 15 percent. We want to make sure that we don't go

forward with a regulation that is going to stifle innovative technologies that are capturing the methane emissions and making sure that we don't have those emissions.

Mr. LUCAS. Thank you, Administrator. I yield back the balance of my time, Madam Chair.

Chairwoman JOHNSON. Thank you very much. Ms. Lofgren.

Ms. LOFGREN. Thank you. Mr. Wheeler, in June you wrote to Congress that Mary Nichols of the California Air Resources Board (CARB) was not negotiating in good faith with the EPA to reach a compromise on vehicle fuel emission and tailpipe standards and that she was lying when she told Members of Congress in the Energy and Commerce Committee that she had made a sincere counterproposal. But it's my understanding that the counteroffer that the CARB made is essentially the voluntary agreement that was reached with the automakers earlier this year announced on July 25. So it sounds to me like Ms. Nichols was telling the truth to the Energy and Commerce Committee.

And I would like to ask unanimous consent, Madam Chairperson, to put into the record an article from the *L.A. Times* about this issue.

Chairwoman JOHNSON. Without objection.

Ms. LOFGREN. Mr. Wheeler, would you be willing to share the briefing materials prepared by EPA staff that analyzed California's offer to EPA? Would you be willing to share that with this Committee?

Mr. WHEELER. I'd have to—I'll certainly share what we can with the Committee. There may be deliberative documents involved in that. But I want to just make sure you understand that the offer that Mary Nichols gave us last fall, she said at the time that—although she was put it on the table, she said that the outgoing Governor did not sign off on it, the incoming Governor didn't sign off on it, the Attorney General who already threatened to sue us didn't sign off on it—

Ms. LOFGREN. Well, we are going to sue you.

Mr. WHEELER [continuing]. Members of her board did not—members of her board hadn't signed off on it. And she also said that—

Ms. LOFGREN. If I may, my time is limited because—

Mr. WHEELER. Sure.

Ms. LOFGREN [continuing]. What she offered is the deal they basically made with the auto. And the same day that they did that, the Department of Transportation indicated that the Administration did not prevent manufacturers from building more efficient vehicles on a voluntary basis if they wanted to. So I think the threats that are being made by the Administration are really contradicted by the Department of Transportation's comment at that time.

I'd like to also note that Senator Feinstein has sent a letter to the Attorney General pointing out that the—I really think it's an abuse of power on the part of the Department of Justice to try and threaten automakers who are reaching an agreement with the State I represent to deter other automakers from entering the same deal, but they're not disagreeing that—with the other deals that are being made, for example, rear seat reminder systems that are being made. And that's not being challenged as an antitrust violation.

So I just wanted to express my concern not only about the decision being—that was made here. I mean, California had more than 100 waivers in the last 50 years by both Democratic and Republican Presidents and—to achieve a standard that has made automobiles 99 percent cleaner than they would have been otherwise.

The lawsuit that is going to be engaged in is going to—you've created chaos here because the automakers are not going to know what to do. This is going to be tied up in court for the foreseeable future. And I would hope that you would take a look at the chaos that has been created for clean air but also in the auto industry by the actions that have been taken that are really unprecedented in the history of the *Clean Air Act*.

And with that, Madam Chair, I yield back.

Mr. WHEELER. It's important to remember that we're doing nothing to take away California's ability to set health-based standards for automobiles, only energy efficiency.

Chairwoman JOHNSON. Thank you very much. Mr. Weber.

Mr. WEBER. Thank you, Madam Chair.

Administrator Wheeler, I'm extremely interested in that last exchange regarding Mary Nichols. You were enumerating everybody that basically hadn't signed off. Would you go back through that list again and explain why that was?

Mr. WHEELER. Certainly. What she put on the table was basically the Obama plan spaced out over one additional year. And she said that—although she's put it on the table for us, that the outgoing Governor—and this is right around the election last year in California. The outgoing Governor had not signed off on it, the incoming Governor hadn't signed off on it, the Attorney General, who already said he was suing us, had not signed off on the deal. And she is the Executive Director of CARB. She said that the board members of CARB had not signed off on it. So, you know, it really wasn't a deal. It really wasn't an offer that she could stand behind or that she had any authority apparently to make to us.

I'd also point out that the deal that the Congresswoman mentioned with the four automakers, we haven't seen the specifics of that deal. Nothing has been released to the public, so I don't know if it's the same as what the CARB executive director put on the table last fall. I don't know if it's the same deal or not.

Mr. WEBER. So you would say that's a pretty good example of not negotiating in good faith?

Mr. WHEELER. Yes, I would.

Mr. WEBER. I would agree with that.

I want to segue and ask Administrator Wheeler, are the comprehensive regulatory reforms that you personally are undertaking at the EPA, which we appreciate, including policies such as the Affordable Clean Energy rule, Safer Affordable Vehicles rule, and Waters of the United States, WOTUS rule, are they driven by any change of any views on air and water science? Or are they instead driven by an effort to restore the statutory authority provided to the EPA via the *Clean Air Act*, the *Clean Water Act*, as well as other statutes?

Mr. WHEELER. Both. We certainly use science in all of our regulatory decisions, but you're right. On the ACE (Affordable Clean Energy) rule, it replaced the Clean Power Plan, but the Clean Power

Plan never took effect because the Supreme Court issued a historic stay, which showed that it was outside of the bounds of the *Clean Air Act*.

On WOTUS, as soon as the Obama Administration moved forward with their WOTUS proposal, it was stayed by courts around the country. It was only in effect in 22 States. Twenty-eight other States were not following the Obama WOTUS proposal, which is why we had to withdraw it so that we could have one regulation for the entire country. We didn't think a patchwork approach would be useful for WOTUS.

Mr. WEBER. Well, we in Texas, particularly in my district, appreciate that. We really do.

Despite the overall decline in the number of unhealthy air days since 2000, there was an uptick in the number of bad air days in some parts of the country last year. Is this because the EPA is rolling back environmental protections? Or how do natural events, dust storms, wildfires, variations in weather affect air-quality concentrations from year to year? How does that happen?

Mr. WHEELER. It's both. First of all, you know, since 2000, we have strengthened the regulations so, you know, the regulatory determinations are tighter than they were. Plus there are a lot of naturally occurring events around the country that contribute to bad air quality. I was in Alaska last month and was—saw the smoke from the fires firsthand outside of Anchorage. There—the—with the wildfires in California, that contributes significantly to the poor air quality days across the West. Other fires do the same thing. This is why I really hope that the Forest Service, working with the States, can get a handle on these out-of-control wildfires, have more prescribed burns, try to clear out the underbrush so that we don't have these long-lasting fires that really are detrimental to public health.

Mr. WEBER. Well, I appreciate that, Mr. Administrator. And, Madam Chair, I thank you, and I'm going to yield back.

Chairwoman JOHNSON. Thank you very much. Let me welcome an additional attendance of members of the Clean Air Force. Welcome.

Mr. Lipinski.

Mr. LIPINSKI. Thank you, Madam Chair.

Administrator Wheeler, in 2016, researchers in EPA's Office of Research and Development updated the Integrated Risk Information System, or IRIS, value for ethylene oxide, which is known as EtO. In doing so, they determined the cancer risk for inhalation of EtO was 30 times higher than previously thought.

In August 2018, EPA's scientists released the latest version of the National Air Toxics Assessment based on the new IRIS value. This revealed an elevated cancer risk in the communities around a commercial sterilization facility in Willowbrook just outside my district, a facility owned by Sterigenics. I not only represent families in the impacted communities; I also live there.

Thanks to the State of Illinois, this plant is now closed, perhaps only temporarily. I've been calling on EPA to act quickly to protect not only the families in these communities around Sterigenics but those around facilities that use EtO for sterilization all around the country. We need the EPA to use the updated IRIS value for EtO

to set a strong new Federal emissions standard that protects Americans all across our country from this dangerous carcinogen.

I first wrote to you, then-Acting Administrator, on September 21, 2018, almost exactly 1 year ago. When will the EPA set a new standard for EtO to protect Americans all across our country?

Mr. WHEELER. We are working on two different rulemakings to address EtO, and both of those are in the works. But we have been working hand-in-hand with both the local government, as well as the State. It was EPA that provided the monitors, the ambient air monitors, the modeling to determine what the impact was from Willowbrook. We worked with the State. They used our data to make the determinations that they did on that facility. And we are—we worked with the facility to make sure that they were installing better technologies to capture the emissions so that it does not get into the neighborhood. There are a lot of issues around EtO.

Mr. LIPINSKI. Well, I want to make sure that—are you going to use the updated IRIS values? IRIS, according to the EPA's website, it says IRIS assessments are the preferred source of toxicity information used by the EPA. And I wanted to make sure that you're committed to using this updated IRIS value for the cancer risks for EtO when developing this new standard. Are you committed to that?

Mr. WHEELER. We are using the IRIS assessment for our regulatory decisions. It's important to remember that the IRIS program is not a regulatory program, so we also have to make sure that we are following the regulatory requirements of the statute such as the *Clean Air Act* that we are using to set the standards for that facility for EtO.

Mr. LIPINSKI. I just want to make sure that you're going to use that because there have been some arguments against it, and it's critical that that science is not ignored.

Mr. WHEELER. We use all of our available science in making regulatory decisions, but again, the IRIS program is not a regulatory program.

Mr. LIPINSKI. I want to close by reiterating a request from my neighbors in Illinois who would appreciate your participation in an October 2 townhall on ethylene oxide in Lake County. I firmly expect the EPA to do its job engaging with the public at this event. I appreciate the air monitoring around the facility in Willowbrook, but it is important that EPA set a standard to protect Americans from this dangerous cancer-causing chemical. EPA needs to—U.S. EPA needs to act quickly and decisively on this issue. Thank you.

Mr. WHEELER. Thank you, Mr. Congressman, and I know you're also concerned about the Great Lakes. Last month, we announced first-ever Trash-Free Great Lakes Grant Program to help get the Great Lakes cleaned up.

Chairwoman JOHNSON. Thank you.

Mr. LIPINSKI. Thank you.

Chairwoman JOHNSON. Mr. Babin.

Mr. BABIN. Thank you very much, Madam Chair.

Administrative Wheeler, thank you for being here. A few weeks ago you commented on an often-overlooked provision of the *Clean Air Act*, section 115, an integral part of President Trump's decision

to pull the United States out of the Paris Climate Agreement. You said, “Another aspect that a lot of people gloss over is that under the *Clean Air Act* if we enter into an international treaty such as the Paris climate accord, if we fail to meet our targets, those are enforceable under our domestic laws.” While this issue gets very little attention, this seems like a very big deal to me.

For example, we know that advisors to Hillary Clinton’s Presidential campaign supported invoking section 115 but recommended against mentioning it during the campaign because, I imagine, they thought that using an obscure provision to regulate the entire U.S. economy would not poll very well.

I would like to enter into the record an article written by the Center for American Progress titled, “How the Paris Agreement Supercharges the *Clean Air Act*,” Madam Chair—

Chairwoman JOHNSON. Without objection.

Mr. BABIN [continuing]. Which details exactly how far those on the far left would use Paris to impose overreaching climate regulations across the U.S. economy. Can you please elaborate on this threat from section 115 and how it might be used to circumvent the U.S. Congress?

Mr. WHEELER. Certainly. First, I do want to just clarify my remarks from a few weeks ago. I didn’t mean to suggest that that was one of the primary reasons President Trump used for withdrawing from the Paris climate accord. I actually wasn’t with the Administration at the time, so I did not brief the President on the Paris climate accord. I know he cited trade issues—

Mr. BABIN. Right.

Mr. WHEELER [continuing]. As well as the fact that we were treated differently from China and India and other countries. But I completely agree with you that section 115 could give—and I think that the Center for American Progress paper on this is evidence of that, that there are certainly people that want to use that section of the *Clean Air Act* to allow third parties to sue the United States Government if they fail to meet treaty obligations and force them to then meet the treaty obligations. And the Paris climate accord is a treaty. It wasn’t submitted to the Senate for ratification, but it still has the same ramifications of a treaty.

Mr. BABIN. Yes. Thank you very much. Also, has the EPA witnessed lower demand for ethanol following the granting of small refinery waivers over the last 2 years? And do other agencies besides EPA conclude that ethanol demand has not been impacted as a result of these exemptions?

Mr. WHEELER. You’re correct. Ethanol demand has not been impacted by the small refinery program. In fact, we’ve seen an uptick in ethanol over the last 2 years. We—so far this year the industry has produced more ethanol than they did at this point last year, and we do not see any demand destruction from the small refinery program on ethanol production.

Mr. BABIN. And other agencies you feel that have the same opinion?

Mr. WHEELER. It’s my understanding the Department of Energy has that same opinion.

Mr. BABIN. OK. Thank you very much, Administrator. And I’ll yield back, Madam Chair.

Chairwoman JOHNSON. Thank you very much. Ms. Bonamici.

Ms. BONAMICI. Thank you. Administrator Wheeler, I join many in the science community who are deeply concerned about the EPA's proposed rule titled, "Strengthening Transparency in Regulatory Science." The proposed rule would impede if not eradicate the EPA's ability to fulfill its mission of protecting public health and the environment by limiting the scope of research that the EPA can consider in making decisions. As a cornerstone of its regulatory process, the EPA relies on peer-reviewed science, and the proposed rule perpetuates the incorrect notion that the science the EPA relies on is somehow hidden, and it's not. The information used by the EPA is not secret.

I appreciate that your testimony acknowledged the need to issue a supplemental rule, but the proposed rule is an attack on the role of science itself at the EPA. So, if finalized, it would have chilling consequences for the EPA and for people who benefit from clean air and clean water.

So, Administrator Wheeler, is the EPA's existing policy to consider scientific studies in the regulatory process even if the underlying data is not publicly available in a manner sufficient for independent validation? That's just—please yes or no, the existing policy.

Mr. WHEELER. That data is not available to the public. We—I believe that the regulated public communities need to know what the science is based behind our decisions.

Ms. BONAMICI. But is the existing policy to consider studies even if the data is not publicly available? Is that the existing policy?

Mr. WHEELER. Yes, that is the existing—

Ms. BONAMICI. Thank you.

Mr. WHEELER [continuing]. Policy.

Ms. BONAMICI. And have the Federal courts upheld the EPA's longtime policy regarding consideration of scientific data?

Mr. WHEELER. I don't believe that the courts have specifically addressed that specific issue.

Ms. BONAMICI. Well—

Mr. WHEELER. We've received over 600,000 comments on our proposal. We've reviewed those comments over the last year, and that's why I believe we need to go forward with a supplemental proposal before we finalize—

Ms. BONAMICI. Well, in footnote 3 of the proposed rule it says that the courts have at times upheld EPA's use of nonpublic data in support of its regulatory actions. So footnote 3 also says that the proposed rule acknowledges that the EPA has not consistently observed the policies underlying the proposal. Isn't that correct? The EPA is not—

Mr. WHEELER. Yes.

Ms. BONAMICI [continuing]. In the past?

Mr. WHEELER. Yes.

Ms. BONAMICI. Thank you. So the proposed rule represents a reversal of the EPA's position for decades regarding the consideration of scientific data. If the proposed rule is asserting that the Agency's previous position was incorrect, what evidence do you have to justify it?

Mr. WHEELER. Well, again, I cut my teeth on the *Right-to-Know Act*, and I believe that the American public has a right to know the science behind our regulatory decisions. And I think if we put that science out for everybody to see and understand, then there will be more acceptance of our regulatory decisions.

Ms. BONAMICI. And—

Mr. WHEELER. And that is what is driving me on this question—

Ms. BONAMICI. And—

Mr. WHEELER [continuing]. Because I believe that we should be transparent in everything that we do.

Ms. BONAMICI. And, Mr. Administrator, the basis of the proposed rule, I agree with the scientific community, is flawed. So before finalizing the rule of such significance, I urge the EPA to listen to scientific experts. So, yes or no, will the supplemental rule mentioned in your testimony be published prior to 2020?

Mr. WHEELER. I was hoping it would be published prior to 2020, but in my staff notes I'm told early next year. Things seem to take—

Ms. BONAMICI. And—

Mr. WHEELER [continuing]. A little bit longer than I like, but we'll—

Ms. BONAMICI. And will—

Mr. WHEELER [continuing]. Certainly publish the supplemental—

Ms. BONAMICI. I want to get a couple more questions in—

Mr. WHEELER [continuing]. For public comment before we finalize it.

Ms. BONAMICI. Yes or no, will you commit to waiting for the conclusion of the Science Advisory Board's comprehensive review before you finalize the final rule?

Mr. WHEELER. We certainly hope to have that. I specifically asked the—

Ms. BONAMICI. Yes or no?

Mr. WHEELER. Yes. I—

Ms. BONAMICI. OK.

Mr. WHEELER [continuing]. Specifically asked the Science—

Ms. BONAMICI. Thank you.

Mr. WHEELER [continuing]. Advisory Board to look at—

Ms. BONAMICI. And—

Mr. WHEELER [continuing]. The proposal.

Ms. BONAMICI. And will you commit to working with the National Academy of Sciences on the development of the proposed rule?

Mr. WHEELER. I don't believe we've reached out to the National Academy of Sciences at this point.

Ms. BONAMICI. I hope that you will. And the—

Mr. WHEELER. But, again, the science community is not unanimous on this. You said the science community is opposed to this. We had over 600,000 comments—

Ms. BONAMICI. I—

Mr. WHEELER [continuing]. A lot of scientists—

Ms. BONAMICI. I understand, and I want to get—

Mr. WHEELER [continuing]. Support for what we're doing.

Ms. BONAMICI [continuing]. Just another quick question. The proposed rule is inconsistent with the Agency's statutory obligation to use the best available science, as required in many statutes under your jurisdiction. Will the proposed rule retroactively apply to the EPA's existing standards and regulations?

Mr. WHEELER. Our proposal did not retroactively apply, and there was still an exemption so that the Administrator could allow a study that was important to move forward even if that science wasn't available to the public if we needed to use that study for regulatory purposes.

Ms. BONAMICI. Thank you. My time is—

Chairwoman JOHNSON. Thank you—

Ms. BONAMICI [continuing]. Expired. I will be submitting more questions for the record.

Thank you, Madam Chair. I yield back.

Chairwoman JOHNSON. Mr. Gonzalez.

Mr. GONZALEZ. Thank you, Madam Chair.

Thank you, Administrator Wheeler, for being here. As you know, the Great Lakes are critically important for my home district in northeast Ohio, providing fresh water, recreation, and certainly economic growth to our region. It's hard to overstate the importance of this critical resource to northeast Ohio.

I've co-sponsored legislation to fund R&D to assess the health of the Great Lakes fisheries, but I'm interested in the work the EPA is doing to protect the environmental health of the region. Can you provide an update on the Great Lakes Restoration Initiative, particularly recent efforts to reduce pollution from stormwater and excess nutrient runoff?

Mr. WHEELER. Absolutely. And first, thank you, Congressman, for asking about the Great Lakes. As you know, I'm also from Ohio.

Mr. GONZALEZ. Yes.

Mr. WHEELER. I keep saying this and nobody's corrected me so I'll keep saying it until I'm corrected. I believe I'm the only EPA Administrator to ever go swimming in the Great Lakes. I have an absolute love of the Great Lakes region and the Great Lakes themselves, and this summer, I visited our *Lake Guardian* research ship, which travels all five of the Great Lakes, has been doing it for about 30 years now, taking water samples, comparing them year over year to see the changes in the lake.

Mr. GONZALEZ. Fantastic.

Mr. WHEELER. We are moving forward on nutrient reduction work. We put forward a proposal this past—not a proposal, a new policy this past spring to work on trading mechanisms with farmers to reduce the nutrient loading into the rivers and streams that flow into the lakes. We announced our Trash-Free Great Lakes Grant Program where we're trying to get the litter cleaned up out of the lakes, and we're moving forward on a number of fronts to get the lakes cleaned up.

Mr. GONZALEZ. Fantastic. And I certainly appreciate that work. Are there any emerging technologies that could be applied to reduce the type of pollution, and how can we support that in this Committee? Can you talk a bit about the technology side?

Mr. WHEELER. Well, there is a lot of scientific research going on here. We do a lot of scientific research on the HABs, the harmful

algal blooms. We have a number of different EPA labs around the country that are looking at specific issues and problems, including our Region 5 lab in Chicago for the Great Lakes. So there's a lot of scientific research going on, and our EPA researchers are at the forefront of that research worldwide.

Mr. GONZALEZ. Fantastic. And then shifting a bit, so the U.S. generates the largest amount of municipal solid waste per person on a daily basis. Now more than ever it's important that we rethink how we recover and repurpose the valuable materials that used to be considered waste. EPA has an important role to play by encouraging recycling and recovery. Can you describe how EPA is engaged to do this, and then how does this tie into the EPA's role in the Environmental Cooperation Agreement in parallel with the USMCA (United States-Mexico-Canada Agreement)?

Mr. WHEELER. Thank you. Last fall, we held the first-ever Recycling Summit at EPA to take a look at the recycling crisis, which we actually have a recycling crisis—

Mr. GONZALEZ. Yes.

Mr. WHEELER [continuing]. In our country today. We are also working aggressively on food waste. Food makes up the largest single contributor to municipal solid waste in this country, and we have to do something to reduce the amount of food going to our—to the waste sites.

But the USMCA—this—the USMCA is the first-ever trade agreement from the U.S. that incorporates environmental provisions into the trade agreement itself. In NAFTA (North American Free Trade Agreement), the environmental provisions were in a side agreement. There were not part of the actual trade agreement. We also have the first-ever language in a trade agreement dealing with ocean plastic debris, which also helps us in the Great Lakes. So this is the first time that the strongest environmental protections ever included in a trade agreement are in the USMCA.

Mr. GONZALEZ. Fantastic. And with that, I will yield the balance of my time.

Chairwoman JOHNSON. Thank you very much. Mr. Lamb.

Mr. LAMB. Thank you, Madam Chairwoman, and welcome, Administrator Wheeler. Over here.

Mr. WHEELER. Sorry.

Mr. LAMB. You'll understand where I'm coming from here being from Ohio. I am from western Pennsylvania. I represent areas right along the West Virginia and Ohio border. And our part of the country has made incredible contributions over the years to the Nation's economy and I think national security from steel production to coal production, glass, all the things that Ohio and Pennsylvania and West Virginia have done.

And I think the production of natural gas is the most recent example of that. And where I live it's everyone from the scientists who figured out this miraculous technology of going more than a mile underground and 2 miles sideways, much of which was developed in our national lab system, by the way. It was a public investment because of how good it is for us, to the pipefitters who build the pipelines, the heavy equipment operators, the truck drivers, even the—you know, you'd be amazed the businesses people made

out of just making sandwiches for all these people in the last 15 years. It's been incredible for our area.

But the thing is that people in western Pennsylvania know that all of that economic growth rests on one important contribution, which is that we have helped the United States emit less carbon in the last 15 years than it ever did before because of the switch from coal to natural gas. And that's a big part of why the economy will continue demanding this fuel going forward. And that if we do not stop leaking methane and we lose that climate benefit, this entire industry is threatened. It's about the environment, but it's about these people's jobs, all of these people that I just mentioned.

People know that where I'm from, and that's why many of us were so surprised to see your comments about the reduction and elimination of the methane standards where you said just last month that you believe they were unnecessary and duplicative.

So my first question for you is just a simple yes or no. Do you still believe that the methane standards are unnecessary and duplicative?

Mr. WHEELER. The Obama methane standards. We put forward our own proposal last month and we're taking comment on it.

Mr. LAMB. So you believe that the Obama methane standards were unnecessary and duplicative, is that correct?

Mr. WHEELER. Yes.

Mr. LAMB. You're—I'm quoting you, yes.

Mr. WHEELER. Yes.

Mr. LAMB. So, when you said that, I looked around to see what other people said, and I just wanted to share a couple of those things with you because the sources are kind of surprising. So one, for example, "To maximize the climate benefits of gas, we need to address the Achilles' heel and eliminate, eliminate methane emissions." Did you read that in the press when it was out? Does that quote sound familiar to you? That was Susan Dio, the President of BP. It was no environmental activist.

Similarly, "We will continue to urge the EPA to retain—retain—the main features of the existing methane rule." That came from a spokesman from Exxon.

Gretchen Watkins, who runs USA operations for Shell, which is building a huge methane cracker plant in the middle of my district, said that "Methane is a big part of the climate problem and frankly we can do more than we're already doing." She said, "We don't usually tell governments how to do their job, but we're ready to break with that and say actually, we want to tell you how to do your job."

So BP, Exxon, and Shell all believe that the EPA's action to reduce and get rid of the existing methane rule is a bad idea. And it sounds like someone else when they testified in front of the U.S. Senate and said, "Climate change is real, I'm concerned about it on a level of 8 or 9 out of 10" and that "part of the way the EPA was addressing climate change was through their methane program." Do you recognize who said that?

Mr. WHEELER. It sounds familiar.

Mr. LAMB. That was you.

Mr. WHEELER. I thought so.

Mr. LAMB. When you testified to the U.S. Senate to get this job you said that the methane program was a crucial part of elimi-

nating greenhouse gases. You have changed, and it threatens the livelihood of people in this industry that I represent.

Mr. WHEELER. I—

Mr. LAMB. And so I will ask you—I will simply ask you—my time is up—reconsider. These families are depending on this industry and depending on the climate benefits that have come from it. We have to do it the right way. You are on the wrong side of both business and public opinion.

Madam Chairwoman, I yield back.

Mr. WHEELER. Sir, we don't do our regulations for big business. We take a look at the—all business including small and medium-size companies that are in this area. So we don't write our regulations to appease the large companies.

Chairwoman JOHNSON. Thank you very much. Mr. Waltz.

Mr. WALTZ. Thank you, Madam Chair.

Administrator Wheeler, thank you for coming.

Mr. WHEELER. Thank you.

Mr. WALTZ. I want to talk to you today and discuss the Clean Water State Revolving Fund. The Clean Water Fund provides communities, as you know, with low-cost financing, and I think that's an important aspect of it. It's financing for water quality infrastructure projects. And it's a critical tool for Florida in addressing a number of our water challenges. There's a massive disconnect in this fund, Mr. Administrator. On the one hand, Florida has the third most significant infrastructure needs in the Nation according to the EPA's Clean Watershed Needs Survey, so third-highest needs, yet Florida is receiving the third-lowest in the country allotment, again, according to the EPA.

It's a result of an antiquated formula, not the Agency's fault. It's from a 1987 law that Florida receives the third-lowest allotment. EPA has acknowledged in a 2016 report to Congress that the Clean Water State Revolving Fund allotment that, quote, in the EPA's report "Most States do not currently receive appropriated funds in proportion to their reported needs or their population, which has demonstrated the inadequacy of the current allotment." The report also states, quote, "that weighting and factors that were used to establish the formula for the original allotment are not known." And the Congressional Research Service says the same thing. In fact, they said it's even difficult to guess how this formula came about in the 1980s. That's probably not a surprise to some people.

Obviously, Florida's population has exploded. We're gaining 1,000 people per day. This disconnect is unacceptable, given our need. So bottom line, Mr. Administrator, and I recognize this is a statutory issue. Do you agree that it's reasonable for Congress to relook at this 30-year-old formula, given this disconnect?

Mr. WHEELER. I have to be careful. I need permission from OMB (Office of Management and Budget) before I, you know, endorse legislation. I will say when I worked in the Senate Environment and Public Works Committee we tried to change the formula three or four Congresses in a row, and my staff and I worked at trying to update it. We spent a lot of time, and we ran into a lot of roadblocks from States who would have done worse—

Mr. WALTZ. Yes.

Mr. WHEELER [continuing]. Under the changes to the program. Will you—

Mr. WHEELER. But—

Mr. WALTZ. Will you commit to working with me on this issue—

Mr. WHEELER. Yes, I'd be happy to—

Mr. WALTZ [continuing]. As we look to reauthorize the program in next year's WRDA (Water Resources Development Act)?

Mr. WHEELER. Yes, be happy to work with you on that.

Mr. WALTZ. All right. Great. And separately, this is National Estuaries Week. I want to thank you for the good work that the EPA is doing in administering the National Estuary Program. I have the Indian River Lagoon in my district. In July this Committee passed H.R. 335, the *South Florida Clean Coastal Waters Act of 2019*. The legislation established an interagency task force on HABs to really get some empirical data behind that issue. Will you submit for the record what the Agency is doing in reducing algal blooms and how you think your Agency can contribute to this task force?

And in the interest of time, could you also submit for the record what the Agency is doing on coastal resiliency in helping States that have coastal resiliency problems with rising seas?

Mr. WHEELER. Absolutely.

Mr. WALTZ. Thank you, Administrator.

Mr. WHEELER. Thank you.

Mr. WALTZ. And, Madam Chair, I yield my time.

Chairwoman JOHNSON. Thank you. Mrs. Fletcher.

Mrs. FLETCHER. Thank you, Chairwoman Johnson.

Good morning, Administrator Wheeler. Thank you for being here this morning. I have quite a few topics to cover, so I hope we can move through this fairly quickly with our limited time.

In June of this year the staff of the EPA Region 6 lab in Houston were informed that the lab would be shut down and the scientists and engineers would be relocated to the ORD lab in Ada, Oklahoma, to consolidate space. You touched on this issue a little bit in your remarks, but I remain concerned and, more important, my constituents are very concerned that this lab consolidation will lead to significant brain drain as many of the EPA employees may not be able to relocate, resulting in a loss of key technical expertise. This is an issue that has come up at my townhalls in Houston, so I think it's really important.

I sent a letter to you with some of my colleagues in the Houston delegation on July 12 asking you to reconsider this closure, and I would like to know when we can expect a response to our July 12 letter.

Mr. WHEELER. We'll try to get a response you as quickly as possible.

Mrs. FLETCHER. And, as I'm sure you know, Houston has experienced increasingly frequent and intense storms like Imelda that's happening right now, and all in the same space is arguably the world's largest petrochemical complex. And so there's a lot of risk in our region that we remain concerned about and want EPA, the scientists, on the ground there. And in fact, in some of these disasters the EPA scientists have really been another kind of first re-

sponder if you will that are there to protect the water and air quality and to inform the public.

I assume you would agree with me that the public has a right to be informed about the dangers in the water and the air?

Mr. WHEELER. Absolutely, but the scientists we would be moving to Ada, Oklahoma, are not our first responders. Our first responders will remain in Texas. Plus, we will have a small lab facility left in Texas behind. But we were directed by Congress to consolidate our space, reduce the size of our footprint. It was a 2016 legislation I believe, told us to get out of leased spaces and try to consolidate to GSA- (General Services Administration) or EPA-owned space. And the lab in Houston is—it's my understanding it is in very poor shape and would require a lot of government investment to bring that lab up to the quality of lab that the people—

Mrs. FLETCHER. Well—

Mr. WHEELER [continuing]. In Region 6 deserve.

Mrs. FLETCHER. And I appreciate that, Administrator Wheeler, but it is my understanding that those employees who are staying will be relocated to another lab, so it seems that because there will be new space that is obtained that our request that the scientists remain in Houston on the ground to be able to perform testing and do things immediately is important.

And, again, there's a larger concern that this speaks to about the overall concerns for brain drain across the country as folks are relocated. And it's no disrespect to my colleagues from Oklahoma. I'm just south of Oklahoma. But certainly in the world that we live in some of these scientists may have families who are unable to relocate either because of spouse's professions, because of children's commitments, because of medical commitments, whatever it is. So it is hard to relocate so many people. And what we have seen is that there has been a significant departure from the EPA over the last few years.

And so do you agree—I assume you agree that it's essential that the EPA fulfill its mission to protect the environment and public health.

Mr. WHEELER. Absolutely.

Mrs. FLETCHER. Yes. And do you agree with me that the loss of scientists to levels that we haven't seen since the 1980s is a concern?

Mr. WHEELER. Absolutely. Forty percent of our workforce is eligible to retire over the next 5 years. I hired a new human resource manager the start of the spring and recruiting new scientists is a huge concern of ours.

Mrs. FLETCHER. Great.

Mr. WHEELER. I actually interviewed the human resource manager. I'm told that EPA administrators don't typically do that. That's three or four levels below, but I wanted to make sure that we got the right person—

Mrs. FLETCHER. Good.

Mr. WHEELER [continuing]. To help us guide the Agency.

Mrs. FLETCHER. Administrator Wheeler, I have limited time, so I wanted to get to one other question and then I will have some additional questions to submit for the record. But in our Transportation and Infrastructure Subcommittee on Water Resources and

Environment hearing yesterday I asked your Assistant Administrator for the Office of Water David Ross for clarification on the EPA's justification to reverse the 2016 decision to issue new rules to safeguard against the release of hazardous substances into local water bodies and drinking sources. He said it was rulemaking out of the Office of Land and Emergency Management that was not his program. Is it true that the Water Office is not involved in decisions regarding the release of hazardous substances into water bodies?

Mr. WHEELER. They are involved, but it—in fact that particular regulation that you were referring to that we decided no additional regulations were needed, we have other regulatory programs that protect that, including under the water program under *EPCRA (Emergency Planning and Community Right-to-Know Act)* and under *CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act of 1980)*. And if you don't mind, I'd like to submit—I don't know for the record or to you—a paper outlining what we're doing under *America's Water Infrastructure Act* that was signed by Congress last year that addresses this problem.

Mrs. FLETCHER. Thank you. I'll submit my additional questions for the record.

And, Chairwoman Johnson, may I also submit the letter that we sent on July 12 for the record as well?

Chairwoman JOHNSON. No objection.

Mrs. FLETCHER. OK. Thank you. I have exceeded my time, so I yield back. Thank you.

Chairwoman JOHNSON. Thank you. We'll receive yours for the record as well. Thank you.

Mr. Olson.

Mr. OLSON. I thank the Chair, and welcome, Administrator Wheeler. This hearing is called, "Science and Technology at EPA." Every Member of this Committee, Democrat and Republican, demands the EPA's actions are driven by science and technology only. No politics should ever enter into your decisions. They should be subordinate to science and technology.

I was here for all 8 years of President Obama's Administration. Over and over and over, the Administration let politics overtake science and technology. The best example hit my home region of Houston, Texas hard, ozone. As you know, Administrator, that's one of the six criteria pollutants under NAAQS (National Ambient Air Quality Standards).

The last year of George W. Bush's Administration, science and technology said we can go down to requirement of .75 parts per billion for ozone. It took President Obama 8 years to put out the rules to comply with President Bush's science-based proposal.

And then 1 year later in 2015 President Obama lowered those standards to .70. There was no science, no technology that justified that no, as you said, right to know for the public how they achieve that standard. And there's no way they can know because we hadn't gotten down to .75 yet.

And so to your great credit the Trump Administration has addressed the backlog of SIPs, as you mentioned, gone down from 700 to 400. Now you have looming a new ozone standard put out by 2020. My question is are you on track to put those standards out,

and, most importantly, using science and technology? When you look at ozone we can't control because you know and I know, the whole world knows, over half the ozone that comes from America comes from uncontrolled sources, sources like China, like our neighbors south, Mexico. So how do you take those into account with these new ozone standards?

Mr. WHEELER. Yes, thank you. Thank you, Congressman. I appreciate the question. Yes, we are on track. We are reviewing both the ozone and PM (particulate matter) NAAQS at this point. We plan to go final with both of those by the end of next year. For ozone it will be the first time that we have completed that within the statutory 5-year requirement. The EPA has always taken longer to review these NAAQS, and we are committed to getting them done in the statutory timeframe of 5 years, which is required under the *Clean Air Act*.

It's important to remember, though—and we—I'm taking a lot of criticism in the press from a lot of different people saying that we're going too fast. Congress required us to update it every 5 years. That's what we intend to do. When we finish the 5-year review, the next 5-year review starts the very next day. So this is a never-ending review of the NAAQS standard from both ozone and PM, all six of the criteria pollutants. So it is our intention to get it done on time and then to start the next 5-year review the very next day.

Mr. OLSON. I had a bill that gave you authority to go for 10 years if you not demanded but if you needed that time because of all the hassles. Would that be a good bill to have? It got through the House twice, dropped the ball in the Senate, but how about give you the flexibility. Is that something you'd like? I'm sure you would.

Mr. WHEELER. Well, again, I can't endorse specific legislation. I think having more flexibility is always a good thing in general. And again pointing out that the Agency has never completed it in 5 years before, which is one of the reasons why we had to disband the subcommittees and I'm taken as—I know I've received questions from this Committee about the subcommittees and reinstating them. We can't reinstitute the subcommittees and meet the 5-year requirement under the statute.

Mr. OLSON. One final accolade—

Chairwoman JOHNSON. Thank you very much.

Mr. OLSON [continuing]. From back home. Hurricane Harvey hit what's called the San Jacinto Waste Pits very hard. These are waste pits that cover very hazardous material dioxin from paper manufacturing right there in the area. They came loose during Hurricane Harvey. That is the chemical that got the superfund started, Love Canal. You guys stepped up to the plate quickly and said we will get all that chemical, all of that dioxin out of the water, so thank you, thank you, thank you. You saved lives by acting so quickly. I yield back.

Mr. WHEELER. While I appreciate the thanks—

Chairwoman JOHNSON. Thank you very much.

Mr. WHEELER [continuing]. I do have to say that I'm recused from that particular—

Chairwoman JOHNSON. Ms. Stevens.

Mr. WHEELER [continuing]. Superfund site, so I was not involved in any of the decisions. I don't want to leave the impression that I was involved in something that I was recused from.

Ms. STEVENS. Mr. Administrator, the purpose of this hearing is indeed to review the science and technology activities at the Environmental Protection Agency. And as the Subcommittee Chair for this Committee on Research and Technology, I take great interest with this topic. And you might be aware that we are facing a conundrum with our Nation's recycling. The U.S. still only recycles 9 percent of its plastic. In 2018 China banned the import of most U.S. plastics collected for recycling because many were mixed with nonrecyclable waste and contaminated. And we have heard from municipal leaders across this country and I've heard from many in my home district in southeastern Michigan.

The *Resource Conservation and Recovery Act of 1976* named the EPA as the lead Agency on a national effort to recover valuable petroleum-based resources that were filling our landfills. So the question I have for you is, why is the EPA not fulfilling its statutory responsibility to lead Federal efforts on crosscutting research and development and innovation needed to address the Nation's plastic recycling challenges and create jobs?

Mr. WHEELER. We are. We held the first-ever Recycling Summit last year at EPA headquarters. We brought in people involved in the entire recycling chain from the people who produce the raw materials to the packagers of products to the manufacturers of the products that they package to the waste collectors, recycling collectors, all the way to the end of this chain, value chain of people who take those products and turn them into useful products.

We have a recycling crisis right now, and we charged them last year with four items to go off and work on. We've been working with them throughout the year. We're going to have the second Recycling Summit this fall on National Recycling Day. In the past, EPA only put out a press release announcing Recycling Day. We're actually bringing people in and trying to solve the recycling crisis that we currently face.

Ms. STEVENS. And so how do you see the EPA helping States and municipalities improve recyclable materials and manage their recyclable goods? Are they involved in these conversations? Were they at your summit? Are you working with—

Mr. WHEELER. Yes, we had industry, we had local governments, we had the waste collectors, and in fact it would be held on National Recycling Day, which I believe is right around November 15. If you would like to come to our summit and address them, we'd be happy to extend an invitation to you. But this is, I think, a very important issue.

I don't normally compliment the *Atlantic Monthly*, but they did a pretty good piece back in February on the recycling crisis that this country faces in large part because China quit accepting recycled material. And we don't have enough products for material to go into.

My fear is that people—average citizens think that if they separate their recycled material from their trash in the bins at the end of their driveway that the problem is solved, and that is not solving the problem.

Ms. STEVENS. Well, we're hoping that my appropriation to fund a national recycling strategy through the EPA will get passed into law and give you additional dollars and, you know, appreciate your recognition of this challenge and certainly what it means.

I'd also like to encourage you to look at some of the economic data that can be collected for the recycling industry given that that hasn't been done in 12 years.

And I will also give you credit for immediately responding to the letter that I sent your agency about recycling and look forward to additional dialog and potentially a summary of the conference that you had last year. Thank you.

Mr. WHEELER. Thank you.

Ms. STEVENS. Madam Chair, I yield back the remainder of my time.

Chairwoman JOHNSON. Thank you very much. Mr. Rooney.

Mr. ROONEY. Thank you, Chairwoman. Administrator Wheeler, I'd like to also urge you to review your rescission of the Obama methane and VOC (volatile organic compound) regulations. And in light of that little colloquy there with Congressman Lamb would suggest that you might leverage the leadership of Exxon, BP, and Shell to establish a level playing field and bring up the smaller competitors like companies that I'm involved with that should comply with that stuff and can do it if you help level the playing field.

The other thing is you were good enough to send down Mary Walker from EPA Region 4 to participate in our Crisis of Harmful Algal Bloom conference, and she was super helpful and offered a lot of insight about the voluntary reporting system and some of the septic and water nitrogen problems that we're seeing. So I'd like to see if you have any further comment. This is a critical issue for Ohio and Michigan, but it's also a really critical issue for southwest Florida. Thank you.

Mr. WHEELER. It is, and we are working on both those areas on the methane. It's important to remember that methane is actually the product that they're—that the natural gas companies are selling. They already have an incentive to not leak it. We want to make sure that our regulatory approach does not stifle innovation and stop companies, small, medium, and large, from creating innovative new ways to approach the issue to capture the methane and make sure that they're not leaking the methane, which is why we're tying the new proposal to the VOC emissions, so VOC emissions will go down and, as a side benefit, methane emissions will also go down.

But the natural gas industry has doubled since 1990, and they've reduced their methane emissions 15 percent, and we want to make sure that our regulatory program does not get in the way of innovation—

Mr. ROONEY. I understand that. I'm involved with—

Mr. WHEELER. Yes.

Mr. ROONEY [continuing]. \$2–\$3 billion gas producers in the Permian—

Mr. WHEELER. Yes.

Mr. ROONEY [continuing]. And I'm just saying they could use your steady hand to raise the bar and create a better platform for medium and small companies who care about this and will pay the

money to capture the methane versus the unscrupulous companies that won't.

Mr. WHEELER. Yes. And we will. Thank you.

Mr. ROONEY. Thank you.

Mr. WHEELER. And on the HABS, we're definitely—and I'm glad Mary was able to go to the—to your conference in Florida on this. It is certainly an issue that we're looking at across the board on several of our research labs, including our main research lab in Research Triangle Park is intimately involved with this issue. We're doing groundbreaking research trying to identify where the problems are before they occur. We're trying to identify what are the symptoms for lack of a better word of what will cause an outbreak in a water source and to try to make sure that we're safeguarding not just drinking water, which is the most vital—of vital importance here but also recreational waters.

Mr. ROONEY. Yes, our HABS are so bad—

Mr. WHEELER. It's hurt a lot of areas.

Mr. ROONEY [continuing]. Down there—

Mr. WHEELER. Yes.

Mr. ROONEY [continuing]. We're well beyond preserving drinking water.

Mr. WHEELER. Right.

Mr. ROONEY. You can even get near that stuff without sinus problems. And we really appreciate the research and the early warning system that Mary talked about.

Mr. WHEELER. And our career scientists at the Agency and a number of our labs are doing groundbreaking research in this area that is second to none worldwide.

Mr. ROONEY. Thank you, sir. I yield my time.

Chairwoman JOHNSON. Thank you very much. Mr. Sherman.

Mr. SHERMAN. Thank you. I know you've been quizzed about the website, but let me just ask you a personal question. Do you believe that climate change is occurring and is substantially human-caused?

Mr. WHEELER. I certainly believe it's occurring, and I believe that man is certainly contributing to it, which is why we are aggressively addressing it, why we moved forward with our ACE regulation this summer, why we went forward with our methane, and why we are finalizing our CAFE (Corporate Average Fuel Economy) proposal. We want to make sure that we are addressing climate change, and we are addressing it.

Mr. SHERMAN. OK. I want to focus on methane. I personally live just about as close as anyone to S-25, the well that spewed forth the largest methane leak in the history of America, I believe in the history of the world in Porter Ranch, California.

Now, methane has an effect on global warming, roughly 87 times as potent as carbon dioxide in warming the planet. But that's the harm if it's pure methane. But what's being stored in Porter Ranch and what is being piped around the country is not always pure methane. It's methane mixed with volatile organic compounds and the mercaptan that gives it its smell. So 8,000 families were evacuated in my area for months. The health effects still continue.

So I was a bit concerned when your Agency proposed a rule to eliminate Federal requirements that oil and gas companies install

technology to detect and fix methane leaks from wells, pipelines, and storage facilities. Millions of tons of methane and inevitably with those volatile organic compounds and with the mercaptan are leaked, vented, and otherwise released into the atmosphere.

I believe in your rollback your Agency acknowledged that the rollback will degrade air quality and are likely to adversely affect the health and welfare. Why shouldn't oil and gas companies be required to detect and monitor natural gas leaks?

Mr. WHEELER. They are detecting and monitoring natural gas leaks, and we are targeting VOCs. And when you target VOCs, you also have the side benefit that is also a target of the methane reductions as well. The Obama Administration in their methane proposal expanded the source category without proper *Clean Air Act* procedures, so we—

Mr. SHERMAN. Well, I'm—

Mr. WHEELER. That was what we rolled back was the expanding of the industry.

Mr. SHERMAN. Well, now, this Congress, in light of the Porter Ranch blowout disaster, passed a law requiring that we have national natural gas storage safety regulations by—I believe the date was the middle of last year. PHMSA (Pipeline and Hazardous Materials Safety Administration)—and I realize this isn't under your direct Agency, but you can publish regulations on your own in addition to what we require of PHMSA—said that they're in compliance because they published regulations by the deadline under the Obama Administration and then withdrew them. So Congress wrote a law saying you've got to have regulations, as of the middle of last year, and we have no regulations. Do you think it's appropriate for the Executive Branch to take a law that says you must regulate something and say, well, we regulated it for a day and then we withdrew the regulation so we're in compliance?

Mr. WHEELER. I do not know the history or background on that. I don't really want to comment on another agency's regulations. Our proposal—

Mr. SHERMAN. Can we count on—given the effect this has had on children, on people, on cancer, can I count on you to use your power to regulate natural gas storage safety?

Mr. WHEELER. And that is what I believe we are doing with our new methane regulation that we just put out for public comment. We're taking comments on it right now. We're targeting VOCs, which also address methane. And I welcome comments from the public before we go final with it—with a regulatory decision.

Mr. SHERMAN. I would hope that you would at least go as far as the American Petroleum Institute's recommended best practices. I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. Cloud.

Mr. CLOUD. Thank you, Chairwoman. Thanks for being here today. I'd like to first start off by saying I've talked to number of people in my district—we have industry, we have agriculture—who appreciate the EPA's new tone if I can say that, in the sense of understanding that the people working in these industries and districts are also living in them and care very much about our environment and then having an EPA that works with them as a way to try to find a way to yes as opposed to looking for a reason to

say no, keeping in mind all the necessary causes to ensure our environment is protected.

In light of that, I am encouraged by the fact that the proposed budget was actually less than what we've spent in the past. There's a tendency up here to define success by how much money we're spending on something as opposed to the actual outcomes of proposals or projects or legislation. Could you speak to some of the decisionmaking process that went into proposing a budget that came under cost of last year and how you balance those priorities of making sure that the EPA is doing its job and that we're spending our money wisely in light of a \$22 trillion debt?

Mr. WHEELER. Absolutely. For the most part, the programs that we recommended be reduced or eliminated were voluntary programs of the Agency and not critical to the statutory authorities that we have. In other words, programs that had grown over time at the Agency but were not authorized by Congress. We still put forward some new proposals for new funding. The new *AWIA Act (America's Water Infrastructure Act of 2018)* that passed Congress last year but Congress did not fund for 2019, we did request funding for that. We believe it's a very important program to address some of the water quality issues in particular for small and rural water systems and medium-sized systems around the country. So we did ask for additional funding for that.

We also asked for \$50 million for a children's health program for safe schools. We have a lot of different programs at the Agency that address different aspects of environmental issues at schools, but they're kind of disjointed. And what we want to do is bring those all into one program. And we asked for \$50 million so that we can go out and work with the States and local governments to do site-specific recommendations on how schools can become healthier for the children who go to school in those buildings. There are different issues with a number of schools around the country, and we want to make sure that the children have a healthy education.

Mr. CLOUD. Following up on that a bit, earlier this year, you proposed the EPA developing rules that require a cost-benefit analysis of the new regulations again with the understanding that we have a responsibility to manage the resources both of creation and of the taxpayer dollar. Could you speak to any progress being made on that rule?

Mr. WHEELER. Certainly. We put that out, I believe it was last year, for notice and comment. We received over 3,000 comments. I was actually surprised. I thought we would get as many for the science transparency rule, but for the science transparency we received over 600,000 comments, for the cost-benefit only 3,000. What we proposed, though, was one regulation to apply to all of EPA's regulations for cost-benefit.

What we have decided to do in reviewing the comments—and again, both for science transparency and this—we took a hard look at the comments that we received from the different people commenting, and we decided instead of one regulation to try to mandate cost-benefit analysis across all of our statutory programs, we're going to go statute by statute instead and issue a regulation

under each of our statutes. So the first one will be under the *Clean Air Act*.

We hope to have that proposal out by the end of this year, but it will require a cost-benefit analysis for all *Clean Air Act* regulations going forward. And then we will systematically go through each of our statutes and do an individual cost-benefit requirement for each statute tailor-made for the statutory authorities under each of the statutes.

Chairwoman JOHNSON. Thank you very much.

Mr. CLOUD. Thank you.

Chairwoman JOHNSON. Mr. Cohen.

Mr. COHEN. Thank you, Madam Chair.

And, Mr. Wheeler, I appreciate your being here. I've been disturbed, alarmed at several actions or inactions that have been taken at the EPA under your leadership. I'm sorry to say that, but it's true. I'm very concerned about how often you have ignored apparently your own professional scientists seemingly at the expense of people's lives in favor of profit companies and private profits. You've sidelined your scientists, gutted the 2015 coal ash rule, rolled back *Clean Water Act* protections, weakened the mercury emissions rule, and rescinded the Clean Power Plan. These are all disturbing.

And in my city of Memphis we have had coal ash collected at our steam plant, and it's—possibly could end up in the waters of our wonderful artesian water wells and threaten our drinking water. The mission at EPA is to protect human health and the environment, but it doesn't seem that that's been the direction.

On asbestos, we also have a problem. And in May I sent you a letter with 34 of my colleagues after learning that the EPA disregarded the advice of its own scientists and lawyers by issuing a rule that restricted but did not ban asbestos. In a memo written by your own staff on August 2018 they stated rather than allow for any new use of asbestos, the EPA should seek to ban all new use of asbestos because of the extreme harm from this chemical substantially outweighs any benefit and because there are adequate alternatives to asbestos.

Yet on April 17, 2019, the EPA issued a new rule that did not ban asbestos outright, as your own scientists recommended. I find this incredibly concerning and extremely peculiar that the EPA would cede its own experts' advice on banning asbestos, a known human carcinogen that has killed millions of people over the last several decades. A recent study of research has shown that asbestos-related disease caused 39,275 deaths in the United States annually. That's more than double the previous estimate of 15,000 deaths per year. Additionally, at least 55 countries have banned asbestos completely.

Yet in response I received from your office, I was informed that the EPA cannot ban asbestos until a risk evaluation is completed and an unreasonable risk is determined. When, sir, will this risk evaluation be undertaken and completed? And is the death of over 39,000 people a year not considered an unreasonable risk?

Mr. WHEELER. First of all, we have done more on asbestos than any Administration since the George H.W. Bush Administration. We are moving forward on asbestos under the new *TSCA (Toxic*

*Substances Control Act*) regulation, which is the law that Congress gave us to ban chemicals. That is a 2- to 3-year process that Congress set up for us.

In order to fill in the gap in the meantime, while we're working through the asbestos under the TSCA regulation, we put out a significant new use rule, which puts forward—which does not allow any new uses of asbestos to go forward without having first come to EPA. So we plugged a loophole that would have allowed people to import asbestos products from other countries such as Russia. So we have done more to stop asbestos and to ban asbestos than any Administration has done since the George H.W. Bush Administration—

Mr. COHEN. Let me interrupt you for just a second because time is precious.

Mr. WHEELER [continuing]. In the late 1980s.

Mr. COHEN. That just means you did more than President Obama. And while President Obama—

Mr. WHEELER. Again—

Mr. COHEN [continuing]. Is a great guy, that's not—you know, be stronger than one person is not a great deal.

But let me ask you the same question.

Mr. WHEELER. No, no—

Mr. COHEN. When will the risk evaluation be completed?

Mr. WHEELER. It—under the process set up by Congress under TSCA, it's a 2- to 3-year process. We included asbestos as one of the first 10 chemicals that we are addressing. We did more than the George W. Bush Administration, than the Clinton Administration, than the Obama Administration. We've done more on asbestos than anybody else.

Mr. COHEN. Thank you, sir, I appreciate that. I have been affected closely by this. Warren Zevon was my best personal friend, and he found out he had mesothelioma. He died within about a year of finding it out. That caused his death. There was nothing you can do with mesothelioma. You're dead. And it was caused from probably something he experienced as a child in an attic breathing in some air.

So I'm concerned about it. I hope you will get your study done in the soonest time possible. Too many lives have been taken by this harmful carcinogen, and your Agency can do something about it. Thank you, sir—

Mr. WHEELER. And we are.

Mr. COHEN [continuing]. And I appreciate your work.

Mr. WHEELER. Thank you.

Chairwoman JOHNSON. Thank you. Ms. Herrera Beutler.

Ms. HERRERA BEUTLER. Thank you, Madam Chair, and thank you for being here.

I wanted to applaud your Administration and your efforts with regard to repealing the WOTUS rule, the erroneous, burdensome WOTUS rule, and your efforts to clearly define navigable waters in a commonsense form. I'm concerned that the regulatory process alone may not be enough to prevent future Administrations from attempting the same overreach as the Obama Administration did with their rule. I've introduced legislation that clarifies the definition of navigable waters.

But I wanted to ask you, it would be nice if it didn't take an act of Congress, but do you think that even with the rule that you've put in place, Congress, congressional action to refine the definition is necessary with regard to what's coming?

Mr. WHEELER. Again, I can't endorse specific legislation. I will say, again, when I worked in the Senate as a staffer we worked on trying to define Waters of the U.S. through multiple Congresses.

You know, the original *Clean Water Act* definition in the 1970s said navigable waters, and it has been expanded a lot over the years by Supreme Court decisions. So what our regulation—our proposal does—we've not finalized our new definition. We hope to finalize it this winter. But what our proposal does is follow the *Clean Water Act*, as well as the Supreme Court cases to provide what I hope will be a working definition so that anybody—any property owner can stand on his or her property and be able to tell for themselves whether or not they need a Federal permit without having to hire an outside lawyer or consultant to tell them whether or not they have a Waters of the U.S. on their property.

Ms. HERRERA BEUTLER. Absolutely.

Mr. WHEELER. That's my overarching goal for the new definition.

Ms. HERRERA BEUTLER. And we support you in that.

Mr. WHEELER. Everybody should understand what the definition is.

Ms. HERRERA BEUTLER. In addition, they shouldn't have to spend upwards of \$275,000 per permit and wait up to 800 days to get that permit per body of water.

Mr. WHEELER. Yes.

Ms. HERRERA BEUTLER. In addition, Washington shellfish growers on the Pacific Coast are struggling to find a solution for ghost shrimp. This industry produces more than a quarter of our Nation's oysters and provides thousands of jobs in rural areas like my district.

Now, the Washington State Department of Ecology, it's not you all, but they do administer under the EPA. They're also the State Administrator for the Feds. They've been very unhelpful. They've reversed their original approval denying a permit to spray a widely used pesticide that would've helped the growers manage this problem.

And my question is this. Basically, I'd like to understand what your role is with regard to the State agencies? And would you be willing to meet with me or my office to help us find a solution to preserve this vital industry?

Mr. WHEELER. I'd be more than happy to meet with you and your office to try to help you with this issue, absolutely.

Ms. HERRERA BEUTLER. OK. Thank you. I appreciate it.

Mr. WHEELER. Thank you.

Ms. HERRERA BEUTLER. I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. McNerney.

Mr. MCNERNEY. I thank the Chair, and I thank the Administrator for appearing this morning.

The EPA's Science Advisory Board met earlier this year to discuss which of the Agency's actions would benefit from their science review. Specifically, they mentioned the rulemaking to establish light-duty vehicle greenhouse gas emissions standards and the cor-

porate average fuel economy would, quote, “not warrant further review provided the EPA and the California Air Resources Board agree on a rule harmonized across the United States. If, however, the EPA and CARB cannot agree on a harmonized rule, then the board is ready to review pertinent scientific data in the different rules.” That’s a quote.

At the time, the EPA would not confirm to the SAB, the Science Advisory Board, that talks with CARB broke down. Those were not acknowledged. However, your Agency will be revoking California’s vehicle emissions standards waiver, a move without precedent that prioritizes polluters over public health and the wishes of the auto industry itself. It appears that this action is a malicious attempt to undo a popular commonsense Obama-era rule.

Given the nonresponse from the EPA and concerns about the underlying science used to back deregulation of the SAB did decide to review the rule. Please answer with a yes or no. Do you support the role and expertise of the SAB can provide to assess underlying science backing regulatory actions?

Mr. WHEELER. Yes, I do.

Mr. MCNERNEY. Thank you. Yes or no, will you commit to cooperating with the SAB’s review of the proposed rule to revoke the California’s vehicle emissions standards?

Mr. WHEELER. We want to make sure that the Science Advisory Board is reviewing scientific issues and scientific questions. I believe they are reviewing the rule, and we certainly welcome anyone’s input, but we are in the final stages of—we just released step 1 this morning of SAFE, and we will be releasing step 2 in the coming weeks.

Mr. MCNERNEY. So, in other words, you’re not going to be cooperating with the SAB’s review of the proposed rule?

Mr. WHEELER. We cooperated with the—

Mr. MCNERNEY. And I asked you again. This was asked to you earlier. Will you commit to not finalizing the proposed rule until the SAB has had time to complete its review?

Mr. WHEELER. No, we will—

Mr. MCNERNEY. Will you make that commitment?

Mr. WHEELER. No, we will not wait for that. I don’t believe at this point they’re looking at specific science questions within the regulation. You know, it’s interesting—

Mr. MCNERNEY. That’s an opinion that’s not shared across the board, Mr. Wheeler.

Mr. WHEELER. I understand that. It’s interesting during the Obama Administration the Science Advisory Board wanted to review the Clean Power Plan, and Gina McCarthy told them no, that there were no scientific issues in the Clean Power Plan.

Mr. MCNERNEY. So you’re saying two wrongs make a right?

Mr. WHEELER. No, I’m just saying that sometimes the Science Advisory Board wants to get outside of scientific issues. We’ve asked them and we have also committed across the board—

Mr. MCNERNEY. So why is it called a Science Advisory Board—

Mr. WHEELER [continuing]. That we will be briefing them—

Mr. MCNERNEY [continuing]. If they’re getting outside of science opinion?

Mr. WHEELER [continuing]. On all of our major regulations on a going-forward basis. The CAFE standard was proposed last December. So as, for example, the methane, we will be briefing the Science Advisory Board on our methane proposal and seeking their input for it. But on a going-forward basis, we are asking the Science Advisory Board to review our regulations as they come out for public comment.

Mr. MCNERNEY. Well, thanks for your opinion, Administrator. It appears that your Agency has been dismissive of the Science Advisory Board and timed to avoid input from the board on this action. And nothing you've said today changes that conclusion. I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. Marshall.

Mr. MARSHALL. Thank you, Chairwoman, and good morning, Mr. Administrator Wheeler. Thanks for coming today.

First of all, on behalf of my farmers and ranchers, thanks for all the great work you have done and your office has done for those farmers and ranchers. I want to applaud you for giving us a sorghum oil pathway to diesel, for getting my farmers and ranchers some relief on the Waters of the U.S. And thank you on behalf of all the corn farmers in America. Thank you for giving us E15 year-round.

I want to kind of continue down this biofuels pathway and just get a quick thought from you on E30. From what I understand, E30 has about 60 percent less emissions through a tailpipe. It's usually about 20 cents less per gallon at the pump and maybe has a little bit better gas mileage. Are you all looking into E30 and any thoughts on the future of E30?

Mr. WHEELER. Well, we just completed E15, and right now, we're looking at the overall RFS (Renewable Fuel Standard) program. We look at all blends of ethanol, so we're looking also at E85. I don't know that we're specifically looking at E30 or not, but I can certainly get back with you to let you know if any—if our scientists are in fact reviewing E30.

Mr. MARSHALL. Thank you. And thank you for looking at the E85. I'm hearing lots of good words out there on the streets from the people who are using it as well.

I guess one of our biggest concerns back home is the small refinery exemptions. And the question I get from farmers is, how do you define what a small refinery is? And I understand Frontier Refinery and where I grew up in El Dorado, that's a small refinery. Coffeyville, Kansas, has a small refinery. How do you determine what's a small refinery, who really needed the exemptions versus some of the others?

Mr. WHEELER. Well, the definition of small refinery is in the statute itself, and it's based on barrels of oil produced at the refinery. But it's—I do want to just—there is a misperception in a lot of areas. It's not the size of the corporate parent. It's the refinery itself. It's not the refiner. So, for example, a very large company can own a small refinery. The Department of Energy is the one that takes a look at the small refineries. When the small refineries apply for the small refinery exemption, they apply to EPA. We send a request to the Department of Energy. They review the economic data to determine whether or not there is a hardship—

Mr. MARSHALL. OK.

Mr. WHEELER [continuing]. Based under the statute for each refinery, not the parent company but the refinery itself.

Mr. MARSHALL. So the parent company owns five oil refineries, do they lump together for the number or do you take each one at each location?

Mr. WHEELER. Each one, each location. The statute defines it as a refinery. So, for example, a large company may own a small refinery in the middle of the Rocky Mountains. If that refinery—

Mr. MARSHALL. Do you feel the number that we're using is a good reflection, is a good number, or is that in statute?

Mr. WHEELER. It's in statute.

Mr. MARSHALL. OK. Let's talk about glyphosate for just a second, OK? So biochemistry major, medical physician, certainly I'm concerned about people's health. I'm confused myself. Which Federal agency, is it the EPA or the ATSDR is tasked with regulating and vetting the safety of glyphosate?

Mr. WHEELER. That would be EPA under our pesticides program.

Mr. MARSHALL. Do you feel there's any infringement going on by other folks like the ATSDR?

Mr. WHEELER. We always welcome science reviews by other agencies and departments. We often look at the work that they do not just within our country but also other countries. We look at different international bodies. For glyphosate, we took one of the most comprehensive looks at that chemical, that pesticide ever by any regulatory body anywhere in the world. Our conclusions are that it is not a carcinogen, and those conclusions match regulatory bodies around the world.

Mr. MARSHALL. Thank you, and I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. Beyer.

Mr. BEYER. Thank you, Madam Chair.

Mr. Wheeler, during your confirmation hearing, Senator Whitehouse asked you about the action plan developed by your former lobbying client, the coal baron Robert Murray. That plan, which is commonly known as the Murray memo, presented a series of asks from Murray's fossil fuel company, one of Donald Trump's largest donors, asks to the Trump Administration, asked essentially a series of actions to gut the environmental protections and climate action in this country.

So I offer with great dismay what we might call the Trump Administration's report card for delivering on what your former client Mr. Murray asked you and the EPA to do. Murray asked you to cut the EPA workforce in half, but you only supported the Trump budget, which only cut it by one-third, so let's call that an incomplete. He asked you to withdraw from the Paris climate accords. You did it right away, A-plus. He asked you to eliminate the Clean Power Plan. You've almost finished that, so we'll call that a B-plus. He asked you to eliminate the maximum achievable control technology standards, which regulate toxic pollution. He has proposed a big loophole to allow increases in that pollution, so that's a B. He wanted you to end cross-State air pollution rule. You didn't do that yet, but you've weakened enforcement, so maybe just a C. And we're still unclear on his request that you withdraw the endangerment finding for greenhouse gases, which is a legal basis

for all of our regulations to fight climate change. You haven't done this yet, but your former boss Senator Inhofe says he thinks you'll do this, quote, "eventually."

So did you take these directives right from Mr. Murray, and do you plan to complete the rest of Mr. Murray's tasks?

Mr. WHEELER. Well, I appreciate you keeping score. As I've said many times, I've never read the Murray action plan. I didn't have it, I didn't write it, and I didn't read it, so this recitation of the items in there is the first I've heard of many of those that were included, so no, I am not following that plan. I don't have a copy, I never read it, I don't have it, I didn't write it. I've said that throughout over the last 2-1/2 years since the beginning of my confirmation process for Deputy Administrator.

Mr. BEYER. Well, I appreciate your clear statement on that, and I am dismayed that there is such an overlap between the leadership that you have offered and what the Murray memo says.

One of the vast numbers of ethical complaints raised against your predecessor Scott Pruitt was that he politicized the EPA's response to freedom of information requests in order to hide his own wrongdoing. I raised issues about this last year, possible violations to your ethics pledge, and I confess you've been a significant improvement on Scott Pruitt where ethics are concerned.

I'm baffled, though, that you have overseen changes to the *FOIA* (*Freedom of Information Act*) process, which would essentially codify Scott Pruitt's politicization of the *FOIA* process. Members of Congress don't like it, environmentalists don't like it, journalists don't like it. Why are you making it harder for the American people to find out how the EPA is making decisions?

Mr. WHEELER. We did not do that; we're not doing that. Congress—EPA last changed their *FOIA* regulations around 2000. Congress amended the *FOIA* statute 3 times since then. In 2016, the last time Congress amended *FOIA*, they required all agencies and departments to update their *FOIA* regulations. EPA did not do that under the Obama Administration. We were behind. Most other agencies already accomplished that in 2016 or 2017. The changes to our *FOIA* regulations follow the directions that Congress gave us in the 2016 *FOIA* amendments. That was all that was done. It did not change our process in fact. It was mostly housekeeping items.

The only change we made was to centralize where the *FOIA* requests come in to at the Agency, and that was a recommendation from GAO where they took a look at our *FOIA* process at EPA and said you should have a one-stop place for all *FOIA* requests, so that was the only substantive change we made to our *FOIA* regulations. The rest of it has been—

Mr. BEYER. Why do you think there's been so much—

Mr. WHEELER [continuing]. Blown out of proportion—

Mr. BEYER [continuing]. Pushback from the various communities of concern?

Mr. WHEELER. I don't know. I am at a loss. I guess there's a lot of people, particularly journalists, that believe that whatever we do, there must be a nefarious purpose to it. The *FOIA* regulations were actually drafted by our career attorneys in our General Counsel's office, had very little to no input from any political people on

my team. And again, it was just following the direction that Congress gave us in the *FOIA* amendments of 2016.

Mr. BEYER. Thank you. Madam Chair, I yield back.

Chairwoman JOHNSON. Thank you very much. Mr. Norman.

Mr. NORMAN. Thank you, Madam Chair.

Mr. Wheeler, thank you for your service. Let me focus on—

Mr. WHEELER. Thank you.

Mr. NORMAN [continuing]. On obsolete committees. You're aware in July of this year hearings were held on the Federal Advisory Committees at the EPA, and it focused on the potential impact of President Trump's executive order on advisory committees. Based on the characterization made by many of my colleagues and their friends in the media, you would think this order was the deathblow to science at all the agencies. In reality, this just seems like a commonsense, nonpartisan way to eliminate wasteful committees.

When this order was executed at your Agency, do you believe it will have any consequences, negative I guess, for the ability of the EPA to protect the human health and environment?

Mr. WHEELER. No, I don't believe it would have any negative impact at all.

Mr. NORMAN. So that was a good move?

Mr. WHEELER. Yes. You know, to quote President—to paraphrase President Reagan—I screw up the quote a lot—the closest thing to immortality is a government program once created. And I think taking a look at our advisory committees, the ones that we're not required under statute to determine whether or not they still have a useful purpose for the Agency, was a very important step for us to take, and I'm very pleased that President Trump asked all Federal departments and agencies to undertake that.

Mr. NORMAN. So what he did is similar to what every business goes through, every family budget. You evaluate the things you're doing. If it doesn't make sense, you eliminate it or pare it down. If it does make sense, you go forward with it. So this has no negative impact in your opinion?

Mr. WHEELER. No. And while I can't comment on what we've recommended to the White House as far as disbanding *FACA* (*Federal Advisory Committee Act*) committees, I do want to clarify because there has been misreporting in the press that we're going to do away with our children's health *FACA*. We just published in the Federal Register I believe this week reconstituting that *FACA*, so we are not doing away with the children's health *FACA*. I can say that. I cannot say which ones we've recommended to the White House, however.

Mr. NORMAN. And how many committees were affected by this?

Mr. WHEELER. I believe we had approximately 12 committees that were created not by statute but just by administrative creation, and we examined all 12 of those—approximately 12, and we examined those to see whether or not they should be eliminated, and then we made our recommendations to the White House. And the White House has asked all agencies and departments not to discuss our recommendations until they've had a chance to review all of the departments' and agencies' recommendations.

Mr. NORMAN. So none of the agencies that were eliminated were statutory? It was all administratively administered—

Mr. WHEELER. That's right.

Mr. NORMAN [continuing]. Or started out? And what he did was actually—I would make the argument it would be helping the Agency, wouldn't it?

Mr. WHEELER. I—yes, just to—I think every agency should periodically take a look at organizations like that that they have to see whether or not they still make sense to continue. I think it was a very useful exercise. There were a couple of committees to be honest that we looked at that hadn't met in several years, so you have to wonder whether or not it's a useful purpose if they aren't even meeting.

Mr. NORMAN. Which everyday Americans do.

Mr. WHEELER. Yes.

Mr. NORMAN. Thank you. Madam Chair, I'm going to yield the balance of my time to Chairman Lucas.

Mr. LUCAS. I thank my colleague.

Director, let's discuss for just a moment, there's been some topics and discussions here. Is there anywhere in Federal law, is there anywhere in custom, is there anywhere in administrative policy down through the years where EPA is charged with tailoring its decisions to match the needs of the biggest corporations or the needs of a few particular States? Don't you have a broader jurisdiction than that—

Mr. WHEELER. We do—

Mr. LUCAS [continuing]. A responsibility?

Mr. WHEELER. We try to look holistically at the impact of all of our regulations across everyone. The EtO, the ethylene oxide that I was asked about earlier, one of the reasons why we're going a little slower on that is we've been asked to do a small business *SBREFA* (*Small Business Regulatory Enforcement Fairness Act*) panel to take a look to see what the impacts might be for small businesses. We have to take those into account before we go forward with a regulation.

Mr. LUCAS. So the whole country, the impact on the entire Nation, every citizen, not just particular places or particular entities?

Mr. WHEELER. Yes.

Mr. LUCAS. Fair statement? Thank you, Director. Yield back, Chairwoman.

Chairwoman JOHNSON. Thank you. Mr. Crist.

Mr. CRIST. Thank you, Madam Chair.

And, Administrator, thank you for being with us today.

This past June the EPA finalized its Affordable Clean Energy rule known as the ACE rule as a replacement for the Obama-era Clean Power Plan. In past hearings you've insisted that the ACE rule will reduce emissions by 34 percent from 2005 levels by 2030. However, EPA's own analysis of ACE notes that the rule will only decrease emissions between .7 and 1.5 percent below baseline.

Even more alarming, the analysis also notes that repealing the Clean Power Plan and replacing it with ACE will lead to 1,400 premature deaths, 15,000 more cases of upper respiratory problems, and 48,000 more cases of asthma. How can I go back to my constituents in Florida and tell them that this rule is supposed to protect their health and the environment when the EPA itself admits

that the rule will cause over 1,000 deaths and at best marginally reduce emissions?

Mr. WHEELER. Well, first of all, Congressman, I don't believe that's true. First of all, the Clean Power Plan never took effect, so you can't compare a regulation that is on the books to something that was a pie-in-the-sky dream by the Obama Administration that was outside of the *Clean Air Act*. The Clean Power Plan, it was subject to the historic stay by the Supreme Court, and we—I—we believe—I believe that that happened because the Clean Power Plan was outside of the *Clean Air Act*. It did not have the statutory authorization that was necessary for a regulation. So the Obama Administration put forward the Clean Power Plan, never took effect, so you can't compare what might have happened for a regulation that did not—that was not grounded in the statute—in the statute itself.

I—I'm—have to admit the number you quoted for our ACE rule, I'm not familiar with that. I'd like to get back to you on that specifically. I don't think I've said by 2030. I think what I say is 34 percent reduction below 2005 levels over the course of the regulation. Now, that course may be 2030. I don't remember the year off the top of my head. But I will get back to you to answer this specific question that you had on the other reduction level.

Mr. CRIST. Well, thank you. I'd appreciate that, Administrator.

Mr. WHEELER. Thank you.

Mr. CRIST. Of course. Your Agency's website clearly states that EPA's mission is to protect human health and the environment. Given the findings and the impact analysis that your Agency produced, it's clear that the ACE rule doesn't come close to meeting what anybody would look at that mission to be. I appreciate that you're going to check, but I'm not comparing two things. I'm only citing what your own Agency has said the effect of the ACE rule would be.

Mr. WHEELER. That was in our proposal, not in the final regulation of that comparison. And again, the Clean Power Plan never took effect, so you can't really say that the Clean Power Plan would have saved any lives since it—no—it was never effective. Nobody was complying with the Clean Power Plan.

And, again, you know, the—when we stepped in and we saw that the Clean Power Plan had been stayed by the Supreme Court, you know, people turned to us. I had people from the right that said you shouldn't do anything, you should overturn the endangerment finding. I had people on the left that said you need to defend the Clean Power Plan even though the stay from the Supreme Court. But what we did is we took a look at the *Clean Air Act*, we determined what the statute required us to do, what it called for us to do. We wanted to make sure that we were reducing CO<sub>2</sub> emissions to the electric power sector because we were required to do that under the *Massachusetts v. EPA* decision, and we went forward with a regulation, the ACE rule that we believe follows the *Clean Air Act* and will reduce CO<sub>2</sub> emissions from industry.

Again, you know, people didn't want us to do anything. They thought we should overturn the endangerment finding. Other people, of course, liked the Clean Power Plan even though it was not—it never took effect. Well, what we did was go back to the *Clean*

*Air Act* itself, take a look at the requirements were, the Supreme Court decision, and we put forward a regulation that we believe will reduce CO<sub>2</sub> emissions from the electric power sector.

Mr. CRIST. I certainly hope so.

Chairwoman JOHNSON. Thank you very much.

Mr. WHEELER. Thank you.

Mr. CRIST. Thank you.

Chairwoman JOHNSON. Ms. Wexton.

Ms. WEXTON. Thank you, Madam Chair, and thank you, Administrator Wheeler, for joining us here today.

We've all seen the recent headlines about office relocations being carried out by other departments within the Federal Government. Right now, the USDA (U.S. Department of Agriculture) is in the process of rushing through the relocation of two agencies from Washington, D.C. to Kansas City, despite being unjustified and in violation of the law. And the Interior Department has proposed to move most of the Bureau of Land Management's D.C. staff to Colorado and has started notifying employees this week of where their jobs will be moved to.

It's apparent that these moves are not to save the taxpayers money or provide better services to constituents but instead to sideline the scientific work that's being done by these agencies and further the agenda of this Administration to dismantle crucial parts of the Federal Government. These radical decisions have already created a devastating consequence for the offices and the affected employees. Many of these Federal employees are my constituents. They are dedicated, hardworking people who want only to serve our country. They don't deserve to be pawns in a political game.

So I want to give you the opportunity right now to reassure EPA employees in the greater Washington, D.C. area and in other hubs around the country like the North Carolina Research Triangle and Cincinnati, Ohio, that there are no plans to disrupt their lives as part of a political agenda against the Federal Government and scientific evidence. So I ask you directly, yes or no, does EPA have any plans currently under consideration to relocate substantial numbers of EPA employees or functions out of the D.C. area or from one region of the country to another?

Mr. WHEELER. First part of the question is easy, no, we don't have plans to relocate substantial numbers of people out of the D.C. area at all. On the regional side, I—we are trying to move some of our labs—as—I don't know if you were here earlier when I had a question about the Region 6 lab in Texas. We're moving that from a leased space in Houston to an EPA-owned facility in Ada, Oklahoma, but it's still within the region.

Ms. WEXTON. In addition to—

Mr. WHEELER. We want to make sure that we have a regional lab in all 10 of our regions, but we are moving some of our labs to EPA- or GSA-owned space, which is what Congress required us to do in 2016—

Ms. WEXTON. And are you moving it—

Mr. WHEELER [continuing]. In the *FASTA Act*.

Ms. WEXTON. And are you moving it to space within the same general geographic region?

Mr. WHEELER. Yes.

Ms. WEXTON. OK.

Mr. WHEELER. With one exception which predates me, and that decision, I believe, was made by the Obama Administration. We moved a large part of the Region 9 lab in California to Oregon, I believe.

Ms. WEXTON. OK. Thank you.

Mr. WHEELER. But that was a decision from several years ago.

Ms. WEXTON. I'm going to reclaim my time. I'd like to speak for a moment about David Dunlap's role in the IRIS formaldehyde review. The senior-most political official that oversees IRIS, David Dunlap, recently left a long career with Koch Industries, which owns one of the largest formaldehyde producers in the country, you may be aware. In February 2018 Dr. Dunlap emailed your Chief of Staff Ryan Jackson from his Koch email address. In that message Mr. Dunlap urged Mr. Jackson to review some of the studies and said he would, quote, "provide inhaled formaldehyde does not cause leukemia in humans." Six months after that, Mr. Dunlap came to work for the EPA. Three months after that, the IRIS review of formaldehyde had been eliminated. This timeline speaks for itself.

Questions for the record were issued to the Agency regarding Mr. Dunlap's participation in decisionmaking around formaldehyde. The EPA finally sent responses on Friday, 5 months later, but ignored those questions.

So I'll ask you again here. Was David Dunlap involved in decisionmaking related to formaldehyde prior to his December 2018 recusal?

Mr. WHEELER. Not to my knowledge. He hasn't briefed me on formaldehyde, and to my knowledge he hasn't been involved in any of the formaldehyde decisions. He recused himself from that. The process that we used on the IRIS process actually started before he joined the Agency, and that was—the IRIS program itself has had problems dating back to the early 1990s when I first started working at EPA. I wanted to make sure that our regulatory programs are—can utilize the IRIS assessments when they come out, so we started a new process last summer where there had to be an agreement between the IRIS program and the regulatory offices within EPA as to what their assessments going forward would be and what the regulatory purpose was.

Ms. WEXTON. And I apologize, but I'm out of time. And I know that you said not to your knowledge, but would you be willing to get confirmation of that, that he did not have any involvement with that decisionmaking process throughout your entire Agency and provide that confirmation to this Committee?

Mr. WHEELER. Yes, I'll be happy to look into that.

Ms. WEXTON. Thank you.

Chairwoman JOHNSON. Thank you. Mr. Foster.

Mr. FOSTER. Thank you, Madam Chairwoman, and thank you, Administrator Wheeler.

Yesterday, the President announced that this week the EPA would be issuing a notice of violation for environmental pollution to the city of San Francisco. Could you walk us through the timeline for the scientific studies, legal determinations, and technical measurements that led to that announcement?

Mr. WHEELER. At this point we—I can't comment on a potential EPA enforcement action. We've not taken any official steps yet. We're still looking into the issues, and it's not a—I can't comment on a pending or potential enforcement action.

Mr. FOSTER. But when the President said it was coming this week, is it routine for you to issue notices of violation, whatever that means, with less than 1 week of preparatory work?

Mr. WHEELER. Again, I don't—I didn't see where he said it was happening this week, but—

Mr. FOSTER. It was carried in multiple news reports from the reporters that listen to his comment.

Mr. WHEELER. I'll—

Mr. FOSTER. I certainly take those at face value as well. But, yes, so you're telling us there was no preliminary action, there had been no finding that San Francisco—for example, how was San Francisco chosen as opposed to Miami or Bedminster, New Jersey, or wherever else you might think of finding environmental violations?

Mr. WHEELER. Again, I can't comment specifically on a pending—a potential pending enforcement action. As the Agency head, before we take an enforcement action, it's inappropriate for me to comment publicly on anything that we may be doing on the enforcement side.

Mr. FOSTER. But you routinely, apparently without—if the President decides something and a week later he expects the EPA to issue a notice of violation, take some official action, is that the way you do business, or was the President saying something that was not true there?

Mr. WHEELER. I don't want to comment on my conversations with the President, but again, on enforcement actions, I cannot comment on a pending—potential pending enforcement action.

Mr. FOSTER. No, this is a matter of how you do business. Can the President show up one week and say I think we should issue a violation, that EPA will do it, and then you fast-track all of the scientific legal findings, everything—

Mr. WHEELER. No, that is not how we do business, and that—

Mr. FOSTER. So how can it logically be true that when the President announces that within a week we're going to have a notice of violation if that is not the way you do business? I'm just trying to understand the logical—

Mr. WHEELER. I will be—

Mr. FOSTER [continuing]. Gap.

Mr. WHEELER. If we do take an enforcement action and once a decision is made whether or not we are going to take an enforcement action, I would be more than happy to brief you and your staff on the decision process that we took.

Mr. FOSTER. OK. Will you be able to get—

Mr. WHEELER. But I cannot at this point in time—

Mr. FOSTER. For the record, will you be able to get back to us—

Mr. WHEELER [continuing]. Comment publicly—

Mr. FOSTER. OK. But will you be able to get—within a week when the President announced you would be doing it, can you get back either with the notice of violation or an explanation for what the President said was not correct, one or the other?

Mr. WHEELER. I'm not sure within a week, but we certainly—before we make a—after we make a decision—

Mr. FOSTER. But if you never make a decision—

Mr. WHEELER [continuing]. For a potential enforcement—

Mr. FOSTER [continuing]. Because it turns out that the statement that he was making was not supported by facts, then we will—making no promise—

Mr. WHEELER. I will get back to you—

Mr. FOSTER [continuing]. Within a week you figure out what's—

Mr. WHEELER [continuing]. As soon as we can.

Mr. FOSTER [continuing]. Figure out what's going on—

Mr. WHEELER. I will get back to as soon as we can with statements explaining our actions—

Mr. FOSTER. All right. Let's—

Mr. WHEELER [continuing]. Or why we're not acting.

Mr. FOSTER. A quick question. You know, often when you decide to alter or abolish a regulation, you know, it's a cost-benefit analysis. The costs are measured in dollars, and the benefits are measured in saved human lives. To do that balance you need to know what's the value of a human life in dollars. How do you think about that problem, and what is your best number and the one you try to operate in making that balance?

Mr. WHEELER. Well, we always want to show that the benefits of a regulatory action outweigh the costs—

Mr. FOSTER. But—all right. In—

Mr. WHEELER [continuing]. And that is why we're moving forward—

Mr. FOSTER [continuing]. Dollars versus human life—

Mr. WHEELER [continuing]. With a statute-by-statute approach on cost-benefit analysis.

Mr. FOSTER. Right. But you need to convert the benefits of human lives and compare them with a cost in dollars. That—

Mr. WHEELER. Yes.

Mr. FOSTER [continuing]. So you need a calibration.

Mr. WHEELER. We do that—

Mr. FOSTER. What is your calibration?

Mr. WHEELER. We do that on a regular basis. Some of our statutes require different balances. Some require no consideration of cost. You know, I'm thinking of the NAAQS in particular when you set that science-based standard for the National Ambient Air Quality Standards. We're not supposed to take costs into account, so we take a look at the science, we take a look at the impacts on human life. So it differs from statute by statute. But we do take that into account. And in our regulatory analysis for all of our regulations, we explain the balance and the cost factors and the benefit factors that we use for each individual regulatory decision.

There's one reason why instead of having a cost-benefit regulation that apply to all of our regulations, which is what we proposed last year. We decided instead to do it on a statute-by-statute basis because of the differences between the statutes. We can't just come up with a simple formula for cost-benefit analysis for all of our regulations. We have to look on a statute-by-statute basis.

Mr. FOSTER. I guess my time is up.

Chairwoman JOHNSON. Thank you very much. Mr. Casten.

Mr. CASTEN. Thank you, Madam Chair. Thank you, Mr. Wheeler.

First off, do you confirm that the EPA has found that current and projected levels of greenhouse gas emissions threaten public health and the welfare of current and future generations, yes or no?

Mr. WHEELER. Yes, I believe that was the endangerment finding—

Mr. CASTEN. OK. That's—

Mr. WHEELER [continuing]. By the Obama Administration.

Mr. CASTEN. That is—the organizations we work for are bigger than us. I'm just focusing at your organization.

Second, I want to clarify, you had said to Mr. Crist a moment ago that essentially intimated that the estimates of ACE versus the Clean Power Plan are an apples-to-oranges. I'm holding in my hand the report that the EPA issued. I flipped it random to page 325, and it says the base case is the Clean Power Plan and then goes through and does comparisons. This entire justification for the ACE is compared to the Clean Power Plan. All the numbers Mr. Crist—do you confirm that this report throughout all of these pages compares ACE to the Clean Power Plan?

Mr. WHEELER. That was in our proposal. Our final action did not—

Mr. CASTEN. The numbers that—

Mr. WHEELER [continuing]. Compare because we decided that the Clean Power Plan was not the rule—

Mr. CASTEN. The numbers that Mr. Crist cited were consistent with that, so do you confirm then—

Mr. WHEELER. From our proposal—

Mr. CASTEN [continuing]. That while the—

Mr. WHEELER [continuing]. Not from our final regulation, sir.

Mr. CASTEN. Do you confirm that while the Clean Power Plan was designed to reduce emissions, designed to reduce emissions by 32 percent, your proposal was designed to reduce emissions by a .7 to 1.5 percent? Again, I am quoting your own report.

Mr. WHEELER. Again, that was the proposal, not the final action. We took comment on that, and our final numbers are in our final regulation that we finalized in July. So you're taking the—

Mr. CASTEN. The—

Mr. WHEELER [continuing]. Numbers from our proposal, and they changed—

Mr. CASTEN. So you confirm that this report is an accurate statement from the EPA. Do you also confirm that this report says that the ACE proposal would result in as many as 1,400 additional deaths by 2030?

Mr. WHEELER. No, that was looking at the Clean Power Plan if the Clean Power Plan had been enacted. And again, the Clean Power Plan was stayed by the Supreme Court, so it was never—

Mr. CASTEN. OK. Sir, I will submit this to the record.

Mr. WHEELER. All right.

Mr. CASTEN. These numbers are in here. Now, I am concerned—

Mr. WHEELER. From the proposal, not from the final regulation, though.

Mr. CASTEN. Sir, I have spent the first 7 years of my career in the sciences, the next 16 years running a business. You've had a distinguished career in lobbying. I do not have the luxury in my career of selectively interpreting facts. I want to stay on facts because I'm really concerned with the way that you have analyzed facts.

When you considered the impacts of the ACE proposal, do you confirm that you reduced the discount rate for future analyses from 3 percent to 7 percent?

Mr. WHEELER. I believe so, but I'd have to get back to you on that.

Mr. CASTEN. OK. I will so stipulate that that is in the report. That has the practical effect of essentially lowering by about a factor of 4 over a 30-year plan—for those of you who are not fluent in compound math—to the cost of the proposal.

That is not the only place that the ACE changed. On page 164 of the proposed rule for ACE, table 17 shows that there is a net benefit of going from the Clean Power Plan to ACE. On the very next page, page 165, it says that if you include the health impacts, which I think is in your mandate, that there is actually a net cost. Do you confirm that the justification for ACE omitted the health impacts—

Mr. WHEELER. No, again—

Mr. CASTEN [continuing]. Of reducing—

Mr. WHEELER [continuing]. That is from our proposal, and you're citing something that we took comment on. The final Agency record on this regulation was our final regulation issued in July. It was not from a—

Mr. CASTEN. OK. Now—

Mr. WHEELER [continuing]. Proposal that we received comments on and modified and changed—

Mr. CASTEN. With—

Mr. WHEELER [continuing]. Before we went final.

Mr. CASTEN. Madam Chair, I'd like unanimous consent to enter these documents into the record. I want to move on with the moments I have left here. Will you—

Chairwoman JOHNSON. Without objection.

Mr. CASTEN. When you appeared before the Senate for your confirmation hearing, Senator Merkley asked you about a study from Boston University, Harvard, and Syracuse that had recently been published. The study found that the ACE proposal would provide no, zero meaningful reductions because it effectively allows plans to bypass pollution controls. At the time you said you had not had time to review the study.

Madam Chair, I ask unanimous consent to enter this study into the record.

Mr. CASTEN. Have you had a chance to review that peer-reviewed paper since?

Mr. WHEELER. I looked at it at the time, but again, that was based on our proposal, not on our final regulation, which we—and the justifications. We don't believe that that study was accurate.

Mr. CASTEN. Can you explain the discrepancy between the 34 percent reduction cited in the regulatory impact analysis and what the authors of the study found?

Mr. WHEELER. No, I cannot explain what the authors of the study found.

Mr. CASTEN. Will you commit to providing your analysis of why you think this is justified after this hearing is over?

Mr. WHEELER. Yes.

Mr. CASTEN. Thank you. I yield back.

Chairwoman JOHNSON. Thank you very much.

Mr. Wheeler, I skipped my questions so we would get more Members. I'm going to submit them to you, which really has to do with procedure and decisionmaking. I wonder if you would maybe be able to respond in a 2-week period.

Mr. WHEELER. I will certainly strive to.

Chairwoman JOHNSON. OK. Thank you so very much for testifying before the Committee.

The record will remain open for 2 weeks for additional statements from the Members and for any additional questions the Committee might want to ask the witness.

The witness is now excused, and we thank you for coming. The Committee is adjourned.

Mr. WHEELER. Thank you.

[Whereupon, at 12:10 p.m., the Committee was adjourned.]



## Appendix I

---

ANSWERS TO POST-HEARING QUESTIONS

## ANSWERS TO POST-HEARING QUESTIONS

*Responses by The Honorable Andrew Wheeler*  
HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Chairwoman Eddie Bernice Johnson

1. During the hearing, Representative Weber asked whether the uptick in unhealthy air days in some parts of the country last year was due to the EPA rolling back environmental protections, or because of natural variation. You responded, “It’s both.”
  - a. Can you elaborate on how the uptick in unhealthy air days is due both to your Administration's regulatory rollbacks and natural variation?
  - b. What is the relative contribution of EPA's regulatory rollbacks to an increase in unhealthy air days, compared with natural variation? What evidence did you use to reach this conclusion?

**EPA Response:** I did not say that the uptick in unhealthy air days was because of regulatory rollbacks. I clearly stated that it was due to both tighter regulations that have been strengthened and naturally occurring events that have caused areas to exceed those tighter requirements.

2. The EPA did not answer a previous question that was submitted for the record for this Committee's March 27, 2019 hearing on EPA's IRIS program on whether Mr. David Dunlap participated in the decision-making process around eliminating the IRIS review of formaldehyde prior to his December 2018 recusal from this issue. Representative Wexton repeated this question in the September 19 hearing. You replied that to your knowledge Mr. Dunlap "hasn't been involved in any of the formaldehyde decisions." You then reiterated to Representative Wexton that you would look into providing confirmation of this.
  - a. Can you please provide confirmation on Mr. Dunlap's involvement in the elimination of the IRIS review of formaldehyde from the December 2018 IRIS program outlook?

**EPA Response:** Prior to joining federal service on September 30, 2018, Office of Research and Development (ORD) Deputy Assistant Administrator David Dunlap served as Director of Regulatory Environmental Affairs for Koch Industries. As a political appointee, Mr. Dunlap is subject to Executive Order 13770, including the restrictions found at §1, ¶6 regarding former employers. On October 3, 2018, Mr. Dunlap signed the Trump Ethics Pledge, under which, for a period of two years following his entry into federal service, he

cannot participate personally and substantially in any particular matter involving specific parties that is directly and substantially related to his former employer, Koch Industries. Mr. Dunlap is not permitted to meet with Koch Industries or interact with Koch Industries in his official capacity nor may he participate personally and substantially in any specific party matter in which Koch Industries is a party or represents a party. Mr. Dunlap also may not attend any meeting in which Koch Industries is present, unless the subject matter of the discussion is a particular matter of general applicability and at least four other entities representing a diversity of interests are present, besides Koch Industries.

As a new appointee, Mr. Dunlap consulted with career ethics officials in the EPA's Office of General Counsel regarding his ethical obligations. Mr. Dunlap completed his new employee ethics training in person on October 3, 2018 and has issued recusal statements to memorialize his obligation to recuse himself from certain matters involving his former employer and his spouse's employer. Mr. Dunlap also committed to a screening arrangement whereby other employees in ORD will redirect, without his knowledge, any matters involving his former employer. Mr. Dunlap will continue to recuse himself from specific party matters (e.g. lawsuits, enforcement actions, permits) in which his former employer and its subsidiaries are a party or represents a party, and any matter affecting his spouse's employer as a specific party or as a member of an affected class. As Mr. Dunlap carries out his duties as Deputy Assistant Administrator for ORD, he is permitted to rely upon and utilize his own prior expertise and experience. Federal ethics regulations do not prohibit him or other employees from relying on their prior knowledge or expertise when working in their EPA capacity.

As the Agency has previously detailed to the Committee in a July 19, 2019 response, because Integrated Risk Information System (IRIS) assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, at my direction ORD Principal Deputy Assistant Administrator for Research and Development and Science Advisor Jennifer Orme-Zavaleta, conveyed in a request dated August 10, 2018, established a more formal, structured process for identifying IRIS priorities. This process included a requirement that all IRIS priorities be approved by the program's Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program. It is important to note that Mr. Dunlap joined federal service on September 30, 2018, well after I had directed Principal Deputy Assistant Administrator Orme-Zavaleta to send out the August 10 memo. The August 10 memo established a more formal, structured process for identifying IRIS program priorities—which resulted in EPA program offices not selecting formaldehyde as a priority for the IRIS program.

Although not required by federal ethics law or regulation, Mr. Dunlap voluntarily recused himself from participating in matters related to the EPA's IRIS assessment on formaldehyde, which is not a specific party matter and therefore is not subject to the terms of the Trump Ethics Pledge. Nevertheless, to avoid even the appearance of any loss of impartiality, Mr. Dunlap chose to recuse himself.

3. A variety of Agency rulemakings have justified major regulatory rollbacks by excluding co-benefits from economic impact analyses. Further, in a May 2019 memo, you directed the heads of four

Program Offices to develop regulatory proposals for changes to cost-benefit analyses for rulemakings under each statute. The original Advanced Notice of Proposed Rulemaking on cost-benefit analysis suggested that EPA is considering doing retrospective analyses on rulemakings that have already been finalized, looking at the actual costs and benefits that have occurred in the history of each Rule.

- a. Given that excluding co-benefits, also known as ancillary benefits, does not comply with OMB's Circular A-4 best practices released in 2003 on regulatory impact analysis, is the agency planning to develop its own RIA guidelines that supersedes OMB's guidance?

**EPA Response:** Significant regulatory actions are developed in accordance with the law and supporting analyses are consistent with OMB guidance, including A-4, as well as the EPA's economic guidelines. The EPA's *Guidelines for Preparing Economic Analyses*, originally issued in 1983, are part of a continuing effort by the EPA to develop improved guidance on the preparation and use of the best available science in support of the decision-making process. The EPA developed these guidelines to provide support to EPA program offices in analyzing the benefits, costs, and other economic impacts of regulations and policies, and ensure that our analyses are consistent with OMB principles and guidance. Our last major update of the guidelines was issued in 2010.

As described in the May 2019 memo, the EPA is in the process of updating the guidelines to help clarify best practices for how to conduct benefit-cost analysis, including expanded discussion of key methodological and modeling choices, assumptions, uncertainties, and context around benefits and costs (including ancillary benefits and countervailing risks). The EPA expects to complete the Scientific Advisory Board (SAB) peer review of the revisions in 2020.

- b. What is the timeline for each of the four Program Offices' proposals for cost benefit analysis?

**EPA Response:** The May 2019 memo instructed each program office to develop proposals where the authorizing statutes allow. The EPA's Office of Air and Radiation was directed to undertake the first of these rulemakings, which is still an ongoing process.

- c. What is EPA's justification for this change of a precedent for the use of science in regulatory impact analyses that has been employed at EPA for decades?

**EPA Response:** There has been no change of precedent for the EPA's use of science in regulatory impact analyses.

- d. Will retroactive analyses be included in the rulemakings from the three Program Offices on cost benefit analysis?

**EPA Response:** The EPA's 2018 advanced notice of proposed rulemaking (ANPRM) requested comment regarding "...opportunities and challenges associated with issuing regulations to require retrospective analysis and the concomitant need to collect data in order

to conduct a meaningful retrospective analysis.” The EPA will continue to consider how retrospective analyses can yield insights about the realized costs and benefits of actions that may help inform future rulemakings.

4. In EPA’s responses to this Committee’s questions for the record for our March 27<sup>th</sup> hearing, we were told that EPA will conduct an interagency survey process on IRIS assessments on an annual basis, and that the 2019 process was slated to begin this summer.

- a. Has EPA already issued any survey or request for information to program offices as part of this process?

**EPA Response:** Yes. A formal solicitation for the EPA’s Integrated Risk Information System (IRIS) program assessments was announced on September 9, 2019, with a respond-by date of October 18, 2019.

- b. Is the survey process the same as last year?

**EPA Response:** The EPA planned this year’s process similarly to that which occurred in August 2018, with a memo from Office of Research and Development (ORD) leadership to the EPA program offices. The memo included a standardized prioritization template for nominating IRIS assessments, and the memo clearly stated the purpose, type of assessment needed, and deadlines. This ensured that every program office had the opportunity to submit its priorities.

- c. The 2018 process reduced the workflow from 23 chemicals to 13. Do you anticipate reducing the IRIS workflow even further with the 2019 process?

**EPA Response:** Through the prioritization process, EPA programs and regions can formally identify what assessments are a priority program need, why an assessment is needed, and when the assessment is needed. The IRIS program will adjust its workflow based on the priority chemicals identified through this process. The IRIS program will continue with the 13 chemicals: vanadium, inorganic mercury salts, ethyl tertiary butyl ether (ETBE), tert-Butyl alcohol, inorganic arsenic, chromium VI, methylmercury, polychlorinated biphenyls (PCBs), and five PFAS chemicals. The IRIS program will determine additional assessments that may be identified as priorities.

- d. If program offices state a need for an assessment that has been discontinued and/or suspended, will you consider adding it back to the IRIS workflow?

**EPA Response:** Yes. New nominations will be considered.

- e. Can EPA send the Committee the materials sent this year to program and regional offices soliciting their priorities for IRIS assessments?

**EPA Response:** Yes. Please see the enclosed documents.

5. On March 4<sup>th</sup>, I sent a letter with Senate colleagues requesting documentation about this Administration's decision-making process to eliminate chemicals from the IRIS workflow. The Committee received no written response until July 19, four and a half months later. EPA has been sending documents to us in a sporadic fashion since that time and we have received about 2,500 pages to date. However,
- 30% of those pages document communications from before this Administration even began.
  - 241 pages were just scans of morning news clips from Politico.
  - EPA also included five full reprints, 226 pages, of a 2017 study funded by a formaldehyde manufacturer.
  - EPA included four full reprints of a 2016 study funded by the chemicals trade association that was prepared by the same author. Not surprisingly, these studies seek to refute the link between formaldehyde and leukemia.

As far as we can tell, only about 20% of the production is from the right Administration and at least tangentially related to the request, and those pages are very heavily redacted. Only six percent at most of the documents EPA has shared with this Committee are in any way useful.

- a. When will EPA share the other materials in its possession that speak directly to our March 4 inquiry?

**EPA Response:** On July 19, 2019, the EPA provided a response to the Committee detailing in length the Agency's prioritization process for the IRIS program and the shift of formaldehyde to be assessed by the TSCA program within the EPA's Office of Chemical Safety and Pollution Prevention (OCSPP). With this response, the Agency provided over 159 pages detailing an overview of the recent updates and work on the IRIS program and also two memos from ORD Principal Deputy Assistant Administrator for Research and Development and Science Advisor Jennifer Orme-Zavaleta—one dated August 10th which was soliciting requests for IRIS assessment prioritization, and another dated December 4th which provided the updated priorities for IRIS assessments after the prioritization process. Since this initial July 19th response, the Agency has sent three additional letters on August 2nd, August 16th, and August 30th along with enclosures containing, in total, 2,543 pages of responsive documents.

As the Agency has previously detailed to the Committee in the July 19th response, because IRIS assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, at my direction Dr. Orme-Zavaleta, conveyed in a request dated August 10, 2018, established a more formal, structured process for identifying IRIS priorities. This process included a requirement that all IRIS priorities be approved by the program's Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program.

Along with the documents included in the productions that the Agency has provided to date, Dr. Orme-Zavaleta testified before the Committee on March 27, 2019, and answered questions for an extensive amount of time on issues directly presented in the Committee's March 4, 2019 letter and articulated the decision-making process behind the IRIS assessment prioritization.

Specifically, in a July 18, 2019, letter to the Agency, Chairwoman Johnson requested internal Agency documents relating to the EPA's process for identifying Integrated Risk Information System (IRIS) program priorities. As the Agency has previously explained to the Committee, the EPA has determined that those documents are confidential, deliberative, and should not be released. The Agency provided the Committee a document from the Office of Children's Health Protection (OCHP) on November 19, 2019.

The EPA has been transparent in our production of documents and information to the Committee in the issues raised in letters, questions during testimony, and numerous conversations with Committee staff. To accuse the Agency of acting otherwise is completely false.

6. EPA's representative told this Committee in March that the Office of Children's Health Protection (OCHP) had listed formaldehyde as a priority chemical for IRIS review. The National Cancer Institute has found a relationship between formaldehyde exposure and cancer. So presumably OCHP wanted to understand that risk better. But your Agency has refused so far to share OCHP's written priorities for the IRIS program with this Committee.

- a. Can you provide OCHP's stated priorities from the second-round survey conducted in 2018?

**EPA Response:** In a July 18, 2019, letter to the Agency, Chairwoman Johnson requested internal Agency documents relating to the EPA's process for identifying Integrated Risk Information System (IRIS) program priorities. As the Agency has previously explained to the Committee, the EPA has determined that those documents are confidential, deliberative, and should not be released. The Agency provided the Committee a document from the Office of Children's Health Protection (OCHP) on November 19, 2019.

The EPA has been transparent in our production of documents and information to the Committee in the issues raised in letters, questions during testimony, and numerous conversations with Committee staff. To accuse the Agency of acting otherwise is completely false.

7. In December 2016 the IRIS program issued a new assessment of ethylene oxide that determined the cancer potency risk for adults inhaling the chemical was 30 times higher than previously thought. In August of 2018 EPA released an update to the National Air Toxic Assessment (NATA), establishing a new risk value for ethylene oxide based on the 2016 IRIS assessment. A few weeks later, the American Chemistry Council, who represents the manufacturers of ethylene oxide, sent you a letter. They asked EPA to do away with the new NATA risk value for ethylene oxide, charging that the IRIS assessment underpinning it was flawed.

- a. Does EPA have any plans to withdraw or change the National Air Toxics Assessment related to ethylene oxide as requested by ACC?

**EPA Response:** In September 2018, the American Chemistry Council submitted a Request for Correction under the Information Quality Act asking that the "NATA risk estimates for [ethylene oxide] should be withdrawn and corrected to reflect scientifically-supportable risk values" ([https://www.epa.gov/sites/production/files/201810/documents/iqa\\_petition\\_cosept\\_2018\\_0.pdf](https://www.epa.gov/sites/production/files/201810/documents/iqa_petition_cosept_2018_0.pdf)). The EPA will address this request in the context of the current rulemaking for

the National Emissions Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing (also known “the MON”).

The EPA’s air program is currently using the updated toxicity value in its statutorily-required reviews of National Emissions Standards for Hazardous Air Pollutants (NESHAP), which includes a residual risk assessment. On December 17, 2019, the MON proposed rule was published in the *Federal Register*.<sup>1</sup> The risk assessment for that review used the toxicity value from the 2016 IRIS assessment.

In the MON proposed rule, the EPA proposed controls that would significantly reduce emissions of ethylene oxide from facilities with the highest risks. When assessing whether the post-control risks were acceptable, the EPA relied on health information and consideration of various uncertainties. The Agency included additional discussion of uncertainties in the MON proposed rule preamble and included an additional document in the docket for the rulemaking—*Sensitivity of Ethylene Oxide Risk Estimates to Dose-Response Model Selection*.<sup>2</sup> In the MON proposed rule, the Agency is requesting comment on the use of the updated toxicity value and alternative values.

- b. Does EPA have any plans to withdraw or change the IRIS assessment on ethylene oxide itself?

**EPA Response:** No.

8. On July 1 of this year, EPA issued comments on the Army Corps of Engineers environmental review of the Pebble Mine Project, noting that the proposed project may have “substantial and unacceptable adverse impacts” on fisheries in the area. We learned later that these comments were toned down from an earlier draft, in which EPA scientists found the Army Corps’ review itself had “major deficiencies” and could not be used to adequately inform the public about the potential impacts of Pebble Mine. But just a few weeks later, EPA announced, without an opportunity for public comment - that it would roll back the Section 404C determination on the proposed mine.

- a. Do you know of any new science-based information that emerged between July 1 and July 30 that would support a departure from the conclusions EPA reached in 2014 based on an extensive ecological evaluation, and had maintained for the past five years?
- b. Did the fishermen and tribes that seek to protect the salmon fisheries in Bristol Bay contact EPA between July 1 and July 30 to suggest that their concerns had been resolved?

**EPA Response:** I am recused from this matter.

<sup>1</sup> Available at <https://www.federalregister.gov/documents/2019/12/17/2019-24573/national-emission-standards-for-hazardous-air-pollutants-miscellaneous-organic-chemical>.

<sup>2</sup> Available at [https://www.epa.gov/sites/production/files/2019-11/documents/memo\\_sensitivity\\_of\\_ethylene\\_oxide\\_risk\\_estimates\\_to\\_dose-response\\_model\\_selection\\_e\\_.pdf](https://www.epa.gov/sites/production/files/2019-11/documents/memo_sensitivity_of_ethylene_oxide_risk_estimates_to_dose-response_model_selection_e_.pdf).

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Ms. Zoe Lofgren

1. During our hearing, we discussed the negotiations between EPA and the California Air Resources Board (CARB) to try to identify a compromise on fuel efficiency requirements for passenger vehicles. CARB made a proposal to EPA last fall for annual efficiency improvements that would be more stringent than the Trump Administration’s proposal to cap mileage requirements. EPA staff analyzed and summarized this proposal in order to advise then-Assistant Administrator for Air and Radiation, Bill Wehrum, in November 2018. EPA ultimately rejected this proposal. The CARB proposal was materially very similar to the deal that was ultimately reached between CARB, Ford Motor Company, Honda Motor Company, BMW and Volkswagen and announced on July 25, 2019.

During our September 19, 2019 hearing, I asked you share the briefing materials prepared by EPA staff that analyzed the offer that CARB made to EPA last fall. You committed to share materials. Can you please remit those documents to the Committee?

**EPA Response:** EPA staff briefed former Assistant Administrator Bill Wehrum on November 20, 2018 on their technical assessment of the California Air Resources Board (CARB) proposal. When you asked if briefing materials can be shared during the hearing, I responded that “there may be deliberative documents involved.” After checking, the Agency has determined these briefing materials are confidential and deliberative, and should not be released beyond the Agency. The EPA recognizes the importance of the Committee’s need to obtain information necessary to perform its legitimate oversight functions and is committed to continuing to work with your staff on how best to accommodate the Committee’s interests.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

## “Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Ms. Suzanne Bonamici

1. Can you provide a specific example from the EPA’s history where a regulatory action was unreliable or flawed because it considered data that did not meet the standards of the proposed Strengthening Transparency in Regulatory Science rule?

**EPA Response:** The proposed Strengthening Transparency in Regulatory Science rule is intended to strengthen the scientific foundations of future EPA regulatory actions. Enhancing the transparency and validity of the scientific information relied upon by the EPA strengthens the integrity of the EPA’s regulatory actions and its obligation to ensure the Agency is not arbitrary in its conclusions. The proposed rule would also complement federal transparency and data integrity laws, guidance, and memoranda, as well as ongoing work in the global scientific community to make underlying data available for reanalysis and validation. The proposed rule envisions that in ensuring the availability of underlying data, the EPA will build greater trust and certainty in its decision-making. As published in the *Federal Register*, the April 2018 proposed rule is intended to apply prospectively to final regulations that are determined to be “significant regulatory actions” pursuant to Executive Order 12866.

2. The scientific data that would be barred from consideration under the proposed Strengthening Transparency in Regulatory Science rule is vital to EPA’s most critical regulations: lead in drinking water, toxic chemicals, mercury, air pollution and many more that affect the health and well-being of our communities. How does a rule that limits access to the best available science uphold the EPA’s mission to protect human health and the environment?

**EPA Response:** It is important to ensure that the science underlying Agency decisions is transparent and available for evaluation by the public and stakeholders. The proposed Strengthening Transparency in Regulatory Science rule seeks to ensure that the science and foundational data underlying the EPA’s actions are publicly available. In line with this proposed rule, the EPA is already in the process of making its federally funded data available to the public. You can see the EPA’s plan at [epa.gov/open](http://epa.gov/open).

3. Will you commit to waiting for the Science Advisory Board to complete their comprehensive review of the proposed Strengthening Transparency in Regulatory Science rule before the Agency proceeds to finalize it?

**EPA Response:** The SAB has completed their consultation with the EPA on mechanisms for secure access to personally identifying information (PII) and confidential business information (CBI) as discussed in the proposed Strengthening Transparency in Regulatory Science rule.

The SAB comments are available at:  
[https://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/41042C652229CA398525848500595458/\\$File/EPA-SAB-19-005.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/41042C652229CA398525848500595458/$File/EPA-SAB-19-005.pdf).

The SAB also provided comments on the entire April 2018 proposed rule. The EPA received those comments on December 31, 2019, and will consider them as we develop the final rule.

4. Will you commit to working with the National Academies of Sciences on the development of the proposed Strengthening Transparency in Regulatory Science rule? Will you commit to providing EPA funds for the NAS to conduct a review of the proposed rule?

**EPA Response:** The EPA does not plan to work with the National Academy of Sciences (NAS) in developing this proposed rule. However, the EPA has drawn upon many sources, including existing NAS reports to inform our thinking about certain elements of a supplemental proposed rule.

5. Will you commit to requiring at least a 90-day public comment period for the Strengthening Transparency in Regulatory Science supplemental rule?

**EPA Response:** The EPA is committed to ensuring adequate time for public review and comment of the supplemental rule.

6. As currently published in the Federal Register, does the proposed rule retroactively apply to any existing EPA regulations and standards? Will the supplemental rule contain any provision for the retroactive application of the rule to existing EPA regulations and standards? If yes, please outline the consequences of retroactive application.

**EPA Response:** As published in the Federal Register, the April 2018 proposed rule is intended to apply prospectively to final regulations that are determined to be “significant regulatory actions” pursuant to Executive Order 12866. The EPA intends to issue a supplemental proposal that would propose clarifications, modifications, and additions to certain provisions in the April 30, 2018, proposed rulemaking.

7. The Portland Harbor Superfund Site in my home state of Oregon was added to EPA’s National Priorities List in December 2000. In response to a question for the record for your confirmation hearing before the Senate Committee on Environment and Public Works, you stated that the “Portland Harbor Superfund site remains a priority for EPA and continues to be included on the Administrator’s emphasis list of priority Superfund sites” and the “Agency remains committed to providing the resources needed to work with potentially responsible parties to ensure the remedial designs and remedial actions are implemented at this site.” Please provide specific details about how the EPA is prioritizing the cleanup at Portland Harbor.

**EPA Response:** The Portland Harbor site remains on the Administrator's Emphasis List, and EPA senior officials from the Office of Land and Emergency Management and the Office of Enforcement and Compliance Assurance are actively engaged in advancing progress at this site. EPA senior officials have met with stakeholders (Potentially Responsible Parties, state and local governments, community members, and tribes) in Portland to reinforce the EPA's commitment to move cleanup forward. To date, the EPA has entered into an agreement with the City of Portland and State of Oregon to provide incentives for parties to perform remedial design. In addition, the EPA has completed agreements for remedial design in three of the site's subareas and the EPA is in negotiations for design in additional subareas, with the goal of completing agreements with responsible parties that achieve 100% remedial design of the cleanup.

8. In June 2019, Sheryl Bilbrey left the EPA, and in early July, David Allnut began serving as Acting Director for the Superfund and Emergency Management Division for Region 10. How has this staff change affected progress on the Portland Harbor Superfund Site? Does the EPA intend to hire senior level staff to work in the Region 10 Portland, Oregon office to manage the site for the Agency?

**EPA Response:** The change in Division Director at the regional level has no impact on the progress at the Portland Harbor site. The EPA continues to meet deadlines set forth in existing agreements with performing parties. EPA Region 10 is in the process of hiring a permanent Division Director for the Superfund and Emergency Management Division. Additionally, the Region has hired two remedial project managers (RPM) and is in the process of recruiting one more RPM and a team leader—all to be based at EPA's Portland Operations Office.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

## “Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Ms. Mikie Sherrill

1. Administrator Wheeler, the SST Committee held a hearing on the IRIS chemical assessment program back in March. We are extremely concerned that the political officials in the Office of Research and Development eliminated half of the IRIS workflow in December of last year. Chairwoman Johnson sent a joint letter with Senators on March 4, requesting documentation about this Administration's decision-making process to eliminate chemicals from the IRIS workflow.
  - a. Are you aware of the March 4 request?

**EPA Response:** Yes, as you are aware, the Agency has provided the Committee multiple responses to your March 4, 2019 letter, in addition to the Committee's April 3, 2019 and July 18, 2019 letters. As you are aware, on March 13, 2019, shortly after receiving the March 4th letter, the Agency provided the Committee with a briefing on the reorganization of the Office of Research and Development (ORD) by ORD Principal Deputy Assistant Administrator for Research and Development and Science Advisor Jennifer Orme-Zavaleta and other EPA staff. This briefing included a discussion about the impacts of the reorganization on the IRIS program. Additionally, the EPA provided Principal Deputy Assistant Administrator Orme-Zavaleta to testify at a hearing on the IRIS program on March 27, 2019, before the Committee's Subcommittee on Oversight and Investigations and Subcommittee on Environment. At the hearing, Principal Deputy Assistant Administrator Orme-Zavaleta answered questions for an extensive amount of time on issues directly presented in the Committee's March 4th letter and articulated the decision-making process behind the IRIS assessment prioritization, which the Committee further inquired about in the April 3rd letter. The Agency also provided the Committee with a briefing on the fiscal year (FY) 2020 ORD budget on April 2, 2019, which included extensive discussion regarding the funding and future of the IRIS program.

On July 19, 2019, the EPA provided a response to the Committee's March 4, 2019 letter detailing in length the Agency's prioritization process for the IRIS program and the shift of formaldehyde to be assessed by the TSCA program within the EPA's Office of Chemical Safety and Pollution Prevention (OCSPP). With this response, the Agency provided over 159 pages detailing an overview of the recent updates and work on the IRIS program and also two memos from ORD Principal Deputy Assistant Administrator for Research and Development and Science Advisor Jennifer Orme-Zavaleta—one dated August 10th which was soliciting requests for IRIS

assessment prioritization, and another dated December 4th which provided the updated priorities for IRIS assessments after the prioritization process. Since this initial July 19th response, the Agency has sent three additional letters on August 2nd, August 16th, and August 30th along with enclosures containing, in total, 2,543 pages of responsive documents.

As the Agency has previously detailed to the Committee in the July 19th response, because IRIS assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, at my direction Dr. Orme-Zavaleta, conveyed in a request dated August 10, 2018, established a more formal, structured process for identifying IRIS priorities. This process included a requirement that all IRIS priorities be approved by the program's Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program.

Along with the documents included in the productions that the Agency has provided to date, Dr. Orme-Zavaleta testified before the Committee on March 27, 2019, and answered questions for an extensive amount of time on issues directly presented in the Committee's March 4, 2019 letter and articulated the decision-making process behind the IRIS assessment prioritization.

Specifically, in a July 18, 2019, letter to the Agency, Chairwoman Johnson requested internal Agency documents relating to the EPA's process for identifying Integrated Risk Information System (IRIS) program priorities. As the Agency has previously explained to the Committee, the EPA has determined that those documents are confidential, deliberative, and should not be released. The Agency provided the Committee a document from the Office of Children's Health Protection (OCHP) on November 19, 2019.

The EPA has been transparent in our production of documents and information to the Committee in the issues raised in letters, questions during testimony, and numerous conversations with Committee staff. To accuse the Agency of acting otherwise is completely false.

The Committee received zero written response until July 19. EPA has been sending documents to us gradually since that time and we have received about 2,500 pages to date. But:

- 30% of those pages document communications from before this Administration even began.
- 241 pages were just scans of morning news clips from Politico.
- EPA also included five full reprints, 226 pages, of a 2017 study funded by a formaldehyde manufacturer.
- EPA included four full reprints of a 2016 study funded by the chemicals trade association that was prepared by the same author.
- As far as we can tell, only about 20% of the production is from the right Administration and at least tangentially related to the right topic. And those pages are very heavily redacted. Only six percent at most of the documents EPA has shared with this Committee are useful.

Practically the only thing we've learned from this document production is just how important the industry perspective is to EPA when it comes to chemicals and human health.

- b. Will you commit to share the other materials in EPA's possession that speak directly to our March 4 inquiry?

**EPA Response:** On July 19, 2019, the EPA provided a response to the Committee detailing in length the Agency's prioritization process for the IRIS program and the shift of formaldehyde to be assessed by the TSCA program within the EPA's Office of Chemical Safety and Pollution Prevention (OCSPP). With this response, the Agency provided over 159 pages detailing an overview of the recent updates and work on the IRIS program and also two memos from ORD Principal Deputy Assistant Administrator for Research and Development and Science Advisor Jennifer Orme-Zavaleta—one dated August 10th which was soliciting requests for IRIS assessment prioritization, and another dated December 4th which provided the updated priorities for IRIS assessments after the prioritization process. Since this initial July 19th response, the Agency has sent three additional letters on August 2nd, August 16th, and August 30th along with enclosures containing, in total, 2,543 pages of responsive documents.

As the Agency has previously detailed to the Committee in the July 19th response, because IRIS assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, Dr. Orme-Zavaleta, at my direction, conveyed in a request dated August 10, 2018, established a more formal, structured process for identifying IRIS priorities. This process included a requirement that all IRIS priorities be approved by the program's Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program.

Along with the documents included in the productions the Agency has provided to date, Dr. Orme-Zavaleta testified before the Committee on March 27, 2019, and answered questions for an extensive amount of time on issues directly presented in the Committee's March 4, 2019 letter and articulated the decision-making process behind the IRIS assessment prioritization.

Specifically, in a July 18, 2019, letter to the Agency, Chairwoman Johnson requested internal Agency documents relating to the EPA's process for identifying Integrated Risk Information System (IRIS) program priorities. As the Agency has previously explained to the Committee, the EPA has determined that those documents are confidential, deliberative, and should not be released. The Agency provided the Committee a document from the Office of Children's Health Protection (OCHP) on November 19, 2019.

The EPA has been transparent in our production of documents and information to the Committee in the issues raised in letters, questions during testimony, and numerous conversations with Committee staff. To accuse the Agency of acting otherwise is completely false.

2. EPA's representative told the SST Committee in March that the Office of Children's Health had listed formaldehyde as a priority chemical for IRIS review. The National Cancer Institute has found a relationship between formaldehyde exposure and cancer. So presumably OCHP wanted to

understand that risk better. But your Agency has refused so far to share OCHP's written priorities for the IRIS program with this Committee.

- a. Can you commit to sharing that information with the Committee?

**EPA Response:** In a July 18, 2019, letter to the Agency, Chairwoman Johnson requested internal Agency documents relating to the EPA's process for identifying Integrated Risk Information System (IRIS) program priorities. As the Agency has previously explained to the Committee, the EPA has determined that those documents are confidential, deliberative, and should not be released. The Agency provided the Committee a document from the Office of Children's Health Protection (OCHP) on November 19, 2019.

The EPA has been transparent in our production of documents and information to the Committee in the issues raised in letters, questions during testimony, and numerous conversations with Committee staff. To accuse the Agency of acting otherwise is completely false.

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Sean Casten

1. Mr. Wheeler, as you know, the 2007 RFS expanded the 2005 mandate and added a carbon standard for biofuels requiring conventional biofuels to reduce carbon by 20% compared to gasoline and advanced biofuels to be 50% better than petroleum. It was the first program to impose a carbon reduction standard on liquid petroleum fuels. Since that time, the extraction and refining of gasoline have become significantly more carbon intensive as fracking and deep-water drilling have expanded U.S. petroleum production in the U.S. In contrast, biofuels have become significantly less carbon intensive as production technology and feedstock yields have improved. Moreover, issues that in 2007, like indirect land use are far better understood and suggest biofuels have an even better carbon footprint than EPA first concluded. Unfortunately, EPA has not updated its carbon scoring for either biofuels or petroleum
  - a. Will you commit to completing an updated analysis of the carbon scoring for both petroleum and biofuels, including an updated assessment of the indirect land use attributable to these fuels?

**EPA Response:** We appreciate your input on the importance of lifecycle greenhouse gas (GHG) assessment and using the best available science. We intend to update our analysis at the appropriate time, but given the many other Renewable Fuel Standard (RFS) program priorities in front of us, no decisions have been made on the timing to revisit our lifecycle analysis.

- b. USDA has conducted extensive analysis of the carbon footprint for feedstock production and biofuels processing. Their most recent analysis concludes conventional biofuels such as the corn ethanol produced in Iowa today are about 43% better than gasoline. Will you commit to having EPA incorporate USDA’s analysis into your Agency’s updated analysis?

**EPA Response:** We continue to monitor the science regarding lifecycle GHG emissions associated with biofuels. As we do lifecycle assessments for new fuel pathways, the most recent science and data that are consistent with the statutory provisions that govern the EPA’s lifecycle assessments are incorporated where possible. For example, our facility-specific petition approvals have incorporated advances in biofuel production as plants are able to demonstrate efficiency improvements.

- c. EPA also completed a carbon assessment of Brazilian produced ethanol from sugar cane. That analysis assumed the end of burning cane before harvest and did not account for any destruction in the Amazon. With the Amazon on fire today and Brazil resuming rain forest destruction to accommodate expanded agriculture, will you commit to accounting for the real environmental impact of Brazil's sugar and ethanol industries and the affect on carbon caused by the fires in the Amazon today?

**EPA Response:** The EPA's analysis in 2010 of sugarcane ethanol projected that 10 percent of Brazilian sugarcane area would use burning prior to harvest in 2022 and also projected deforestation in the Amazon region of Brazil. This analysis was based on the data available and the laws in place at that time. The EPA intends to update our analysis at the appropriate time, but given the many other RFS priorities in front of us, no decisions have been made on the timing to revisit our lifecycle analysis.

Last month, EPA stated very forcefully that there is "no evidence" of small refinery exemptions hurting biofuel producers or farmers. Since EPA said that, we've had another ethanol plant close in Iowa, and countless others across the country are reeling from reduced domestic demand because EPA is gaming the RFS to the benefit of large oil companies. In fact, just last week, USDA confirmed our fears of reduced demand by reducing their projections on how much corn will be used for ethanol yet again.

- d. Mr. Wheeler, farmers, ethanol producers, and biodiesel producers are reeling from the EPA's mismanagement of the RFS program. They are losing their livelihoods. But yet EPA somehow thinks this situation is ok. Can you explain how you plan to fix this problem?

**EPA Response:** On October 28, 2019, the EPA published a supplemental proposed rulemaking, and on December 19, 2019, I signed the 2020 RFS Annual final rule. This rule finalized changes to the calculation of applicable percentage standards under the RFS program to account for projected small refinery exemptions. The final rule adds a projection of the aggregate amount of exempted volumes resulting from 2020 small refinery exemptions into the percentage standards calculation, effectively reallocating anticipated exempted volumes to other obligated parties.

- e. How does the Environmental Protection Agency's approval process for small refinery exemption waivers operate?

**EPA Response:** After receiving a Small Refinery Exemption (SRE) petition, the EPA makes a threshold determination on whether the refinery is eligible to petition for an exemption under the statute and the EPA regulation. If the EPA determines that the refinery is eligible, the EPA then refers the petition to the Department of Energy (DOE) for review. DOE then provides the EPA with a finding as to whether a refinery merits exemption and, if so, what level of exemption. The DOE finding of no exemption, 50 percent exemption, or full exemption are based on the application of a scoring matrix. This matrix quantifies specific factors that DOE has determined may indicate disproportionate economic hardship. Next, DOE provides the EPA the completed matrix for each facility, along with DOE's finding.

The EPA then issues its decision consistent with the statute, regulations, and subsequent Congressional direction. Beginning with 2019 SRE petitions and including 2020 SRE petitions and beyond, the EPA intends to follow the DOE findings.

- f. What is the role of the Department of Energy in reviewing and scoring waiver applications?

**EPA Response:** As directed by the statute, the EPA has implemented the small refinery exemption provisions of CAA section 211(o)(9) working in close consultation with the U.S. Department of Energy. The Department of Energy conducts a review of the petition and supporting information and makes a finding of whether the petitioning small refinery should receive an exemption, and if so the amount of relief (i.e., 50% or 100%) the petitioning small refinery should receive.

- g. What factors are being considered in the assessment and approval of these applications and whether changes have been made to the review process under the current Administration?

**EPA Response:** On October 28, 2019, the EPA published a supplemental proposed rulemaking, and on December 19, 2019, I signed the 2020 RFS Annual final rule. This rule finalized changes to the calculation of applicable percentage standards under the RFS program to account for projected small refinery exemptions. The final rule adds a projection of the aggregate amount of exempted volumes resulting from 2020 small refinery exemptions into the percentage standards calculation, effectively reallocating anticipated exempted volumes to other obligated parties. In the 2020 RFS Annual final rule, the EPA stated that it intends to follow the DOE findings, including granting partial (i.e., 50 percent) relief, where appropriate when evaluating small refinery exemptions petitions going forward, including in 2019 and 2020. In a previously-issued supplemental notice of proposed rulemaking associated with the 2020 RFS Annual rule, the EPA described and requested comment on certain factors it will apply in evaluating small refinery exemption petitions (<https://www.govinfo.gov/content/pkg/FR-2019-10-28/pdf/2019-23379.pdf>). The EPA considered and responded to those comments in the final rule.

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Ms. Katie Hill

1. Most of my constituents live in the South Coast Air Quality Management District. My district is north of Los Angeles for better reference. We have some significant air quality problems with ozone and particulate matter. Between the traffic and the topography, it's an enormous challenge. We're working hard to innovate our way out of noncompliance, and I want to make sure my counties are armed with every possible tool to do that. We also want to make sure that EPA's health standards for these pollutants are informed by the best possible scientific process.

But I have serious concerns about how the outside scientific advisory process is being accommodated in EPA's most recent efforts to update standards for ozone and PM. This Committee sent you a letter on Monday asking for more information, but I want to spend some time today.

- a. You disbanded the integrated review subpanel for the Clean Air Scientific Advisory Committee on particulate matter in October 2018. The Members of this panel, before you dismissed them, were employed as Special Government Employees and held to explicit ethics agreements, including financial disclosures, ethics training, and limitations on personal conduct while serving. Last week you announced a “pool of consultants” to replace the formal integrated review panel.
  - i. Will members of the pool of consultants be held to the same ethics rules as the Members of the formal integrated review panel were?

**EPA Response:** All members of the pool of consultants were hired as Special Government Employees (SGEs). As such, they were held to and vetted for the same ethics rules as are all Federal Advisory Committee (FAC) members.

In May 2018, the EPA issued a memorandum outlining a “Back-to-Basics” process for NAAQS under the Clean Air Act (CAA). This memo ensures that the EPA and its independent science advisors follow a transparent, timely, and efficient process in reviewing and revising public health- and welfare-based NAAQS. Consistent with the memo and with the statutory mandate that the EPA review each NAAQS every five years, the EPA intends to finalize any necessary revisions to the ozone and particulate matter NAAQS by the end of 2020.

Best available science must be the foundation upon which all the EPA's regulatory and policy decisions are based. Independent reviews, such as the CASAC's reviews during the NAAQS standard-setting process, ensure that the Agency uses the best available science to fulfill our mission to protect human health and the environment. It is important to remember that the CAA envisions a continual NAAQS review. As soon as one five-year review ends, the next five-year review begins. The Agency is committed to constantly reviewing the latest science for each NAAQS review.

As Administrator, I directed EPA staff to complete the review of the particulate matter (PM) NAAQS by the end of 2020 and to continue progress on the review of the ground-level ozone NAAQS so that public review of the Integrated Science Assessment (ISA) and Policy Assessment (PA) can conclude by the end of 2019. The EPA welcomes feedback during all stages of these reviews from members of the scientific community and public, and has received feedback from a number of outside experts during recent public meetings and teleconferences.

During my recent testimony before the Committee, I reaffirmed the Agency's intention of finalizing both reviews by the end of next year. As I detailed during the hearing, for ozone, this will be the first time that the Agency has completed the review within the statutory five-year requirement. The EPA has previously and consistently taken longer than the statutory five-year requirement to do so. The Agency is now committed to completing the reviews within the statutory timeframe of five years, as is required by the CAA. Despite the repeated claims and criticism that the Agency is proceeding with the reviews at a pace that is too fast, it is important to note that Congress, through the CAA, has required the Agency to complete the reviews and provide updates every five years. My direction is not an "accelerated" timeline; it is the legal timeline.

Additionally, one aspect that continues to be ignored by critics of the Agency is that once the Agency is finished with a five-year review, the next five-year review starts the very next day. It is the intention of the Agency to complete the review on time, and then start the next five-year review the day after—allowing for the review process to satisfy the requirements set by Congress, while also ensuring that the Agency uses the best available science.

To help ensure that the EPA complies with the statutory five-year requirement, I further directed staff to create a pool of expert consultants that the seven-person chartered CASAC, through the Chair, can draw from as needed to support the PM and ozone reviews. On September 13, 2019, I announced the selection of this pool of non-member subject matter experts, whose feedback will help the chartered CASAC as it provides advice to the Administrator in a manner consistent with the CAA and the Federal Advisory Committee Act (FACA). Relying on these consultants, instead of the previous panel arrangement, will help align the Agency's work with the CAA's five-year review schedule, while also ensuring that the standards are based on the best available science. These subject matter experts provide additional expertise in

response to CASAC's request for additional expertise in its April 11, 2019 letter to me.

The process for selecting members for the SAB is described in the *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB): A Report of the EPA Science Advisory Board Staff Office (EPA-SAB-04-002)*. The selection of members for the CASAC follows a similar process. The SAB Staff Office reviews qualifications of nominees to assess whether they have the scientific education, training, and experience to evaluate basic and applied science issues addressed by the advisory committees. The SAB Staff Office looks for nominees who have distinguished themselves professionally and who will be available to invest the time and effort in providing advice and recommendations to the EPA. The SAB Staff Office consults with the Agency and current members of the SAB and the CASAC in this process.

This pool of consultants was selected by the Administrator from the nominations provided by the public's response to an August 7, 2019 Federal Register Notice soliciting nominations. Members of the public and CASAC had the opportunity to submit nominations of candidates for the pool of consultants. The EPA followed up with the nominees to determine their interest in being candidates and to collect information on their qualifications (curriculum vitae/resumes, biographical sketches, and EPA 3110-48 Confidential Financial Disclosure Forms). A list of interested and qualified candidates with summaries of their qualifications were provided to senior leadership for selection.

The Federal Advisory Committee Act (FACA) requires that non-member consultants be hired either as SGEs or through contracts. Consistent with FACA requirements, the EPA hired the pool of consultants as SGEs. As SGEs, the pool of non-member consultants are governed by the same ethics requirements as other SGEs serving on EPA FACs, such as the Chartered CASAC, which include submission of EPA 3110-48 Financial Disclosure Forms and review by Agency ethics officials.

- ii. Was Dr. Tony Cox, chair of CASAC, consulted in advance on who should be named to the pool of the consultants?

**EPA Response:** The public, including Dr. Cox and all the other CASAC members, had an opportunity to nominate potential candidates for the pool of consultants. However, Dr. Cox was not involved in the decisions regarding who made up the pool of consultants.

The process for selecting members for the SAB is described in the *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB): A Report of the EPA Science Advisory Board Staff Office (EPA-SAB-04-002)*. The selection of members for the CASAC follows a similar process. The SAB Staff Office reviews qualifications of nominees to assess whether they have the scientific education, training, and experience to evaluate basic and applied science issues

addressed by the advisory committees. The SAB Staff Office looks for nominees who have distinguished themselves professionally and who will be available to invest the time and effort in providing advice and recommendations to the EPA. The SAB Staff Office consults with the Agency and current members of the SAB and the CASAC in this process.

This pool of consultants was selected by the Administrator from the nominations provided by the public's response to an August 7, 2019 Federal Register Notice soliciting nominations. Members of the public and CASAC had the opportunity to submit nominations of candidates for the pool of consultants. The EPA followed up with the nominees to determine their interest in being candidates and to collect information on their qualifications (curriculum vitae/resumes, biographical sketches, and EPA 3110-48 Confidential Financial Disclosure Forms). A list of interested and qualified candidates with summaries of their qualifications was provided to senior leadership for selection.

- iii. Were other members of the chartered CASAC consulted on appointments to the pool of consultants?

**EPA Response:** The public, including Dr. Cox and all the other CASAC members, had an opportunity to nominate potential candidates for the pool of consultants. However, no CASAC members were involved in the decisions regarding who made up the pool of consultants.

The process for selecting members for the SAB is described in the *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB): A Report of the EPA Science Advisory Board Staff Office (EPA-SAB-04-002)*. The selection of members for the CASAC follows a similar process. The SAB Staff Office reviews qualifications of nominees to assess whether they have the scientific education, training, and experience to evaluate basic and applied science issues addressed by the advisory committees. The SAB Staff Office looks for nominees who have distinguished themselves professionally and who will be available to invest the time and effort in providing advice and recommendations to the EPA. The SAB Staff Office consults with the Agency and current members of the SAB and the CASAC in this process.

This pool of consultants was selected by the Administrator from the nominations provided by the public's response to an August 7, 2019 Federal Register Notice soliciting nominations. Members of the public and CASAC had the opportunity to submit nominations of candidates for the pool of consultants. The EPA followed up with the nominees to determine their interest in being candidates and to collect information on their qualifications (curriculum vitae/resumes, biographical sketches, and EPA 3110-48 Confidential Financial Disclosure Forms). A list of interested and qualified candidates with summaries of their qualifications was provided to senior leadership for selection.

- b. As of July 12, 2019, the Director of the Scientific Advisory Board Staff Office indicated that your office had not involved him or his staff in your anticipated response to CASAC's April 11 request for the reinstatement of the PM panel.
- i. Did you consult with the SAB Staff Office in your decision to establish the pool of consultants?

**EPA Response:** The Science Advisory Board Staff Office was engaged in the process of calling for and receiving nominations of potential pool of consultant members. The SABSO also collected key information on the nominees and conducting an ethics review for these candidates. However, the decisions on who will serve on the expert pool of consultants was made by the Administrator.

The process for selecting members for the SAB is described in the *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB): A Report of the EPA Science Advisory Board Staff Office (EPA-SAB-04-002)*. The selection of members for the CASAC follows a similar process. The SAB Staff Office reviews qualifications of nominees to assess whether they have the scientific education, training, and experience to evaluate basic and applied science issues addressed by the advisory committees. The SAB Staff Office looks for nominees who have distinguished themselves professionally and who will be available to invest the time and effort in providing advice and recommendations to the EPA. The SAB Staff Office consults with the Agency and current members of the SAB and the CASAC in this process.

This pool of consultants was selected by the Administrator from the nominations provided by the public's response to an August 7, 2019 Federal Register Notice soliciting nominations. Members of the public and CASAC had the opportunity to submit nominations of candidates for the pool of consultants. The EPA followed up with the nominees to determine their interest in being candidates and to collect information on their qualifications (curriculum vitae/resumes, biographical sketches, and EPA 3110-48 Confidential Financial Disclosure Forms). A list of interested and qualified candidates with summaries of their qualifications was provided to senior leadership for selection.

- ii. Was the SAB Staff Office involved in vetting appointments to the pool of consultants, as they would be for an official subpanel?

**EPA Response:** Yes, the Science Advisory Board Staff Office was fully engaged on vetting all nominees for this pool of consultants.

The process for selecting members for the SAB is described in the *Implementation Plan for the New Structural Organization of the EPA Science Advisory Board (SAB): A Report of the EPA Science Advisory Board Staff Office (EPA-SAB-04-002)*. The selection of members for the CASAC follows a similar process. The SAB Staff Office reviews qualifications of nominees to assess whether they have the scientific

education, training, and experience to evaluate basic and applied science issues addressed by the advisory committees. The SAB Staff Office looks for nominees who have distinguished themselves professionally and who will be available to invest the time and effort in providing advice and recommendations to the EPA. The SAB Staff Office consults with the Agency and current members of the SAB and the CASAC in this process.

This pool of consultants was selected by the Administrator from the nominations provided by the public's response to an August 7, 2019 Federal Register Notice soliciting nominations. Members of the public and CASAC had the opportunity to submit nominations of candidates for the pool of consultants. The EPA followed up with the nominees to determine their interest in being candidates and to collect information on their qualifications (curriculum vitae/resumes, biographical sketches, and EPA 3110-48 Confidential Financial Disclosure Forms). A list of interested and qualified candidates with summaries of their qualifications were provided to senior leadership for selection.

The Federal Advisory Committee Act (FACA) requires that non-member consultants be hired either as Special Government Employees (SGEs) or through contracts. Consistent with FACA requirements, the EPA hired the pool of consultants as SGEs. As SGEs, the pool of non-member consultants are governed by the same ethics requirements as other SGEs serving on EPA Federal Advisory Committees (FACs), such as the Chartered CASAC, which include submission of EPA 3110-48 Financial Disclosure Forms and review by Agency ethics officials.

2. Lastly, how will the EPA be quantifying the pollution impact of vehicles that will be only required to achieve 37 mpg efficiency versus the previously required 51 mpg efficiency under Californian regulations?

**EPA Response:** In the Safer Affordable Fuel Efficient (SAFE) Vehicles proposed rulemaking, the EPA and the National Highway Traffic Safety Administration (NHTSA) quantified the environmental impacts of the proposed standards as well as a wide range of alternatives for which the agencies sought comment. The agencies will update the environmental impacts analysis for the final rulemaking including a full assessment of greenhouse gas emissions for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O and criteria pollutants such as NO<sub>x</sub>, VOCs, and PM. In addition to a full accounting of changes in vehicle emissions, the agencies will also provide an assessment of health-related impacts from both changes in tailpipe and upstream emissions. The health-related assessment will include premature deaths and respiratory symptoms and other air quality effects. SAFE Vehicles Proposed Rule Sections VII D and E (83 FR 43324-43350, August 24, 2018).

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Randy Weber

1. The Lautenberg Chemical Safety Act amended TSCA to require EPA to use the weight of the scientific evidence and best available science when conducting risk evaluations of existing substances. In implementing these provisions, do you agree that scientific evidence, namely a thorough evaluation of cause and effect on how chemicals act to induce toxicity, should take precedence over assumptions and defaults?

**EPA Response:** The Toxic Substances Control Act (TSCA) requires the EPA to use the “best available science” and “weight of scientific evidence” in our existing chemical risk evaluations. These terms were defined in the Agency’s risk evaluation rule using a combination of previously accepted definitions, Congressional record, and language taken directly from TSCA. In practice, what this means for the implementation of TSCA is a process that utilizes systematic review in a fit-for-purpose manner that identifies and evaluates each stream of scientific evidence, its strengths, limitations, and relevance, so as to integrate evidence as necessary and appropriate. This results in a product where in some instances empirical data are most appropriate and in other instances modelled data are most appropriate. Use of many types of data in risk assessment involves making assumptions.

As needed, the Office of Pollution Prevention and Toxics (OPPT), within the EPA’s Office of Chemical Safety and Pollution Prevention (OCSPP), updates its models, assumptions, and defaults so that they reflect the current state of knowledge and are as representative as possible of the scenarios and conditions being modeled. Consistent with its mission, EPA risk assessments tend towards protecting public and environmental health by preferring an approach that does not underestimate risk in the face of uncertainty and variability (see EPA staff paper on risk assessment <https://semspub.epa.gov/work/10/500006305.pdf>; section 2.1.2). The EPA seeks to adequately protect public and environmental health by ensuring that risk is not likely to be underestimated.

- a. Given the focus on ensuring decisions use the “best available science,” what current scientific developments hold the greatest promise for delivering successful chemical assessments in the future?

**EPA Response:** The EPA plans to continue delivering chemical assessments and is working to make them even better. Systematic review and New Approach Methodologies (NAMs) are

two areas of development that the EPA has been heavily invested in, which will enhance chemical assessments.

The EPA has adopted systematic review, a method of conducting a standardized literature-based assessment and quality review known for the transparency and rigor it brings to the process. Systematic review methods provide clarity on the strategies used to search and select literature, structure for objectively evaluating the strengths and weaknesses of individual studies, structured frameworks to guide integrative weight-of-evidence evaluation, and clearer rationale for selecting the studies that are advanced for consideration in calculating toxicity values. The EPA's TSCA program is using systematic review in the existing chemical assessments to facilitate transparency and consistency across the risk evaluations. The use of systematic review across all risk evaluations ensures the use of best available science in the risk evaluations, thus upholding this statutory requirement. All risk evaluations must be peer reviewed and the EPA has requested comment from the peer reviewers on the systematic review process. Additionally, the EPA has contracted with the National Academies of Science to review and provide advice on further enhancing the systematic review approaches used in the TSCA risk evaluations.

Scientific advancements exist today that allow us to better predict potential hazards for risk assessment purposes without the use of traditional methods that rely on animal testing. These new approach methods or NAMs, include any technologies, methodologies, approaches, or combinations thereof that can be used to provide information on chemical hazard and potential human exposure that can avoid or significantly reduce the use of testing on animals. The benefits of NAMs are extensive, not only allowing us to decrease animals used while potentially evaluating more chemicals across a broader range of potential biological effects, but in a shorter timeframe with fewer resources, while often achieving equal or greater biological predictivity than current animal models. The EPA is committed to avoiding unnecessary animal testing throughout the Agency and remains focused on promoting the development and implementation of NAMs of equivalent or better scientific quality and relevance for assessing risks to health and the environment of chemical substances. On September 10, 2019, I signed a Directive to prioritize the EPA's efforts to reduce animal testing including reducing mammal study requests and funding 30 percent by 2025 and eliminating them by 2035 (<https://www.epa.gov/research/administrator-memo-prioritizing-efforts-reduce-animal-testing-september-10-2019>). The EPA has already made substantial progress and is an international leader in advancing NAMs for filling information gaps and integrating innovative methods into chemical risk assessment. Moving forward, the EPA plans to continue being a leader in the collective objective of identifying timely and cost-efficient ways to advance our knowledge of potential hazards and exposures from chemicals in the environment for the purposes of informing regulatory decisions.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Andy Biggs

1. At the beginning of this Congress, I reintroduced the Improving Science in Chemical Assessments Act (H.R. 89). This legislation would give the relevant program offices within EPA the primary authority to carry out hazard identification for chemical assessments. Under the existing process within EPA’s Integrated Risk Information System, or IRIS, chemical assessments can take up to ten years or more to complete and are often not needed or irrelevant by the time they are finally finished. Administrator Wheeler, when IRIS fails to meet its deadlines for completing an assessment in a timely manner, how is the program held accountable?

**EPA Response:** Because EPA’s Integrated Risk Information System (IRIS) assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, in August 2018, the EPA established a more formal, structured process for identifying IRIS program priorities. This process included a requirement that all IRIS program priorities be approved by the EPA program office’s Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program. Through this new process, EPA programs and regions can formally identify what assessments constitute a priority program need, why an assessment is needed, and when the assessment is needed. Not only does this improve the scope of IRIS assessments and help the IRIS program prioritize its activities, it also reinforces accountability between the requesting program and the IRIS program as it pertains to requested assessments to ensure the efficient use of resources.

2. The most recent GAO report on the IRIS program calls for EPA to develop an action plan that, among other reforms, places primary responsibility for chemical assessments in the relevant program offices—similar, in many ways, to what I have called for in H.R. 89. You and the rest of EPA leadership have been criticized for beginning to work on such an action plan by those who would like to retain the more centralized framework, thereby placing you in a difficult position. What do you see as some of your largest challenges in reforming IRIS going forward, and how best do you believe such challenges can be overcome? On a related note: do you expect useful GAO feedback going forward?

**EPA Response:** The IRIS program is operated from the EPA’s Office of Research and Development (ORD), and both the IRIS program and ORD are dedicated to supporting other Agency, Regional, state, and tribal programs, such as water, air, chemicals, land, and pesticides programs. ORD

scientists routinely collaborate with colleagues in other Agency programs, thereby leveraging ORD's scientific expertise and allowing the EPA to use the best available science in its decision making. Over the course of its existence, the IRIS program has routinely received input and review from a number of external analyses and organizations. In 2011 and 2014, the National Academy of Sciences (NAS) issued reports outlining recommendations to improve the IRIS program by adopting systematic review, a method of conducting a standardized literature-based assessment and quality review known for the transparency and rigor it brings to the process. Additionally, Congress has recognized problems within the IRIS program and weighed in with specific direction on how the EPA should work with NAS. In fiscal year 2017, Congress passed legislation which directed the EPA to contract with NAS to review whether NAS's recommendations were being implemented. In April 2018, the NAS issued a consensus report on the progress of the IRIS program. In its overall conclusions, the NAS committee reported, "The committee is encouraged by the steps that the EPA has taken, which have accelerated during the last year under new leadership. It is clear that the EPA has been responsive and has made substantial progress in implementing National Academies recommendations."

The Government Accountability Office (GAO) has also provided input to improve the IRIS program. This input from Congress included suggestions to address timeliness, improve transparency, and address process challenges. In its recent audit report, GAO found that the IRIS program has made improvements and has demonstrated the impact of the corrective actions on IRIS workflow, productivity, and impact.

In the wake of that input and internal program audits, the IRIS program has modernized its process and workflows by incorporating project and program management to better manage staff and resource commitments. In addition, it has moved away from one-size-fits-all assessments to a mixed portfolio of chemical evaluation products. It has also optimized the use of a variety of specialized systematic review software tools to increase efficiency and promote greater transparency by making the underlying assessment information more accessible to the public. These are significant improvements that have helped address GAO's input regarding the timeliness, transparency, and process of IRIS assessments.

Additionally, in August 2018, the EPA established a more formal, structured process for identifying IRIS program priorities. This process included a requirement that all IRIS program priorities be approved by the EPA program office's Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program. The second formal solicitation for IRIS assessments was announced on September 9, 2019 with a respond-by date of October 18, 2019. Through this new process, EPA programs and regions can formally identify what assessments are a priority program need, why the assessment is needed, and when the assessment is needed.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Roger Marshall

Under the Coordinated Framework for the Regulation of Biotechnology, the Department of Agriculture, the Food and Drug Administration, and the Environmental Protection Agency have regulatory authority over the products of plant biotechnology. EPA’s regulatory authority falls under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and is specific to “plant incorporated protectants,” or “PIPs.” If a plant incorporated protectant is produced by a plant, EPA’s Office of Pesticide Policy regulates the pesticide substance and related genetic material for human and environmental safety.

Since it published its proposed rule in 1994, EPA has consistently stated that its intent is to focus its regulatory efforts on those defense mechanisms that are new to plants and that act directly on the target pest through a toxic mechanism of action. In the 2001 final rule on PIPS, EPA again stated its intent to focus on those PIPS that are isolated from novel sources and may present novel, unknown and/or unfamiliar toxicological profiles. (66 Fed. Reg. 37782-83).

Furthermore, EPA has recognized the safety record of plant breeding in the United States and that plant breeders have provided a safe food supply and that they have standards of practice to maintain this safety record. Based on this safety record, EPA exempted PIPS derived through conventional breeding from sexually compatible plants (see 40 CFR 174.25).

Currently the U.S. government does not have consistent policies for oversight of products derived from new breeding techniques like gene editing. The White House recognized this issue and the potential that gene editing possesses in its June 2019 Executive Order on Modernizing the Regulatory Framework for Agricultural Biotechnology Products. The Executive Order calls for the three agencies with oversight of biotechnology to develop an action plan to engage with consumers to build public confidence in biotechnology in agriculture by December 11, 2019. This includes a review by all three agencies of their current authorities, regulation, and guidance.

New plant breeding methods, such as gene editing hold tremendous promise to improve the environment and bring new plant varieties to market. In my district, researchers at Kansas State University are using genome editing in their breeding program to breed varieties of wheat with added benefits, such as higher protein and lower gluten. However, if the three agencies that regulate new plant varieties — USDA, FDA, and EPA — do not take consistent approaches, researchers in Kansas will never be able to commercialize their research because the regulatory burden is overly burdensome.

1. The Executive Order on Biotechnology recognized this issue and called for the Environmental Protection Agency and others to streamline regulations to foster innovation. Can you please outline what EPA is intending to do to comply with the Executive Order and how you are working with USDA and FDA?

**EPA Response:** As you note, the new plant breeding methods have the potential to provide significant agricultural and environmental benefits. The EPA recognizes that we have an important, critical role in the successful implementation of the *Executive Order on Modernizing the Regulatory Framework for Agricultural Biotechnology Products* (EO 13874). Several requirements of the EO have been key for the EPA, in particular that federal agencies should: 1) review regulatory applications for products of agricultural biotechnology in a timely and efficient manner; 2) make regulatory determinations based on risks associated with the product and its intended end use; and 3) use existing statutory authority, as appropriate, to exempt low-risk products of agricultural biotechnology from undue regulation.

The EPA has been evaluating our current regulatory framework to determine if there are opportunities for streamlining current approaches to enable these important technologies to get to market efficiently and are now working on exemptions for plant incorporated protectants (PIPs) engineered using biotechnology that are indistinguishable from PIPs made using natural plant breeding. The EPA's proposed rule is under review at the Office of Management and Budget (OMB). As stated in the OMB's Fall 2019 Unified Agenda of Regulatory and Deregulatory Actions, *"EPA intends to propose updates to the existing exemptions from regulation under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) for certain plant incorporated protectants (PIP) products to reflect newer technologies, i.e., the exemptions are from the requirements to obtain a pesticide registration under FIFRA and establish a tolerance or tolerance exemption for residues in or on food commodities under FFDCA. EPA regulations (40 CFR 174.3) define a PIP as a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for production of such a pesticidal substance. It also includes any inert ingredient contained in the plant or produce thereof. EPA currently regulates all PIPs except those exempted by regulation at 40 CFR 174.25 and 174.508."* The EPA intends to issue the proposal in the second quarter of FY2020, followed by the final rule later in FY2020

The Fall 2019 Unified Agenda also states, *"This action [exemption of certain PIPs from regulation under FIFRA and FFDCA] fulfills the requirement in section 4(b) of Executive Order 13874, entitled Modernizing the Regulatory Framework for Agricultural Biotechnology Products (84 FR 27899, June 14, 2019), which directs the EPA Administrator to use existing statutory authority, as appropriate, to exempt low-risk products of agricultural biotechnology from undue regulation to the extent consistent with law and the principles set forth in section 3 of the Executive order."* *"These PIPs are formed when genetic material is transferred using bioengineering technology between plants that could otherwise transfer the genetic material by natural interbreeding."*

We have regular communication with U.S. Department of Agriculture (USDA) and the Food and Drug Administration (FDA) regarding agricultural biotechnology and have been considering their work in the area of new plant breeding methods as we work to implement our initiatives. We will

also continue to be consistent with our science-based regulatory system that evaluates products based on human health and environmental safety and potential benefits and risks to the environment.

Additionally, in January 2020, the EPA, USDA, and FDA launched a unified website that provides information about the actions the federal government is taking to oversee the regulation of agricultural biotechnology products. This website fulfills the requirement in Section 5 of Executive Order 13874 which instructed agencies to establish a web-based platform. It ensures public confidence in the regulatory system while improving transparency and efficiency of the biotechnology regulatory system.

2. Following a meeting in the White House on August 19<sup>th</sup>, your agency said there was “no evidence” that small refinery exemptions are hurting biofuel producers. When I talk to my ethanol producers and my farmers in Kansas, they don't say that at all. They say EPA's policy to provide seemingly blanket small refinery exemptions is dramatically hurting their businesses. And just last week, USDA again reduced their forecast for corn demand for ethanol because domestic demand is off due to small refinery exemptions.

Mr. Wheeler, can you explain to me how EPA can so confidentially say there is “no evidence” of harm to my constituents when there clearly is?”

**EPA Response:** According to information from the Energy Information Administration, total domestic ethanol production has increased in every single year between 2001 and 2018, with the exception of 2012, when much of the United States experienced drought conditions. There is no indication in this data that small refinery exemptions in the last several years had any adverse impact on domestic ethanol production. Ethanol consumption in the U.S. has remained slightly above 10 percent of total gasoline consumption since reaching this level in 2016. Because ethanol is currently cheaper than gasoline and has a high octane value when used in E10 blends, refiners currently blend 10 percent ethanol into nearly all gasoline and are expected to do so in the future even in the absence of the Renewable Fuel Standard (RFS) program.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Science and Technology at the Environmental Protection Agency"

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Michael Cloud

1. When the Renewable Fuel Standard program was first enacted by the Energy Policy Act of 2005, it called for 28 billion gallons of total renewable fuel in 2019. The rule for this year is set only at 19.92 billion gallons. I understand that there is an issue with production of these renewable fuels, which is why we cannot meet the 28 billion gallons. Can you discuss these challenges in production in addition to other challenges that are preventing the U.S. from meeting the statutory requirement?

**EPA Response:** The Energy Independence and Security Act of 2007 (EISA) established target volumes for four nested categories of renewable fuel: cellulosic biofuel; biomass-based diesel; advanced biofuel; and total renewable fuel. The cellulosic biofuel and biomass-based diesel volumes are part of the advanced biofuel category, and the total renewable fuel volume is comprised of the advanced biofuel category and conventional biofuel. The volume mandates for the four different categories in the statute rise at different rates over time. The biomass-based diesel volume rose steadily to 1 billion gallons in 2012. The conventional biofuel portion of the total renewable fuel volume rose steadily to 15 billion gallons by 2015 and then remained flat. Unfortunately, the technology to produce cellulosic biofuel has fallen well behind the pace projected in the statute. Even then, almost all of the cellulosic biofuel produced today is biogas, not the liquid cellulosic biofuels anticipated at the time EISA was passed. This shortfall in cellulosic biofuel volume is the reason why the total renewable fuel volume for 2019 is so far below the 28 billion gallons specified in the statute. The other categories implied in the statute (conventional biofuel and non-cellulosic advanced biofuel) are now being met.

2. I have spoken with industry representative who have expressed frustration over the reallocation provision of the Renewable Fuel Standard provision. I understand the need for waiving requirements for small refineries, but I don't think it's fair to force larger refineries to shoulder the additional waived renewable fuel volumes. Has the EPA explored alternatives to reallocation?

**EPA Response:** In recent years, almost all small refinery exemptions (SREs) have been granted after the annual percentage standards were finalized, and thus the required annual renewable fuel volumes were effectively reduced by the later-issued SREs. On December 19, 2019, the Administrator signed a final rule which finalizes changes to the terms in the formula used to calculate the percentage standards that apply to obligated parties such that the EPA would make a projection to estimate the aggregate volume of gasoline and diesel fuel that will be exempted after

the annual percentage standards are finalized, effectively requiring the volumes to be met by non-exempt refineries. That is, the intent of the projection is to ensure that the renewable fuel volumes promulgated in the final rule are actually achieved. In the rulemaking, the EPA also considered and responded to comments suggesting the EPA address exempted small refinery volumes in other ways.

3. Celanese, a chemical based in Dallas, has talked to me about issues they have had with the IRIS program assessing Formaldehyde – a naturally occurring substance. Formaldehyde is used in the manufacturing of some of their products. The company has expressed concerns with my staff that the process by which substances are selected is unclear. When it comes to identifying substances based on “program office need,” what do you mean by that and why is this the best approach for this program?

**EPA Response:** Because the EPA’s Integrated Risk Information System (IRIS) program assessments play a critical role in supporting Agency decisions and can involve a significant expenditure of time and resources, in August 2018, the EPA established a more formal, structured process for identifying IRIS program priorities. This process included a requirement that all IRIS program priorities be approved by the EPA program office’s Assistant Administrator. This initial formalized prioritization process was completed in December 2018, and it is bringing further stability and responsiveness to the IRIS program. Through this new process, EPA programs and regions can formally identify what assessments constitute a priority program need, why an assessment is needed, and when the assessment is needed. Not only does this improve the scope of IRIS assessments and help the IRIS program prioritize its activities, it also reinforces accountability between the requesting program and the IRIS program.

4. As representative for Texas’ 27<sup>th</sup> District, there are five ports in my district, the most significant one being the Port of Corpus Christi. The EPA has helped various ports with reducing emissions from the high amount of traffic that travels through ports. When it comes to setting emissions-reduction standards, I believe the federal government should partner with communities and the private sector to develop attainable goals. With that in mind, I am curious about the current status of the Port and Near-Port Collaboration pilot projects. Can you discuss how the EPA has worked with port communities and stakeholders to develop strategies for improving environmental outcomes?

**EPA Response:** EPA’s Near-port Community Capacity Building Project supports partnership building by equipping industry and community stakeholders with information, skills, and tools to effectively develop and implement collaborative actions leading to shared prosperity and better quality of life conditions.

Three original locations were chosen to pilot the Near-port Community Capacity Building Toolkit (consisting of the Ports Primer for Communities (<https://www.epa.gov/community-port-collaboration-and-capacity-building/ports-primer-introduction>), the Community Action Roadmap (<https://www.epa.gov/community-port-collaboration-and-capacity-building/draft-community-action-roadmap>), and the Environmental Justice Primer for Ports (<https://www.epa.gov/community-port-collaboration-and-capacity-building/draft-environmental-justice-primer-ports>)): New Orleans, LA; Savannah, GA; and Seattle, WA. Providence, RI was later added as a fourth location.

During the pilots, the EPA delivered on-site technical assistance services to enhance environmental performance of ports and to improve environmental conditions for nearby communities. The four pilots have now concluded, although work continues by the port and communities to further environmental and other goals. As planned, content of the Near-port Community Capacity Building Toolkit was revised based on direct feedback from pilot project participants and experiential insights from testing in real world situations. The revised versions of these resource tools will be available on EPA's Ports Initiative website this fall. In addition, case studies and other tools chronicling the activities and outcomes from the pilots are being prepared for publication.

EPA Regional offices are planning activities with other near-port communities and ports, using the revised Toolkit.

5. In the EPA's Budget Plan for FY 2020, it highlights how one of its top priorities is cleaning and restoring Superfund sites. There are two of these sites in my district, and, like many others in our area of Texas, I want to see these restored. In 2017, the Superfund Task Force developed recommendations for the Superfund program, and the Budget Plan for 2020 acknowledged that the EPA had only implemented 43 percent of the recommendations. What is the time frame for implementing the remaining recommendations and what challenges are you facing in trying to do so?

**EPA Response:** The EPA has completed all of the Superfund Task Force recommendations and released the Superfund Task Force Final Report on September 9, 2019. In the report, the EPA identified performance metrics to impose accountability on the Agency in implementing lessons learned and to ensure integration of the work completed under the Task Force into the Superfund program. In FY 2020, the EPA will report on the status of the metrics and progress of integrating the work. The EPA will continually evaluate the metrics and their usefulness and consider adopting additional or different methods as appropriate. The EPA will also conduct a strategic and comprehensive portfolio review of every site remaining on the National Priorities List. This review will help EPA to better utilize best practices, tools and new technologies, and accelerate the cleanup and reuse of sites. The final report and metrics can be found on the Agency's website (<https://www.epa.gov/superfund/superfund-task-force-recommendations-and-accomplishments>).

6. In the FY 2020 budget request, the Trump Administration proposed a FY 2020 budget includes a 25 percent increase to the Water Infrastructure Finance and Innovation Act (WIFIA) program. This program, which is designed to help communities improve water quality by investing in water infrastructure, can create jobs and improve the environment. How could a program like this benefit a coastal district like mine?

**EPA Response:** The Water Infrastructure Finance and Innovation Act (WIFIA) program provides long-term, low-cost credit assistance for a wide variety of water, wastewater, and stormwater projects. In addition to typical infrastructure projects such as sewer rehabilitation, water pipe repair and replacement, and treatment facility upgrades, the WIFIA program can finance projects that enhance resiliency of existing water, wastewater, and stormwater infrastructure against extreme weather events. For example, in coastal areas, an eligible project may be reinforcing levees and berms around a drinking water treatment plant or elevating its electrical systems. The cost to communities for these types of investments can be mitigated by the significant savings provided by

the WIFIA program through its low, fixed interest rate, and flexible financial terms. The WIFIA program can provide terms typically not obtainable through other forms of public financing such as a customized repayment schedule, a 35-year repayment period, and a 5-year payment deferral.

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Troy Balderson

1. Administrator Wheeler, I appreciated meeting with you last year, where we discussed a number of EPA issues like WOTUS, HABS, and what was then the proposed Affordable Clean Energy (ACE) rule. Recently, the EPA has finalized that rule, taking a major step forward in developing a responsible, predictable, and achievable plan to regulate emissions from existing power plants. Can you give this Committee an overview of how the EPA developed this rule, and what methods the Agency will use to help industry meet the standards set in the ACE rule?

**EPA Response:** On Wednesday, June 19, 2019, the EPA issued the Affordable Clean Energy (ACE) rule, an effort to provide existing coal-fired electric utility generating units, or EGUs, with achievable and realistic standards for reducing greenhouse gas (GHG) emissions.

This action was finalized in conjunction with two other related, but separate and distinct rulemakings: (1) the repeal of the Clean Power Plan (CPP); and (2) revised implementing regulations for ACE, ongoing emission guidelines, and all future emission guidelines for existing sources issued under the authority of Clean Air Act (CAA) section 111(d).

ACE provides states with new emissions guidelines that will inform the states' development of plans that establish standards of performance for existing coal-fired EGUs within their jurisdiction to reduce carbon dioxide (CO<sub>2</sub>) emissions—consistent with EPA's role as defined in the CAA.

- a. What does the Agency estimate will be the environmental benefits of this rule when it is fully implemented?

**EPA Response:** At the time of promulgation, the EPA projected that this rule would reduce emissions of carbon dioxide, mercury, as well as precursors for pollutants like fine particulate matter and ground-level ozone. In 2030, the ACE rule is projected to:

- Reduce carbon dioxide (CO<sub>2</sub>) emissions by 11 million short tons
- Reduce sulfur dioxide (SO<sub>2</sub>) emissions by 5,700 tons
- Reduce nitrogen oxides (NO<sub>x</sub>) emissions by 7,100 tons
- Reduce fine particulate matter (PM<sub>2.5</sub>) emissions by 400 tons
- Reduce mercury emissions by 59 pounds

The EPA also projected that the ACE rule would result in annual net benefits of \$120 million to \$730 million, including domestic climate benefits and health co-benefits.

- b. From my own research, ACE seems to be a common-sense, middle ground approach that is rooted in encouraging the use of new technologies to improve efficiency and reduce emissions. How is this technology-driven approach different than past regulations on greenhouse gas emissions?

**EPA Response:** The final ACE rule properly establishes a “best system of emission reduction” (BSER) in line with the CAA and EPA’s historical practice, returning the EPA to its core mission of environmental policy rather than energy policy and market-shaping. The BSER is the best technology or other measure that has been adequately demonstrated to address emissions performance for a specific industry or process (a “source category”). In determining the BSER, the EPA considers technical feasibility, cost, non-air quality health and environmental impacts, and energy requirements. The ACE rule recognizes that EPA’s statutory role with regard to regulation of existing sources under CAA section 111 is to determine the BSER and identify degree of emission limitation achievable through application of the BSER, and that the states’ role is to develop plans that establish unit-specific standards of performance for existing sources that reflect application of the BSER.

The EPA also considered and rejected other kinds of technologies. For example, the EPA determined that carbon capture and sequestration (CCS) is not the BSER based on a thorough analysis of cost and availability, but will allow states to authorize such projects in accordance with the ACE rule. Under the law, the BSER must be both technologically feasible and cost reasonable. Some commenters suggested that Internal Revenue Code (IRC) section 45Q tax credits for CCS make it more cost reasonable. However, those credits cannot be considered to offset the costs of CCS in many situations because they are limited in time and availability. There are also uncertainties with respect to implementation of the credits that can only be addressed through future guidance from the Internal Revenue Service. We also reject other types of emissions reductions technologies or measures like fuel switching. The EPA believes that requiring a plant to switch entirely from coal to gas is not a valid BSER.

2. Can you tell me about the varying steps that products must go through to achieve the multiple required certifications, and collaborative efforts that occur with new technologies before they can be installed?

**EPA Response:** There are no national-scale certification processes for new technologies for drinking water treatment. In general, components of drinking water systems (e.g. pipes, valves, storage tank materials) are commonly certified as safe for drinking water by the National Sanitation Foundation (NSF). NSF also develops standardized testing procedures for specific treatment components (e.g. ion exchange resins for perchlorate removal) that may be used in a commercial treatment system.

In order to advance drinking water technology, the EPA makes it a priority to collaborate with partners and stakeholders. The EPA continues to work with vendors, states, and academia in the

development of EPA's Drinking Water Treatability Database (<https://www.epa.gov/water-research/drinking-water-treatability-database-tdb>). The database is intended for use by water utilities, first responders, consultants, treatment process designers, and researchers. Information is available for over 70 regulated and unregulated contaminants and more than 30 treatment processes. The EPA is working to include cost models for different treatment technologies in the data base. Cost data are crucial, especially for small systems, in the technology selection process. The EPA also collaborates with non-federal partners through the Federal Technology Transfer Act (FTTA), through which businesses can license EPA's own patented technology and bring it to market. Through FTFTA, businesses and non-federal organizations can also work cooperatively with the EPA to make improvements on existing EPA technologies to bring something new to market. More information on EPA's FTFTA program is available at: <https://www.epa.gov/ftta>. The EPA's Small Business Innovation Research (SBIR) Program provides funding opportunities for the development of innovative water treatment processes and technologies.

- a. Is EPA involved in any way in the certification processes or collaborative efforts in determining the viability of new drinking water technologies?

**EPA Response:** The EPA does not certify new drinking water technologies; however, EPA experts participate in certain independent third-party standards committees that develop certification requirements for drinking water technologies.

The EPA involvement with certification processes for new technologies and treatment standardization is limited to collaboration with other organizations, such as NSF and the National Institute of Standards and Technology (NIST). EPA staff are often involved with NSF workgroups for the development of standard testing protocols for new technologies. The EPA also works with NIST in the development of standard reference materials and recommendations for optimizing drinking water systems.

The EPA regularly collaborates with vendors and states for evaluating and implementing new drinking water technologies. A good example of this type of effort is the testing and implementation of biological treatment of nitrate ([https://www.epa.gov/sites/production/files/2014-11/documents/palo\\_full\\_scale\\_report\\_9-23-14.pdf](https://www.epa.gov/sites/production/files/2014-11/documents/palo_full_scale_report_9-23-14.pdf)). The EPA frequently uses Cooperative Research and Development Agreements (CRADAs) to work with vendors to evaluate and optimize their technologies. Another example, at a much broader scale, is EPA's collaborative efforts in the arsenic treatment demonstration program (<https://www.epa.gov/water-research/arsenic-treatment-technology-demonstrations>).

- b. Once a drinking water technology attains proper certifications what makes it clear to water systems that they may use the technology and still receive federal financial assistance from EPA water financing programs?

**EPA Response:** The Drinking Water State Revolving Fund (DWSRF) regulations and guidance allow for funding of various categories of infrastructure projects (treatment, transmission and distribution, source, storage, consolidation, and creation of new systems under certain circumstances), but do not specify technologies that might be employed. Projects funded by a state's DWSRF must facilitate compliance with national primary

drinking regulations or otherwise significantly further the protection of public health. In planning their projects, water systems often will, and in many cases are required to, consult with their state's Public Water System Supervision (PWSS) program on project-specific design and specifications to assist in ensuring that the project's public health protection objectives are met and that the selected technologies are appropriate to address compliance needs of the system as intended. For more information on DWSRF project categories, including project examples, see the DWSRF Eligibility Handbook on the Agency's website ([https://www.epa.gov/sites/production/files/2017-08/documents/dwsrf\\_eligibility\\_handbook\\_june\\_13\\_2017\\_updated\\_508\\_version1\\_0.pdf](https://www.epa.gov/sites/production/files/2017-08/documents/dwsrf_eligibility_handbook_june_13_2017_updated_508_version1_0.pdf)).

3. Understanding EPA as a government agency does not endorse any one technology over another, what is EPA's role in adoption of new technologies and helping public and private water systems make decisions about the use of certified technologies?

**EPA Response:** The EPA does not register or approve new technologies under the Safe Drinking Water Act (SDWA), but instead establishes requirements for each regulated public water system (PWS) to deliver water that meets specific standards to persons served by the system. The EPA conducts and reviews scientific studies to evaluate the effectiveness, feasibility, and affordability of treatment technologies in removing contaminants of concern and identifies available technologies that achieve compliance with National Primary Drinking Water Regulations in accordance with SDWA § 1412(b)(E). Each PWS must determine what product or combination of products to use to meet the federal and any applicable state, tribal, or territorial drinking water requirements.

When identifying Point of Use or Point of Entry technologies as small system compliance technology, the EPA specifies that the units shall not be accepted for compliance unless they are independently certified in accordance with an American National Standards Institute standard in accordance with SDWA § 1412(b)(4)(E)(ii).

The EPA also evaluates certain new technologies for drinking water under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA requires that any product intended to kill or otherwise control pests (including microorganisms) cannot be sold or distributed unless it is registered by the EPA. The EPA also regulates pesticidal devices, including certain new drinking water technologies, under FIFRA.

For more information about FIFRA and SDWA and the EPA's role in evaluating new technologies, see the Agency's website (<https://www.epa.gov/ground-water-and-drinking-water/understanding-drinking-water-requirements-under-fifra-and-sdwa>). The information on this website is intended to help water systems make decisions about the use of certified technologies.

- a. Is EPA making every effort to not restrain or discourage the use of innovative technologies that may accelerate the renewal of America's aging drinking water infrastructure and save ratepayers money?

**EPA Response:** The EPA is committed to promoting innovation. The EPA does not register or approve new technologies under the Safe Drinking Water Act (SDWA), but instead

establishes requirements for each regulated public water system (PWS) to deliver water that meets specific standards to persons served by the system. The EPA conducts and reviews scientific studies to evaluate the effectiveness, feasibility, and affordability of treatment technologies in removing contaminants of concern and identifies available technologies that achieve compliance with National Primary Drinking Water Regulations in accordance with SDWA 1412.b.E. Each PWS must determine what product or combination of products to use to meet the federal and any applicable state, tribal, or territorial drinking water requirements.

In order to advance drinking water technology, the EPA makes it a priority to collaborate with partners and stakeholders. For example, the EPA continues to work with vendors, states, and academia in the development of EPA's Drinking Water Treatability Database (see <https://www.epa.gov/water-research/drinking-water-treatability-database-tdb>), which contains information for over 70 regulated and unregulated contaminants and more than 30 treatment processes. The EPA also collaborates with non-federal partners through the Federal Technology Transfer Act (FTTA), through which businesses can license EPA's own patented technology and bring it to market. Through FTTA, businesses and non-federal organizations can also work cooperatively with the EPA to make improvements on existing EPA technologies to bring something new to market. More information on EPA's FTTA program is available at <https://www.epa.gov/ftta>. Another example of the EPA's engagement in technology innovation is the Agency's Small Business Innovation Research (SBIR) Program, which provides funding opportunities for the development of innovative water treatment processes and technologies. EPA staff are also often involved with National Science Foundation workgroups for the development of standard testing protocols for new technologies.

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

## “Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Michael Waltz

1. In July, this Committee passed H.R. 335, the South Florida Clean Coastal Waters Act of 2019. This legislation seeks to establish an inter-agency task force on Harmful Algal Blooms (HABs) and Hypoxia, and requires a plan for reducing, mitigating, and controlling HABs in Florida including the entire Indian River Lagoon estuary. What is the EPA already doing to reduce HABs and how would the EPA contribute to the task force as established in H.R. 335?

**EPA Response:** The EPA participates in working groups, provides technical assistance and recommendations, and coordinates with states, drinking water utilities, NGOs, and other federal agencies to reduce harmful algal blooms (HABs) and to improve communications with affected states and tribes. The EPA co-chairs, with NOAA, the Interagency Working Group of the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA) to coordinate actions that directly address the issues related to HABs and hypoxia in the U.S. across the Federal government. The EPA also coordinates with states and other Federal agencies in the evaluation of effective approaches to reduce excess nutrients in watersheds through the Source Water Initiative. The EPA has also hosted Regional HABs workshops to build awareness and strategies for improved domestic source water protection. Lastly, the EPA conducts research in the areas of monitoring, analytical methods, health effects, remote sensing, water treatment, and ecosystem impacts to detect, reduce and control the effects of cyanobacterial HABs and their toxins in drinking and surface water systems.

2. What is EPA currently doing to promote coastal resiliency and how is EPA helping states that are working to mitigate the effects of sea level rise?

**EPA Response:** Under the coastal watersheds program, for the past ten years, the EPA has worked with coastal communities to conduct vulnerability assessments for coastal resilience to examine the impacts that a lack of resilience would have on built infrastructure and natural resources. Coastal areas face many stressors that are exacerbated by a lack of resilience. Through the development of practical and risk-based adaptation tools and strategies, the EPA’s focus is to help communities assess coastal vulnerabilities, develop and implement hazard adaptation strategies, and engage with and educate stakeholders on the importance of addressing resilience challenges.

The EPA is providing support to states, tribes, and local communities in coastal communities and across the entire nation in their efforts to increase their resilience to sea level rise and other extreme events. For more information on this work, including training and other resources, you can visit: <https://www.epa.gov/arc-x/climate-change-adaptation-training>.

The EPA is making financial resources available to support climate-resilient investments in communities across the country, including the Brownfield Revolving Loan Fund grants (<https://www.epa.gov/brownfields/types-brownfields-grant-funding>). In addition, the Environmental Justice Small Grants Program may also be used to help communities develop localized strategies to address the risks posed by sea level rise to coastal communities (<https://www.epa.gov/environmentaljustice/environmental-justice-small-grants-program>).

## HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

## “Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Mr. Francis Rooney

1. In May, I hosted a roundtable with federal, state, and local officials to discuss issues related to Harmful Algal Blooms and the federal response. It was a productive conversation, and I continue to be impressed with EPA’s Region 4 Administrator Mary Walker. In her comments, she mentioned the importance of early warning systems, and placing more of a focus on septic and wastewater runoff. Can you provide an update on what the EPA is doing in Region 4?

**EPA Response:** EPA Region 4 works closely with Florida on harmful algae bloom (HAB)-related issues including water quality standards and monitoring, early warning systems, and controlling nutrient sources. For example, the Florida Department of Environmental Protection (FDEP) has developed Basin Management Action Plans that identify nutrient sources and restoration projects. FDEP is implementing these action plans using EPA Region 4 grant funds, along with other state and local funds, to help address nutrient sources such as agriculture, failing septic tanks, and fertilizer use at homes. Also, EPA Region 4 recently funded the “Enhanced Water Quality and Seagrass Monitoring in the Caloosahatchee Estuary” and “Monitoring SAV in the Upper Caloosahatchee River” projects from its South Florida Geographic Initiative totaling \$475,000. These projects will better characterize the status of the Caloosahatchee River Estuary (CRE) water quality by examining seagrass relationship to water quality stressors and will identify nutrient sources that can be targeted by resource managers. EPA Region 4 also provides support to the Army Corps, the Department of Interior, and FDEP on the Everglades Agricultural Area Reservoir Project that will reduce discharges to the estuaries and decrease the likelihood of HABs while providing more clean water for Everglades restoration. The EPA is doing additional research and recently released the Cyanobacteria Assessment Network mobile application (CyAN app), which provides access to algal bloom satellite data for over 2,000 of the largest lakes and reservoirs across the United States to help local and state water quality managers make faster and better-informed management decisions related to cyanobacterial blooms. Lastly, EPA Region 4 stands ready to provide technical and sampling assistance on HABs should FDEP request such assistance.

2. Another important topic that came up at May’s roundtable was CDC’s One Health Harmful Algal Bloom System (OHHABS), which is a voluntary reporting system that collects data on individual human and animal cases of illnesses from HAB-associated exposures. What has been EPA’s contribution to OHHABS? Is the agency conducting any other research into the human health effects of HABs?

**EPA Response:** The EPA is a partner with the Centers for Disease Control and Prevention (CDC) on the One Health Harmful Algal Bloom System (OHHABS). The EPA has been involved in developing OHHABS since discussions began in 2013 about the approach and format of the system. The goal was to develop a harmful algal bloom surveillance system with national scope based upon the National Outbreak Reporting System platform at CDC. The OHHABS system was launched in summer 2017. EPA personnel have continued participation since the launch as part of the OHHABS working group composed of state and federal partners. The working group meets regularly and assists CDC with development of materials, definitions, content, and approaches. The EPA provides technical assistance with definitions and document development.

Cyanobacteria, also known as blue-green algae, are microorganisms that produce HABS. EPA researchers are understanding the health effects of HABS and cyanobacteria toxins on humans, animals, and ecosystems. This work includes studying whether cyanobacteria exposure causes skin and allergic reactions and determining the toxin production in cyanobacteria, which is highly variable. Additionally, the EPA is researching how HABS toxins affect drinking water, identifying technologies to help communities treat their drinking water in the event of a bloom, and studying how and why blooms occur. EPA research is also providing information on HABS and developing tools to help states and communities address and prepare for potential blooms. For example, EPA researchers are developing new and innovative tools, such as the CyAN app, which provides easy access to cyanobacteria bloom satellite data for over 2,000 of the largest lakes in the US. The app quickly delivers info to local and state water quality managers as well as the public. For more information on EPA's HABS research, please see the Agency's website (<https://www.epa.gov/water-research/harmful-algal-blooms-cyanobacteria-research>).

3. In the Gulf of Mexico, we are seeing a lot of nitrogen-based fertilizers that run down the Mississippi River and into the larger Gulf ecosystem. In my district in Southwest Florida and thought out the southern part of the state, we have seen many of the same issues. How is the EPA partnering with other agencies, like the USDA Agricultural Research Service, to prevent this occurrence and encourage the beneficial reuse and recycling of waste?

**EPA Response:** The EPA routinely partners with the U.S. Department of Agriculture (USDA) and other agricultural partners to address excess nutrients from agricultural lands. For example, with USDA Natural Resources Conservation Service, the EPA supports the National Water Quality Initiative to reduce agricultural nonpoint sources of nutrient, sediment, and pathogens to improve water quality in about 200 watersheds nationwide. The EPA also partners with USDA, USGS, NOAA, the Corps of Engineers, and 12 Mississippi River Basin states in a Mississippi River/Gulf of Mexico Watershed Nutrient (Hypoxia) Task Force to meet nutrient reduction goals for the Gulf of Mexico hypoxic zone. As part of its efforts, the Hypoxia Task Force (HTF) partners with the 12 Land Grant Universities in the HTF states to strengthen research and outreach programs for reducing nutrient losses to state waters and the Gulf.

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

“Science and Technology at the Environmental Protection Agency”

Questions for the Record to:

The Honorable Andrew Wheeler

Administrator

Environmental Protection Agency

Submitted by Ms. Jennifer González Colon

- I. Administrator Wheeler, earlier this year, the EPA announced a request for applications on a community participatory research program to help us better understand the environmental contamination, impact, and mitigation options at the Vieques Superfund Site. It is my understanding that this research program is intended to support the ongoing remediation activities of the U.S. Navy, and help the military and the EPA better understand the long-term mitigation needs for the community. Can you provide an update on this research effort, as well as how this research could be beneficial to the restoration effort in Vieques?
  - a. Could you also share some of the next steps for this project and cleanup efforts overall?

**EPA Response:** The EPA’s National Center for Environmental Research has reviewed the research program applications that were received. They have selected a project to receive the grant. Details are not yet available as the EPA finalizes the award process, but the EPA anticipates awarding the grant in February 2020.

Regarding cleanup at the Vieques Superfund site, the Navy has taken actions to address munitions, including investigation work and removal actions that continue across the site. The significant progress includes: (1) clearance of approximately 4,100 acres of surface munitions; (2) clearance of approximately 460 acres of subsurface munitions; and (3) the location and destruction of approximately 109,000 munitions and explosives of concern. In addition to actions being taken to address munitions on the land, the Navy is investigating to determine the nature and extent of munitions in the waters adjacent to the former bombing range and associated support areas. The EPA is overseeing this work, which will take several years given the complexity and safety considerations.

Some areas previously closed to the public due to the presence of munitions now have limited public access, such as the Puerto Ferro lighthouse. The EPA and Navy continue to work with the Commonwealth of Puerto Rico and the Department of Interior (Fish and Wildlife Service) to prioritize addressing areas that would result in greater public access to the National Wildlife Refuge on both eastern and western Vieques.

2. The EPA is a strong partner with managing the number of landfills that are currently operating in Puerto Rico. In September of 2016, the agency published a report on the work being undertaken to address landfill capacity and resources in Puerto Rico. The island has approximately 28 landfills, and most are at capacity. According to recent press reports, close to half might close by 2021-2022. By the time the 2016 report was published, the EPA had legal agreements to close 12 landfills and would continue developing legal agreements as needed. Can you provide an update on the agreements that are currently pending, as well as insight on how EPA is collaborating with Puerto Rico officials to close wells that are at capacity and open new ones?
- a. Lastly, could you clarify if this work has been compromised due to the recovery process after the hurricanes in 2017? If so, could you also clarify what is EPA doing to mitigate these delays?

**EPA Response:** The EPA's role in solid waste management is to establish overall regulatory direction, to provide minimum standards for protecting human health and the environment, to offer technical assistance to states for planning and developing sound waste management practices, and to approve state solid waste programs. The planning and direct implementation of solid waste programs under RCRA Subtitle D remain primarily state and local functions.

Given the nature of the challenges faced by Puerto Rico in managing solid waste, the EPA has over the years taken extraordinary measures to assist Puerto Rico in the development and implementation of its solid waste management programs. Puerto Rican municipalities subject to EPA Administrative Orders have had continuing difficulty meeting the requirements established in these orders and this has been exacerbated since being hit with Hurricanes Irma and Maria. Many of the municipalities requested, and were granted, extensions to the deadlines required by these orders. The EPA continues to work with the municipalities to help them achieve compliance and protect the health of people in their communities. The EPA is committed to working with Puerto Rico beyond the recovery process to ensure the long-term sustainability of Puerto Rico's solid waste management program and facilities as Puerto Rico officials undertake immediate corrective actions to protect public health and the environment. In addition, the EPA has been working with our partners to potentially explore recycling markets and to incorporate sustainable materials management principles and practices into Puerto Rico's waste management system.

The EPA will continue to work with Puerto Rico to maximize all funding options and establish a functioning, long-term solid waste management system. The EPA intends to achieve this through a combination of utilizing supplemental funding; annual state, federal and other stakeholder financial supports; and intensive technical assistance. The EPA recently awarded a \$6.2 million grant to the Puerto Rico Department of Natural and Environmental Resources (DNER) as the first installment of a \$40 million grant for hazardous and solid waste management financial assistance. This funding is awarded through the Supplemental Appropriation for Disaster Relief under the Bipartisan Budget Act of 2018, which provides supplemental appropriations to respond to and recover from recent hurricanes and other disasters.



## Appendix II

---

ADDITIONAL MATERIAL FOR THE RECORD

ARTICLE SUBMITTED BY REPRESENTATIVE ZOE LOFGREN

## Los Angeles Times

### California's climate deal with automakers had been rejected by EPA

By RYAN BEENE BLOOMBERG  
AUG. 6, 2019

A compromise between four major automakers and California's clean-air regulator on fuel efficiency was rejected by the Trump administration months earlier as not "a productive alternative."

The deal — which Ford Motor Co., Honda Motor Co., BMW and Volkswagen announced July 25 alongside the California Air Resources Board — eases the pace of annual efficiency improvements required under current Obama-era rules but is tougher than the Trump administration's proposal to cap mileage requirements at 2020 levels.

Key elements of the pact were contained in a November 2018 summary of California's proposal that was prepared by Environmental Protection Agency staff for Bill Wehrum, who was assistant administrator for EPA's Office of Air and Radiation at the time, according to excerpts of the presentation viewed by Bloomberg.

Stanley Young, California Air Resources Board spokesman, confirmed Friday that the state had offered the plan to the EPA last November. The previously unreported detail sheds new light on the months-long battle between Washington and Sacramento over the mileage rules that automakers urged President Trump to reevaluate during his first weeks in office.

"Looking back, it seems that they were never interested in negotiations or discussions," Young said. He added that the four automakers' support of California's compromise "highlights the fact that our proposal is both feasible and realistic."

Relations between EPA and CARB officials have become tense, with each side blaming the other for the breakdown of talks. In a June 20 letter to Republican lawmakers, EPA Administrator Andrew Wheeler said California's counteroffer hadn't yet been endorsed by Gov. Gavin Newsom and Atty. Gen. Xavier Becerra when it was presented to EPA. He accused CARB Chairman Mary Nichols of being "unable or unwilling to be a good-faith negotiator."

The Trump administration's 2018 proposal said capping fuel economy standards at 2020 levels would lead new cars to be less expensive than they would be under the current rules. The agencies argued that more-affordable cars would enable people to replace their older vehicles with newer, safer ones more rapidly and avoid thousands of traffic fatalities — claims that experts and EPA career staffers have disputed.

Wheeler, in a February interview, said the state's proposal suggested “just taking the Obama numbers and stretching that an additional year. And that doesn't really get to the lives saved or the reducing the price of the automobiles to where we would like it to be.”

The White House abandoned discussions with California officials a few weeks later, saying, “Despite the administration's best efforts to reach a common-sense solution, it is time to acknowledge that CARB has failed to put forward a productive alternative” after the federal proposal was released.

The four-company pact with California also highlights a growing chasm between the Trump administration and the auto industry, which after urging the administration to retool Obama-era mileage standards has since pushed back on the resulting plan that recommended capping requirements after 2020.

That plan, put forth last year by the EPA and the National Highway Traffic Safety Administration, also proposed stripping California of its authority to regulate automobile greenhouse gas emissions. The state and others have vowed to fight in court to retain that power, and automakers fear that prolonged litigation will roil business plans that depend on predictable fuel economy standards.

In June, a group of 17 major carmakers unsuccessfully asked Trump to resume talks with California, saying a pact for unified California-U.S. standards will “enhance our ability to invest and innovate by avoiding an extended period of litigation and instability.”

California's deal with the four carmakers — and the one pitched to the EPA last fall — pushes the 2025 efficiency target back to 2026, lowering the pace of gains each year compared to the current rules starting in 2022. Automakers would get more help to reach those targets from additional compliance credits earned by selling electric vehicles, and wouldn't have to account for carbon emissions by the power plants that generate electricity used by battery-powered cars.

“For over a year and a half, the administration expended a serious amount of resources to achieve a workable deal with California,” EPA spokesman Michael

Abboud said in an email, adding, “not once did California submit a meaningful alternative.”

Dave Cooke, a senior clean-vehicles analyst with the Union of Concerned Scientists, said California’s offer contained meaningful concessions.

“The fact that this was the deal that EPA called not serious is incredible to me,” he said. “This is a substantial reduction in stringency from the federal program.”

ARTICLE SUBMITTED BY REPRESENTATIVE BRIAN BABIN

# How The Paris Climate Agreement Super-Charges The Clean Air Act

GREG DOTSON, JOE ROMM JAN 14, 2016, 9:55 PM

A group of leading law professors who work on climate have published a game-changing new legal analysis. It finds that the Paris climate agreement unlocks a previously unused Clean Air Act provision that enables broad authority to use market-based mechanisms to reduce carbon pollution nationwide.

Last December in Paris, the U.S. committed to cut greenhouse gas emissions 26 to 28 percent compared to 2005 levels by 2025. That target appears more than achievable given a variety of existing policies, including congressionally-approved incentives for renewable energy, national fuel economy standards, and the EPA's Clean Power Plan, which requires states to develop plans to cut carbon pollution and existing power plants.

Some commentators in the U.S. have, however, predicted that ongoing progress in the U.S.—especially our ability to keep ratcheting down our greenhouse gas target over time—will be stymied by a lack of sufficient administrative authority combined with a Congress that refuses to take climate change seriously. Indeed, last month, the New York Times ran a story headlined, “To Achieve Paris Climate Goals, U.S. Will Need New Laws.”

That headline is wrong, according to the new legal analysis by a collection of leading legal scholars. Their analysis, “Legal Pathways to Reducing Greenhouse Gas Emissions Under Section 115 of the Clean Air Act,” finds that rather than setting an unattainable goal that needs new laws from Congress, the Paris agreement “provides a strong basis for invoking a powerful tool available” today under the federal Clean Air Act.

Specifically, the unused “International Air Pollution” provisions of the Clean Air Act, which are contained in Section 115 of the act, have been unlocked by the Paris Agreement, providing the EPA the authority to effectively and efficiently call for needed pollution reductions.

*This report on Section 115 opens an important new pathway for  
addressing domestic greenhouse gas emissions*

Michael Gerrard, a Professor at Columbia Law School and a lead author of the report, told Climate Progress that climate centers at Columbia, NYU and UCLA law schools had started to look at Section 115 with interest and decided a deeper dive was warranted given its promising nature.

“The deeper we dove,” said Gerrard, “the more confident we became that this provision gives the administration a solid basis for action on climate change across many sectors of the economy. We asked colleagues in several other leading law schools to review our conclusions and they concurred.”

For instance, Jonathan Z. Cannon of the University of Virginia Law School was an endorsing reviewer. Cannon was the General Counsel of the U.S. Environmental Protection Agency during the Clinton Administration and author of the historic EPA memorandum concluding that carbon dioxide was a pollutant under the Clean Air Act — a view that was later endorsed by the Supreme Court.

“This report on Section 115 opens an important new pathway for addressing domestic greenhouse gas emissions consistent with the global nature of climate change,” as Cannon told Climate Progress. “The research is thorough and the analysis thoughtful and convincing.”

There are two prerequisites for action under section 115. First, the EPA Administrator or the Secretary of State must determine that emissions of “any air pollutant” in the United States “may reasonably be anticipated to endanger public health or welfare in a foreign country.” This element is easily satisfied given that EPA has long ago determined that greenhouse gases “threaten the public health and welfare of current and future generations.” Since then, the world’s top scientists concluded in their comprehensive November 2014 final report of the latest science, that failure to sharply reduce carbon pollution risks “severe, pervasive and irreversible impacts for people and ecosystems.” These conclusions were endorsed unanimously by every major country in the world.

Second, the EPA Administrator must find that the foreign country or countries have provided “reciprocity” to the United States by giving “the United States essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country by this section.” According to the new analysis, “Although there are numerous bilateral and multilateral agreements on which EPA might rely, the strongest evidence may be

found in the procedural rights provided and the substantive commitments made through the United Nations Framework Convention on Climate Change (UNFCCC) and the international efforts to address climate change which recently coalesced in Paris in December 2015.” Once the EPA determines that these prerequisites are met, the agency is directed to require the states to revise their state air pollution plans that are “inadequate to prevent or eliminate the endangerment.” According to the law professors, as a matter of both law and policy, it would be “eminently reasonable” for the EPA to use President Obama’s pledge made in anticipation of the international climate summit — a 26 to 28 percent reduction by 2025 — as a target under section 115.

Because the required emissions reductions are achieved through the Clean Air Act’s state planning process, they provide the maximum flexibility allowed under the Clean Air Act. Recall that in October, George W. Bush’s former EPA chief, Christine Todd Whitman, [told Climate Progress](#) that the EPA’s Clean Power Plan (CPP) is “the most flexible thing,” the agency has ever done. Agency action under section 115 would not need to affect the Clean Power Plan.

States are expressly authorized by the Clean Air Act to incorporate “economic incentives such as fees, marketable permits, and auctions of emission rights.” According to the new analysis this “provides an opportunity for avoiding potentially dozens of source-specific [greenhouse gas] regulations under other provisions of the Act, while simultaneously allowing businesses to lower their compliance costs through reliance on market-based approaches.”

The United States will meet—and most likely exceed—its 2025 climate pledge. As the reality of climate change becomes increasingly obvious—at the same time that clean energy is becoming cheaper and cheaper—the U.S. will inevitably be joining the rest of the world in ratcheting down our greenhouse gas emissions over time, as world’s nations unanimously agreed in Paris. It now appears the EPA will have the authority to take the actions needed to preserve a livable climate.

*Greg Dotson is the Vice President for Energy Policy at American Progress.*

LETTER SUBMITTED BY REPRESENTATIVE LIZZIE FLETCHER

**Congress of the United States**  
Washington, DC 20515

July 12, 2019

Mr. Andrew Wheeler  
Acting Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue NW  
Washington, DC 20460

**Re: Closure of EPA Region 6 Laboratory in Houston, TX**

Dear Administrator Wheeler:

We write to express our dismay that the Environmental Protection Agency (EPA) has proposed the closure of the EPA Region 6 Houston Laboratory ("Lab" hereinafter), a full-service analytical Lab which serves Arizona, Louisiana, New Mexico, Oklahoma, and Texas. While the Lab employees have been asked to relocate to Ada, Oklahoma, over the next 18 months, many employees will choose instead to retire rather than relocate because of the hardship this will impose on them. Family obligations, medical needs, and financial responsibilities are all major factors to consider in any relocation. Employees would be forced to uproot their lives to keep their jobs. For many, this may be impossible.

We are concerned that this closure could be perceived as a tactic to shrink the overall number of EPA employees needed to protect human health and the environment. The closing of the Lab in Houston, with its high concentration of chemical plants and refineries, is counterproductive to the EPA's mission.

The proposed closure will result in the forced retirement of many affected EPA employees. The EPA Region 6 employees comprise highly-trained and skilled analytical staff, including chemists, biologists, inspectors, and facility support contractors. The Lab's closure and elimination of many positions, and the expertise they accompany, will create tremendous turnover. Houston, consequently, will lose critical access to test samples of air, water, and soil that require immediate analysis. This could require Houston to outsource its Lab work to entities outside of the federal government.

Federal government laboratories are impartial, apolitical, and non-profit entities. Numerous studies suggest inflated costs of government contractors in comparison to that of federal workers that perform the same work; contractors are typically paid nearly two or three times more than federal workers. A government contractor's allegiance is to their employer and shareholders. EPA

lab employees are dedicated public servants committed to the Agency's mission of protecting public health and the environment. Government contractors who collect data will not necessarily be impartial, which may cause their findings to be less accurate and effective.

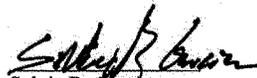
For these reasons, we ask that you reconsider the Houston Lab closure as well as the relocation of the facility and its employees to Ada, Oklahoma.

Thank you for your prompt attention to this matter.

Sincerely,



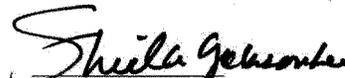
Al Green  
Member of Congress



Sylvia R. Garcia  
Member of Congress



Lizzie Fletcher  
Member of Congress



Sheila Jackson Lee  
Member of Congress

**Table 17. - Present Value and Equivalent Annualized Value of Compliance Costs, Climate Benefits, and Net Benefits Associated with Targeted Pollutant (CO<sub>2</sub>), Relative to the No CPP Alternative Baseline, 3 and 7 Percent Discount Rates, 2023-2037 (billions of 2016\$)**

	Costs		Domestic Climate Benefits		Net Benefits associated with the Targeted Pollutant (CO <sub>2</sub> )	
	3%	7%	3%	7%	3%	7%
<i>Present Value</i>						
2% HRI at \$50/kW	4.8	2.8	0.8	0.1	(4.1)	(2.8)
4.5% HRI at \$50/kW	(1.2)	(0.6)	0.7	0.1	2.0	0.7
4.5% HRI at \$100/kW	8.2	4.8	1.6	0.2	(6.6)	(4.7)
<i>Equivalent Annualized Value</i>						
2% HRI at \$50/kW	0.4	0.3	0.1	0.0	(0.3)	(0.3)
4.5% HRI at \$50/kW	(0.1)	(0.1)	0.1	0.0	0.2	0.1
4.5% HRI at \$100/kW	0.7	0.5	0.1	0.0	(0.6)	(0.5)

Notes: Negative costs indicate avoided costs, negative benefits indicate forgone benefits, and negative net benefits indicate forgone net benefits. All estimates are rounded to one decimal point, so figures may not sum due to independent rounding. Climate benefits reflect the value of domestic impacts from CO<sub>2</sub> emissions changes. This table does not include estimates of ancillary health co-benefits from changes in electricity sector SO<sub>2</sub> and NO<sub>x</sub> emissions.

Table 18 and Table 19 provide the estimated costs, benefits, and net benefits, inclusive of the ancillary health-co benefits and relative to the base case (CPP). Table 18 presents the PV and EAV estimates, and Table 19 presents the estimates for the specific years of 2025, 2030, and 2035.

**Table 18. - Present Value and Equivalent Annualized Value of Compliance Costs, Total Benefits, and Net Benefits, Relative to Base Case (CPP), 3 and 7 Percent Discount Rates, 2023-2037 (billions of 2016\$)**

This document is a prepublication version, signed by EPA Acting Administrator, Andrew R. Wheeler on 8/20/18. We have taken steps to ensure the accuracy of this version, but it is not the official version.  
EPA-HQ-OAR-2017-0355

	Costs		Benefits		Net Benefits	
	3%	7%	3%	7%	3%	7%
<b>Present Value</b>						
No CPP	(5.2)	(3.1)	(37.2) to (81.5)	(17.9) to (41.3)	(32.0) to (76.3)	(14.8) to (38.2)
2% HRI at \$50/kW	(0.4)	(0.3)	(32.7) to (72.4)	(15.9) to (36.9)	(32.3) to (72.0)	(15.7) to (36.7)
4.5% HRI at \$50/kW	(6.4)	(3.7)	(34.3) to (75.2)	(16.6) to (39.4)	(27.9) to (68.8)	(12.8) to (35.6)
4.5% HRI at \$100/kW	3.0	1.7	(27.2) to (60.2)	(13.9) to (31.9)	(30.2) to (63.2)	(15.6) to (33.7)
<b>Equivalent Annualized Value</b>						
No CPP	(0.4)	(0.3)	(3.1) to (6.8)	(2.0) to (4.5)	(2.7) to (6.4)	(1.6) to (4.2)
2% HRI at \$50/kW	(0.0)	(0.0)	(2.7) to (6.1)	(1.7) to (4.1)	(2.7) to (6.0)	(1.7) to (4.0)
4.5% HRI at \$50/kW	(0.5)	(0.4)	(2.9) to (6.3)	(1.8) to (4.3)	(2.3) to (5.8)	(1.4) to (3.9)
4.5% HRI at \$100/kW	0.3	0.2	(2.3) to (5.0)	(1.5) to (3.5)	(2.5) to (5.3)	(1.7) to (3.7)

Notes: Negative costs indicate avoided costs, negative benefits indicate forgone benefits, and negative net benefits indicate forgone net benefits. All estimates are rounded to one decimal point, so figures may not sum due to independent rounding. Total benefits include both climate benefits and ancillary health co-benefits. Climate benefits reflect the value of domestic impacts from CO<sub>2</sub> emissions changes. The ancillary health co-benefits reflect the sum of the PM<sub>2.5</sub> and ozone benefits from changes in electricity sector SO<sub>2</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> emissions and reflect the range based on adult mortality functions (e.g., from Krewski *et al.* (2009) with Smith *et al.* (2009) to Lepeule *et al.* (2012) with Jerrett *et al.* (2009)). PM premature mortality benefits estimated using a log-linear no-threshold model.

**Table 19. - Compliance Costs, Total Benefits, and Net Benefits, Relative to Base Case (CPP), 3 and 7 Percent Discount Rates, 2025, 2030, and 2035 (billions of 2016\$)**

This document is a prepublication version, signed by EPA Acting Administrator, Andrew R. Wheeler on 8/20/18. We have taken steps to ensure the accuracy of this version, but it is not the official version.

EPA-HQ-OAR-2017-0355

LETTER • OPEN ACCESS

## The Affordable Clean Energy rule and the impact of emissions rebound on carbon dioxide and criteria air pollutant emissions

To cite this article: Amelia T Keyes *et al* 2019 *Environ. Res. Lett.* **14** 044018

View the [article online](#) for updates and enhancements.

### Recent citations

- [Policy Evolution under the Clean Air Act](#)  
Richard Schmalensee and Robert N. Stavins
- [Long-Run Backfire from Energy Policies](#)  
Derek Lemoine

## Environmental Research Letters



## LETTER

## The Affordable Clean Energy rule and the impact of emissions rebound on carbon dioxide and criteria air pollutant emissions

## OPEN ACCESS

RECEIVED  
9 October 2018REVISED  
2 January 2019ACCEPTED FOR PUBLICATION  
14 January 2019PUBLISHED  
9 April 2019

Original content from this work may be used under the terms of the Creative Commons Attribution 3.0 licence.

Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

Amelia T Keyes<sup>1</sup>, Kathleen F Lambert<sup>2</sup>, Dallas Burtraw<sup>3</sup>, Jonathan J Buonocore<sup>4</sup>, Jonathan I Levy<sup>5</sup> and Charles T Driscoll<sup>6</sup><sup>1</sup> Resources for the Future, United States of America<sup>2</sup> Science Policy Exchange, United States of America<sup>3</sup> Resources for the Future, United States of America<sup>4</sup> Center for Climate, Health and the Global Environment, Harvard T.H. Chan School of Public Health, United States of America<sup>5</sup> Boston University, United States of America<sup>6</sup> Syracuse University, United States of AmericaE-mail: [keyes@rff.org](mailto:keyes@rff.org)

Keywords: emissions rebound, carbon standard, power sector

Supplementary material for this article is available online

## Abstract

The Affordable Clean Energy (ACE) rule, the US Environmental Protection Agency's (EPA) proposed replacement of the Clean Power Plan (CPP), targets heat rate improvements (HRIs) at individual coal plants in the US. Due to greater plant efficiency, such HRIs could lead to increased generation and emissions, known as an emissions rebound effect. The EPA Regulatory Impact Analysis for the ACE and other analyses to date have not quantified the magnitude and extent of an emissions rebound. We analyze the estimated emissions rebound of carbon dioxide (CO<sub>2</sub>) and criteria pollutants sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), using results from the EPA's power sector model, under the ACE in 2030 at model coal plants and at the state and national levels compared to both no policy and the CPP. We decompose emissions changes under a central illustrative ACE scenario and find evidence of a state-level rebound effect. Although the ACE reduces the emissions intensity of coal plants, it is expected to increase the number of operating coal plants and amount of coal-fired electricity generation, with 28% of model plants showing higher CO<sub>2</sub> emissions in 2030 compared to no policy. As a result, the ACE only modestly reduces national power sector CO<sub>2</sub> emissions and increases CO<sub>2</sub> emissions by up to 8.7% in 18 states plus the District of Columbia in 2030 compared to no policy. We also find that the ACE increases SO<sub>2</sub> and NO<sub>x</sub> emissions in 19 states and 20 states plus DC, respectively, in 2030 compared to no policy, with implications for air quality and public health. We compare our findings to other model years, additional EPA ACE scenarios, and other modeling results for similar policies, finding similar outcomes. Our results demonstrate the importance of considering the emissions rebound effect and its effect on sub-national emissions outcomes in evaluating the ACE and similar policies targeting HRIs.

## 1. Introduction

The United States Environmental Protection Agency (EPA) in August 2018 released its proposed Affordable Clean Energy (ACE) rule. The ACE is the proposed replacement to the existing EPA Clean Power Plan (CPP), the carbon dioxide (CO<sub>2</sub>) emissions standard for existing power plants. EPA has a legal obligation to regulate greenhouse gas emissions from existing power plants, which was affirmed by the Supreme

Court's 2007 decision in *Massachusetts v Environmental Protection Agency* and triggered by the EPA's formal finding in 2009 that greenhouse gas emissions endanger public health and welfare (*Massachusetts v Environmental Protection Agency* (EPA) 2007, US Environmental Protection Agency (EPA) 2009).

The CPP was finalized in 2015 and established state-based CO<sub>2</sub> emissions goals for affected fossil fuel-fired power plants. The CPP identifies a number of flexible compliance options as part of the 'best

system of emissions reductions' (BSER) that the EPA is charged with identifying under section 111(d) of the Clean Air Act. It allows emissions reductions to come from carbon intensity reductions at individual plants—including heat rate improvements (HRIs) or fuel cofiring at the source—or from the substitution of generation towards less carbon-intensive and zero-carbon energy sources (US Environmental Protection Agency (EPA) 2015a). Averaging across electricity generating units (EGUs) and intra- and inter-state trading among units are also allowed. Given the flexible compliance structure, the CPP can be termed a 'systems-based' standard. At the time it was finalized, it was estimated that the CPP would decrease CO<sub>2</sub> emissions by 415 million tons, or 19%, below a business as usual base case level, or 32% below 2005 levels, by 2030 (US Environmental Protection Agency (EPA) 2015b).

The proposed ACE instead employs a narrow 'source-based' regulation, which defines and limits the legally relevant BSER as HRI opportunities at individual coal plants (US Environmental Protection Agency (EPA) 2018a). Heat rate is the amount of fuel input (Btu) used to produce a kWh of electricity; a lower heat rate indicates a more efficient unit, which emits less CO<sub>2</sub> per kWh. As a general rule of thumb, a reduction of 10 million Btu equals roughly a one-ton reduction in CO<sub>2</sub> for coal EGUs. There is considerable heterogeneity in the heat rate of US coal plants and substantial opportunity to make coal plants more efficient (Massachusetts Institute of Technology (MIT) 2009, Sargent and Lundy 2009, SFA 2009, DiPietro and Krulla 2010, Campbell 2013, Linn *et al* 2014, Staudt and Macedonia 2014). The ACE sets standards for emissions rate improvements at facilities, but because these standards are based solely on estimated potential for HRIs, we refer to this type of source-based option as a HRI standard. The ACE does not include fuel cofiring among its described emission reduction options. States would be required to submit plans to EPA to implement the rule, taking into account criteria such as remaining useful life, and it is possible states would propose to allow cofiring to achieve comparable emissions reductions. The ACE also allows for the possibility that states determine that no emissions reduction options are feasible.

With the issuance of the proposed replacement regulation, the EPA released a Regulatory Impact Analysis (RIA) that models emissions under the ACE compared to a reference scenario with the CPP and a scenario with no power plant carbon standard (US Environmental Protection Agency (EPA) 2018b). The RIA includes projections of national power sector emissions outcomes, but does not examine or quantify the role that a potential emissions rebound effect may play in driving the emissions outcomes. The rebound effect is a phenomenon in which facilities with high baseline emissions rates are made more efficient through investments to reduce their heat rates, and consequently operate more frequently and remain in operation for a longer period. This phenomenon is well documented in the environmental

economics literature, though the majority of evidence focuses on energy efficiency (Greening *et al* 2000, Sorrell *et al* 2009). Previous studies have found evidence that an emissions rebound effect can diminish emissions reductions or even lead to emissions increases following HRIs at high-emissions facilities (Linn *et al* 2014, Keyes *et al* 2018), but no other studies have specifically examined the role of an emissions rebound in the ACE.

We analyze the model plant level results published by EPA to better understand the predicted impact of the ACE on CO<sub>2</sub> emissions from coal plants and the potential impact on total CO<sub>2</sub> emissions at national and state levels (US Environmental Protection Agency (EPA) 2018b). We also analyze the changes in emissions of co-pollutants including sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), which affect local air quality and human health.

We conduct a formal decomposition analysis of the estimated national changes in generation and CO<sub>2</sub> emissions between the ACE and a no-policy scenario to examine the underlying drivers of the emissions changes and to estimate the contribution of a potential emissions rebound effect. We provide decomposition results for states that are estimated to experience emissions increases under the source-based ACE rule.

Our analysis largely evaluates the impacts of the ACE based on 2030 projections for a central case we selected from EPA's three illustrative ACE modeling scenarios. In addition, we compare these results to emissions results for 2021–2050 and for the EPA's two other illustrative ACE cases.

This analysis builds upon a study by the same authors that independently models potential national and state-level CO<sub>2</sub> emissions impacts in 2030 for a source-based scenario compared to a scenario with no power plant carbon standard and to a flexible systems-based scenario similar to the CPP (Keyes *et al* 2018). Our findings on the emissions rebound effect are compared to the results of Keyes *et al* (2018).

## 2. Methods

### 2.1. Data

We conduct our analysis using results from the EPA's policy scenario modeling for the ACE RIA. EPA used the Integrated Planning Model (IPM) to estimate power sector outcomes from 2021 to 2050. IPM is a dynamic linear programming engineering-economic model of the US power sector. It maps almost 13 000 existing and planned EGUs into about 1700 model plants. The model differentiates power sector outcomes into demand and supply regions and accounts for interstate electricity trade. IPM is solved with fixed electricity demand. EPA uses IPM to project emissions of CO<sub>2</sub> and co-pollutants and a number of other outcomes under various policy scenarios.<sup>7</sup>

<sup>7</sup> See US Environmental Protection Agency (EPA) (2018b) for a detailed description of modeling assumptions and inputs.

Five scenarios were modeled using IPM: a scenario with no power plant carbon standard, an illustrative scenario with the CPP, and three illustrative ACE scenarios that represent potential state determinations of performance standards and compliance with those standards (US Environmental Protection Agency (EPA) 2018b). The CPP scenario assumes a rate-based implementation applied only to existing fossil-fired EGUs, one of multiple options available to states. Each ACE scenario assumes uniform HRI potential at all coal plants and uniform cost per kW of HRI investment. The ACE scenarios differ in their assumptions about the status of the New Source Review (NSR) provision of the US Clean Air Act. NSR currently requires permitting for major generation sources that make major modifications. The ACE introduces a change in NSR to allow major sources to avoid triggering NSR if modifications do not affect their hourly rate of emissions. The first ACE scenario, 2% HRI at  $\$50 \text{ kW}^{-1}$  at coal plants, assumes that the EPA's proposed revisions to the NSR requirements are not implemented and therefore identifies relatively modest opportunities for HRIs; the second scenario, 4.5% HRI at  $\$50 \text{ kW}^{-1}$ , assumes NSR revisions are implemented and identifies greater opportunities for HRIs; and the third scenario, 4.5% HRI at  $\$100 \text{ kW}^{-1}$ , also assumes NSR revisions are implemented but assumes HRIs have a higher cost, which is more appropriate for plants with relatively low capacity or limited remaining useful life.

Our analysis uses the published output from EPA's IPM model runs. We use the IPM State Emissions datasets to examine total emissions of  $\text{CO}_2$  and co-pollutants  $\text{SO}_2$  and  $\text{NO}_x$  at the state and national level. Additionally, we use the IPM RPE datasets, which provide projections of fuel generation and emissions ( $\text{CO}_2$ ,  $\text{SO}_2$  and  $\text{NO}_x$ ) for each model plant to evaluate outcomes. Our analysis focuses on emissions outcomes in 2030 for the 4.5% HRI at  $\$50 \text{ kW}^{-1}$  scenario compared to the CPP and no-policy scenarios. We choose this scenario as our ACE central case because it incorporates the implementation of EPA's proposed NSR reform and a lower cost of HRI investment. We also compare these results with the other two ACE scenarios and to results for 2021–2050.

## 2.2. Decomposition analysis

To analyze estimated changes in EGU generation and associated emissions, we use a logarithmic mean decomposition index approach, based on Ang (2015). We implement Model 1 in table 1 of Ang (2015) and substitute  $\text{CO}_2$  emissions for energy consumption ( $E$ ) and electricity generation for industrial output ( $Q$ ). This method follows from that used in Palmer *et al* (2018) to decompose modeled emissions changes under a carbon tax. We estimate the contribution of three factors to the change in emissions under the ACE compared to the no-policy scenario: activity, structure, and intensity. The activity factor is emissions changes associated with changes in total electricity

generation; the structure factor is emissions changes associated with shifts in generation among fuel types; and the intensity factor is emissions changes associated with changes in emission intensity within fuel types.

The emission intensity of fuel types (the intensity factor) is the factor targeted by a HRI standard and it can change when a policy causes various fossil fuel plants to improve their efficiency. Under a HRI standard, the intensity factor contributes to emissions reductions if the standard successfully reduces the emission intensity of coal plants.

The rebound effect is embodied in changes in the generation mix (the structure factor), which changes when a policy affects the relative competitiveness of generation sources. This can occur under a HRI standard if the standard improves the efficiency of coal plants and thus causes substitution towards coal away from other, lower-emitting generation sources. Our estimate of the rebound effect is likely conservative because the EPA's model holds total demand constant. If demand were allowed to change, the rebound effect would include both the structure factor and the activity factor. Change in demand can occur if the increased efficiency of coal lowers the cost of electricity generation and thus increases total electricity demand, as would be expected in organized wholesale power markets. In regulated markets, these investments could increase or decrease total costs, depending on the reason such investments are previously unrealized. Reasons could include inconsistent pass-through clauses, avoidance of triggering NSR, access to capital, and uncertainty about greenhouse gas regulations (Richardson *et al* 2011, Campbell 2013, Linn *et al* 2014). However, under constant demand, at the national level the activity factor in our analysis is not directly associated with the rebound effect. At the state-level, a change in the activity factor can be associated with the rebound effect because changes in trade flows across states can lead to a net change in generation in some states. This effect is absorbed into the structure factor at the national level. Although electricity demand is held constant, total electricity generation (the activity factor) can still differ on the national level across model scenarios for several reasons: policies may cause changes in trade flows between the US and Canada, or changes in state or regional generation within the US. These changes may affect the total amount of electricity transferred between regions, thus affecting total losses and generation.

## 3. Results

### 3.1. National and state-level $\text{CO}_2$ emissions changes

National  $\text{CO}_2$  emissions are projected to be slightly lower under the ACE compared to no policy, and higher compared to the CPP, in all modeled years but 2050 (table 1). In 2050, two of the three ACE scenarios have higher  $\text{CO}_2$  emissions compared to no policy. Cumulative  $\text{CO}_2$  emissions from 2021 to 2050 are

Table 1. National power sector CO<sub>2</sub> emissions (million short tons).

	No policy	CPP	4.5% HRI at \$50 kW <sup>-1</sup> (ACE central case)	2% HRI at \$50 kW <sup>-1</sup>	4.5% HRI at \$100 kW <sup>-1</sup>
2021	1710	1701	1709	1709	1707
2023	1801	1754	1814	1801	1802
2025	1829	1780	1812	1816	1799
2030	1811	1737	1797	1798	1785
2035	1794	1728	1787	1783	1772
2040	1849	1782	1841	1840	1829
2045	1843	1782	1832	1833	1821
2050	1804	1753	1815	1801	1808
2021–2050 cumulative (interpolated)	54 469	52 694	54 261	54 195	53 920

slightly lower under all three ACE scenarios compared to no policy and slightly higher compared to the CPP. In 2030, compared to no policy, CO<sub>2</sub> emissions are projected to be 0.8% lower under the 4.5% HRI at \$50 kW<sup>-1</sup> scenario, 0.7% lower under the 2% at \$50 kW<sup>-1</sup> scenario, and 1.5% lower under the 4.5% at \$100 kW<sup>-1</sup> scenario.

There is substantial variation in state-level outcomes under the ACE. For the 4.5% HRI at \$50 kW<sup>-1</sup> scenario, 18 states plus the District of Columbia are projected to experience at least small increases in CO<sub>2</sub> emissions in 2030 compared to no policy (figure 1). The numbers are similar for the other two ACE scenarios: 16 states plus Washington, DC for the 2% at \$50 kW<sup>-1</sup> scenario and 14 states plus Washington, DC for the 4.5% at \$100 kW<sup>-1</sup> scenario. Compared to the CPP, 22 states and Washington, DC are projected to have emissions increases under the 4.5% HRI at \$50 kW<sup>-1</sup> ACE scenario (figure 2).<sup>8</sup>

### 3.2. Coal-fired power plant CO<sub>2</sub> emissions changes

We examine the impact of the ACE on model coal-fired power plants to illustrate the main drivers of emissions changes by focusing on 2030 emissions for the 4.5% HRI at \$50 kW<sup>-1</sup> scenario, which is our ACE central case. IPM's model coal plants are aggregated representations of constituent coal plants within states, 381 of which were operating in the US in 2016 (US Energy Information Administration (EIA) 2017a). Under EPA's projections of ACE, CO<sub>2</sub> emissions from coal plants are projected to be only slightly lower (0.6%) in 2030 compared to no policy (table 2). While the emissions intensity of coal plants declines by 4.5%, the number of coal plants in operation and total coal-powered electricity generation increase. This shift offsets the benefits of emissions intensity improvements and causes the total emissions reduction

<sup>8</sup> Conversely, 25 states are projected to have lower emissions under the 4.5% at \$100 kW<sup>-1</sup> scenario compared to the CPP. This is because the CPP creates performance standards for fossil generation sources, and emissions at EGU's can increase under the CPP if their level of generation increases. The CPP is a flexible standard aimed at achieving system-wide emissions reductions.

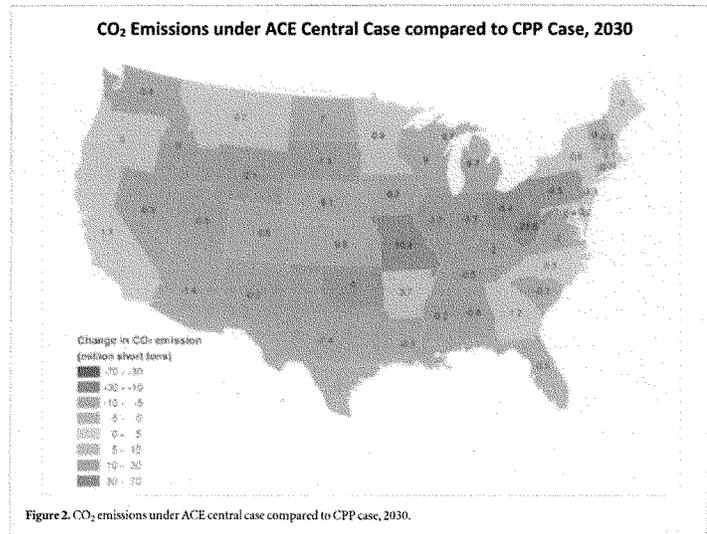
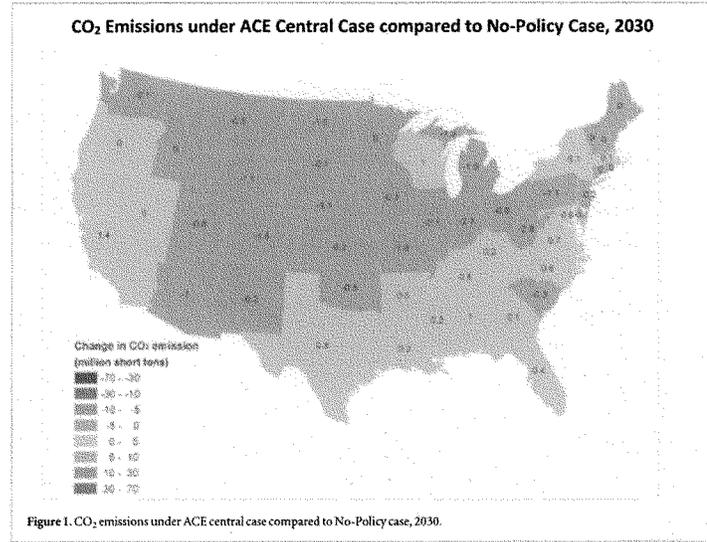
to be small compared to the emissions intensity improvements.

Under the EPA's interpretation of section 111(d) of the Clean Air Act as constraining regulations to measures that can be taken at a source (power plant), total CO<sub>2</sub> emissions are actually projected to increase at a number of the affected plants. Of the 333 model coal plants that would be in operation in 2030 under no policy, 93 of those (or 28%) are projected to have higher total CO<sub>2</sub> emissions under the ACE. Additionally, under the ACE five additional model coal plants are projected to be operating in 2030 that would have been idled or retired under no policy.

### 3.3. Decomposition of CO<sub>2</sub> emissions changes

The decomposition shows the extent to which the rebound effect is projected to offset emissions reductions under the ACE. Total national emissions under the ACE are estimated to decrease by 14.3 million short tons (0.8%) compared to the no-policy scenario in 2030. Our decomposition analysis breaks down the three primary factors driving that change in emissions (figure 3(a)). We find that reductions in emissions intensity within fuel types reduce emissions by 47.4 million tons, mainly due to the lower emissions intensity of coal generation. However, the rebound effect associated primarily with greater utilization of coal plants increases emissions by 32.4 million tons, partially offsetting the reductions from improvements in emissions intensity and resulting in smaller estimated total reductions. Note that the rebound effect is greater on a fleet basis, due to substitution to more efficient units, than researchers have estimated for an individual facility (e.g. Linn *et al* 2014). A slight increase in total electricity generation drives emissions up by an additional 0.6 million tons.

For the 18 states plus DC projected to experience higher CO<sub>2</sub> emissions in 2030 under the ACE compared to no policy (figure 1), total CO<sub>2</sub> emissions are expected to increase by 8.5 million tons. Decomposition reveals that emissions intensity improvements drive down emissions by 14.3 million tons, but these reductions are more than offset by generation mix shifts that drive up emissions by 21.4 million tons and



greater total generation that drives up emissions by 1.4 million tons (figure 3(b)). This rebound effect is caused mostly by shifts towards increased coal generation. Of the 18 states that experience total increases in CO<sub>2</sub> emissions, 14 states experience an emissions increase from coal-fired power plants in

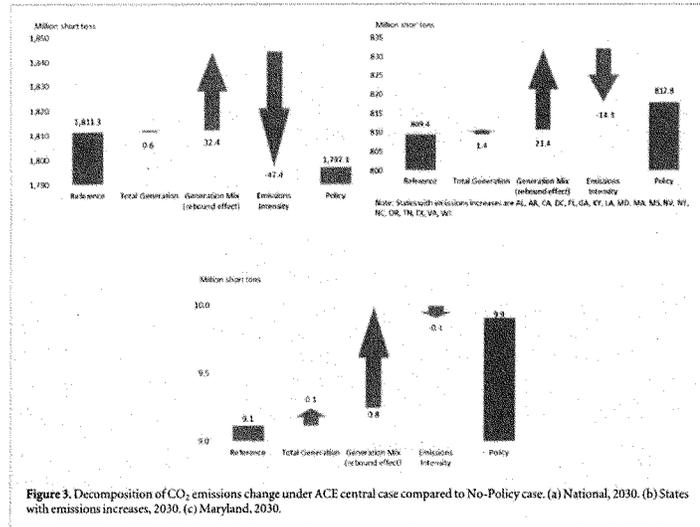


Figure 3. Decomposition of CO<sub>2</sub> emissions change under ACE central case compared to No-Policy case. (a) National, 2030. (b) States with emissions increases, 2030. (c) Maryland, 2030.

Table 2. Comparison of model coal plants between ACE central case and No-Policy case, 2030.

	No policy	ACE central case	Change (level)	Change (%)
Number of model coal plants in operation	333	338	5	1.5%
Total generation (GWh)	937 757	975 633	37 877	4.0%
Total Emissions (Thousand short tons)	1027 456	1020 897	-6559	-0.6%
Emissions intensity (kg kWh <sup>-1</sup> )	0.99	0.95	-0.04	-4.5%
Heat rate (Btu kWh <sup>-1</sup> )	10 395	9930	-465	-4.5%

their state. In the other four states (California, Georgia, Massachusetts, and Oregon) plus DC, the emissions increases are mainly due to increased emissions from natural gas. Increases in state-level natural gas emissions could occur for several reasons that are specific to state and regional electricity markets. This pattern exposes another unintended consequence of the ACE that could diminish emissions reductions in some states.

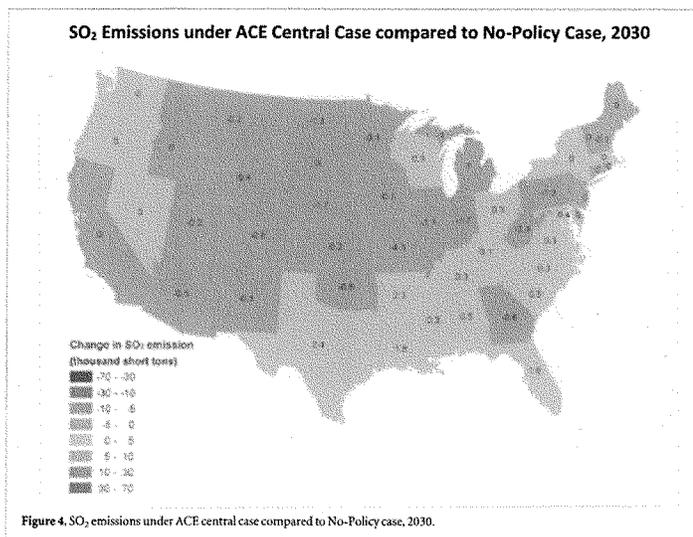
Maryland has the greatest percent increase in emissions under the ACE compared to no policy in 2030 (8.7%) and provides an informative illustration of the emissions rebound effect. Maryland has two model coal plants in operation under the ACE, neither of which would be in operation with no policy in place. Thus, the shift in the generation mix towards coal drives up emissions by 0.8 million tons and causes an overall increase in emissions in the state (figure 3(c)).

Interstate trade in electricity can exacerbate the emissions rebound in some states, because coal EGUs that become more efficient may compete not only with

EGUs in their state but also others in their power market region. For example, the emissions intensity of coal in a net electricity exporting states like Alabama improves in 2030 under the ACE compared to no policy. However, coal generation and total generation increase in the state, suggesting that electricity exports increase. The increase in fossil generation drives up emissions by 2.2 million tons, offsetting the emissions intensity improvements and resulting in a net increase in emissions by 1 million tons.

### 3.4. Criteria air pollutant emissions changes

National SO<sub>2</sub> emissions in 2030 are projected by EPA to decrease by 0.7% under the ACE compared to no policy, with 19 states showing SO<sub>2</sub> emissions increases (figure 4). National NO<sub>x</sub> emissions are projected by EPA to decrease by 1.0%, with 20 states plus DC showing emissions increases (figure 5). Compared to the CPP, national SO<sub>2</sub> emissions are projected by EPA to be 5.9% higher under the ACE and NO<sub>x</sub> emissions are projected to be 5.0% higher.



#### 4. Discussion

##### 4.1. Comparison of results

Our analysis of ACE impacts using EPA's RIA demonstrates the potential for a rebound effect to occur and limit decrease emissions reductions. Previous studies have found evidence that a rebound effect is associated with HRIs at high-emissions rate facilities, and changes in the operation of these facilities diminishes the reduction in emissions that would otherwise occur (Linn *et al* 2014). Moreover, because these facilities have lower operating costs after the HRIs are made, they are likely to delay their ultimate retirement and may remain in service longer into the future (Burtraw *et al* 2011). Our analysis suggests this is the case, because by 2050 CO<sub>2</sub> emissions under the ACE exceed emissions under no policy. This consideration is important since CO<sub>2</sub> is a stock pollutant that accumulates in the atmosphere each year.

We compare the results of this analysis to another study by the same authors (Keyes *et al* 2018), in which the spatially explicit effects of scenarios constructed independently but similar to the ACE are modeled, including a source-based HRI standard. Keyes *et al* (2018) uses results from IPM to compare their source-based scenario to a no-policy scenario and a systems-based scenario similar to the CPP. Because the modeling conducted for Keyes *et al* (2018) is independent from that used by EPA in its ACE RIA, it provides an alternative estimate of emissions outcomes.

Importantly, the results based on EPA's modeling can be compared only qualitatively to the Keyes *et al* modeling results because baseline economic conditions differ between the two sets of model runs. Keyes *et al* (2018) uses power sector modeling based on the electricity industry as it was configured in 2014, and the industry has since undergone substantial changes including retirement of many fossil units. Coal generation declined from 40% of total power generation in 2013 to 31% of total generation in 2017, and overall fossil fuels supplied 62% of total generation in 2017 compared to 67% in 2013 (US Energy Information Administration (EIA) 2018). The analyses also employ different assumptions about policy design and implementation. For example, the source-based standard used in Keyes *et al* (2018) includes cofiring up to 15% with natural gas or biomass as a compliance option, while the ACE does not consider cofiring as a candidate technology for BSER. Therefore, emissions projections in the EPA modeling results are lower for the No-Policy case and the estimated emissions impacts of the source-based policy are smaller compared to Keyes *et al* (2018) (table 3). However, Keyes *et al* (2018) affirm the finding that a rebound effect could lead to emissions increases at individual plants and in some states based on the EPA's modeling.

A notable result from EPA's RIA modeling is that the impact of the CPP on CO<sub>2</sub> emissions compared to no policy is small (4% reduction in 2030) compared to Keyes *et al* (2018), EPA's 2015 RIA for the CPP final rule and the Energy Information Administration's

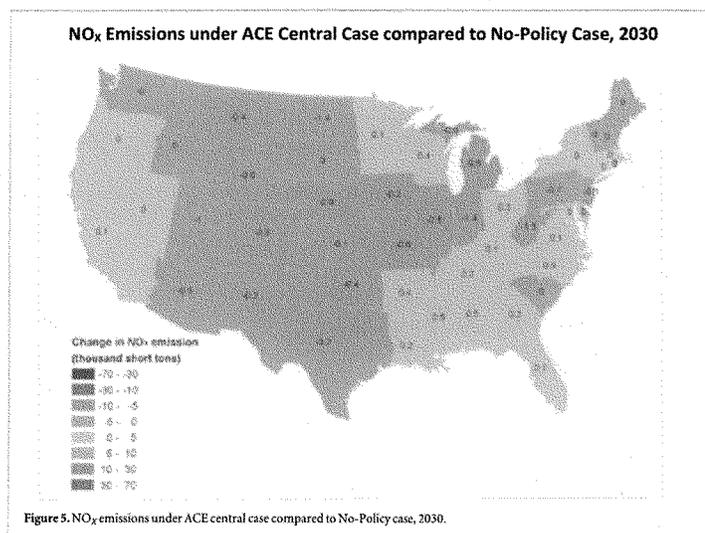


Table 3. Comparison of source-based scenario modeling results for 2030.

	Current analysis based on EPA's	
	ACE RIA	Keyes <i>et al</i> (2018)
CO <sub>2</sub> emissions under source-based scenario, million short tons	1797	2386
CO <sub>2</sub> emissions under no policy scenario, million short tons	1811	2451
Difference	-0.8%	-2.6%
CO <sub>2</sub> emissions under systems-based scenario, million short tons	1737	1466
Difference	3.5%	63%
Number of states with emissions increase compared to no policy scenario	18 states plus DC	8 states
Number of states with emissions increase compared to systems-based scenario	22 states plus DC	46 states

2017 Annual Energy Outlook (US Environmental Protection Agency (EPA) 2015b, US Energy Information Administration (EIA) 2017b). One reason for the relatively small impact of CPP in the ACE re-analysis is that EPA's ACE No-Policy case includes less fossil fuel generation than previous RIAs. Another reason is the set of assumptions that EPA uses for CPP implementation in the ACE RIA, which assumes coverage only for existing generation sources rather than existing and new sources and no incremental energy efficiency investments. These assumptions reduce the projected emissions benefits under the CPP.

The proposed ACE rule, in addition to suggesting changes to power plant carbon standards, also would reform the NSR program for new and significantly modified facilities. As discussed above, the reform to NSR would allow power plants to avoid NSR review as long as their hourly rate of emissions do not increase.

This reform may create a loophole for some plants to adopt HRI measures and potentially increase emissions. EPA's projections for the scenario incorporating NSR reform (4.5% HRI at  $550 \text{ kW}^{-1}$ ) and a scenario without NSR reform (2% HRI at  $550 \text{ kW}^{-1}$ ) shows minor impacts of NSR reform on CO<sub>2</sub> emissions.

#### 4.2. Policy Implications

The CO<sub>2</sub> emissions impacts of the ACE have implications for the 20 states that have adopted greenhouse gas emissions targets (Center for Climate and Energy Solutions (C2ES) 2018). Twenty-two states plus DC are projected to have higher emissions under the ACE compared to the CPP, and 11 of these states plus DC currently have greenhouse gas emissions targets in place. These states can be expected to face more difficulty achieving their targets due to the

replacement of the CPP. Further, of the 18 states and DC projected to experience higher CO<sub>2</sub> emissions compared to no policy, seven—California, DC, Florida, Maryland, Massachusetts, New York and Oregon—have greenhouse gas emissions targets. For these states, achieving their emissions targets may be more difficult under the ACE compared to having no federal power plant carbon standard in place.

The possibility for the rebound effect to lead to emissions increases at individual plants and for entire states raises the question whether the HRI standard proposed under the ACE qualifies as the 'BSER' that EPA is charged with identifying in its development of a power plant carbon standard under section 111(d) of the Clean Air Act. The projected impact of the rebound effect on CO<sub>2</sub> emissions under the ACE should be taken into consideration in determining whether the BSER requirement has been satisfied.

The change in emissions of co-pollutants under the ACE also has implications for regional air quality and public health. SO<sub>2</sub> and NO<sub>x</sub> are precursors to ambient PM<sub>2.5</sub> and NO<sub>x</sub> emissions contribute to ambient ozone, both of which have effects on premature mortality and morbidity. States with increased emissions may experience greater difficulty achieving or maintaining the US National Ambient Air Quality Standards established under the Clean Air Act. EPA estimates that, nationally, the ACE will lead to a slightly lower number of PM<sub>2.5</sub>- and ozone-related premature deaths compared to no policy in 2030, but it estimates that the ACE will substantially increase premature deaths compared to the CPP.

## 5. Conclusions

Our analysis finds that the projected emissions rebound effect in EPA's ACE RIA undermines emissions reductions from the ACE rule compared to both the CPP and to no power plant carbon standard. Although the emissions intensity of modeled coal plants decreases, the number of operating coal plants and the amount of coal-powered electricity generation increases. Under the ACE central case, the rebound effect causes emissions to increase at 28% of coal plants in 2030. As a result, total CO<sub>2</sub> emissions increase in 18 states plus DC and national CO<sub>2</sub> emissions decrease by only 0.8% in 2030. Further, emissions of SO<sub>2</sub> decline by only 0.7% with increases in 19 states, and emissions of NO<sub>x</sub> decline by 1.0% with increases in 20 states plus DC. The other ACE scenarios evaluated show similar outcomes driven by a rebound effect.

Our finding that under a source-based power plant standard the rebound effect can undermine pollutant emissions decreases at the national level and lead to increased emissions at individual coal plants and in a number of states is substantiated by similar findings based on independent power sector modeling (Keyes *et al* 2018). This result, which was not examined in the

RIA for the ACE proposed rule, has implications for the defensibility of the ACE as the BSER, for the ability of some states to achieve their greenhouse gas emissions reduction targets, and for jurisdictions that experience poor air quality to protect public health.

## Acknowledgments

The authors thank Habibollah Fakhraei for preparing the emissions maps and ICF for IPM modeling.

## ORCID iDs

Amelia T Keyes  <https://orcid.org/0000-0002-4339-3145>

Kathleen F Lambert  <https://orcid.org/0000-0003-2898-5481>

Dallas Burtraw  <https://orcid.org/0000-0002-2119-6984>

Jonathan J Buonocore  <https://orcid.org/0000-0001-7270-892X>

Jonathan I Levy  <https://orcid.org/0000-0002-1116-4006>

Charles T Driscoll  <https://orcid.org/0000-0003-2692-2890>

## References

- Ang B W 2015 LMDI decomposition approach: a guide for implementation *Energy Policy* 86 233–8
- Burtraw D, Woerman M and Paul A 2011 Retail electricity price savings from compliance flexibility in greenhouse standards for stationary sources *Energy Policy* 42 67–77
- Campbell R J 2013 Increasing the efficiency of existing coal-fired power plants *Congressional Research Service Report* (<https://fas.org/spp/crs/misc/R43343.pdf>)
- Center for Climate and Energy Solutions (C2ES) 2018 State Climate Policy Maps <https://c2es.org/content/state-climate-policy/> (Accessed: 14 September 2018)
- DiFietro P and Krulla K 2010 Improving the efficiency of coal-fired power plants for near term greenhouse gas emissions reductions *Department of Energy/National Energy Technology Laboratory (DOE/NETL) Report*
- Greening L A, Greene D L and DiFiglio C 2000 Energy efficiency and consumption—the rebound effect—a survey *Energy Policy* 28 389–401
- Keyes A, Lambert K, Burtraw D, Buonocore J, Levy J and Driscoll C 2018 Carbon standards examined: a comparison of at-the-source and beyond-the-source power plant carbon standards *Resources for the Future Working Paper*
- Linn J, Mastrangelo E and Burtraw D 2014 Regulating greenhouse gases from coal power plants under the Clean Air Act *J. Association Environ. Resource Economists* 1 97–134
- Massachusetts Institute of Technology (MIT) 2009 Retrofitting of coal-fired power plants for CO<sub>2</sub> emissions reductions *MIT Energy Initiative Symp. (Massachusetts Institute of Technology MIT US, March 2009)*
- Massachusetts v Environmental Protection Agency (EPA) 2007 (<https://law.cornell.edu/supct/html/05-1120.Z5.html>)
- Palmer K, Paul A and Keyes A 2018 Changing baselines, shifting margins: how predicted impacts of pricing carbon in the electricity sector have evolved over time *Energy Economics* 73 371–9
- Richardson N, Fraas A and Burtraw D 2011 Greenhouse gas regulation under the clean air act: structure, effects, and

- implications of a knowable pathway *Environ. Law Reporter* **41** 10098–120 (<https://eli.info/news-analysis/41/10098/greenhouse-gas-regulation-under-clean-air-act-structure-effects-and-implications-knowable-pathway>)
- Sargent and Lundy LLC 2009 Coal-fired power plant heat rate reductions *Report SL 009597* Sargent and Lundy LLC, Chicago
- SFA 2009 Near-term technologies for retrofit CO<sub>2</sub> capture and storage of existing coal-fired power plants in the United States *White paper for MIT Coal Retrofit Symp.* May 2009
- Sorrell S, Dimitropoulos J and Sommerville M 2009 Empirical estimates of the direct rebound effect: a review *Energy Policy* **37** 1356–71
- Staudt J E and Macedonia J 2014 Evaluation of heat rates of coal fired electric power boilers *Presented at the Power Plant Pollutant Control 'MEGA' Symp. (Baltimore, MD, 19–21 August, 2014)*
- US Energy Information Administration (EIA) 2017a Electric Power Annual 2016, table 4.1 ([https://eia.gov/electricity/annual/html/epa\\_04\\_01.html](https://eia.gov/electricity/annual/html/epa_04_01.html))
- US Energy Information Administration (EIA) 2017b Annual Energy Outlook 2017 (<https://eia.gov/outlooks/archive/aeo17/>)
- US Energy Information Administration (EIA) 2018 Electric Power Monthly, May 2018 (<https://eia.gov/electricity/monthly/>)
- US Environmental Protection Agency (EPA) 2009 Endangerment and Cause or Contribute Findings for Greenhouse Gases Under section 202(a) of the Clean Air Act; Final Rule ([https://epa.gov/sites/production/files/2016-08/documents/federal\\_register\\_epa-hq-oar-2009-0171-dec.15.09.pdf](https://epa.gov/sites/production/files/2016-08/documents/federal_register_epa-hq-oar-2009-0171-dec.15.09.pdf))
- US Environmental Protection Agency (EPA) 2015a Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule (<https://gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf>)
- US Environmental Protection Agency (EPA) 2015b Regulatory Impact Analysis for the Clean Power Plan Final Rule ([https://epa.gov/ttnecas1/docs/ria/utilities\\_ria\\_final-clean-power-plan-existing-units\\_2015-08.pdf](https://epa.gov/ttnecas1/docs/ria/utilities_ria_final-clean-power-plan-existing-units_2015-08.pdf))
- US Environmental Protection Agency (EPA) 2018a Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program. Proposed Rule (<https://gpo.gov/fdsys/pkg/FR-2018-08-31/pdf/2018-18755.pdf>)
- US Environmental Protection Agency (EPA) 2018b Regulatory Impact Analysis for the Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program ([https://epa.gov/sites/production/files/2018-08/documents/utilities\\_ria\\_proposed\\_ace\\_2018-08.pdf](https://epa.gov/sites/production/files/2018-08/documents/utilities_ria_proposed_ace_2018-08.pdf))



August 2019

## America's Water Infrastructure Act, Amendments to the Emergency Planning and Community Right-to-Know Act A Guide for SERCs, TERCs, and LEPCs

Section 2018 of the America's Water Infrastructure Act, enacted on October 23, 2018, amended the emergency release notification and the hazardous chemical inventory reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA). This new legislation requires state and tribal emergency response commissions to notify the applicable State agency (i.e., the drinking water primacy agency) of any reportable releases and provide community water systems with hazardous chemical inventory data. These requirements went into effect immediately upon signing the law.

Why are these revisions to EPCRA important to community water systems?

- Release of a hazardous substance into a source of drinking water or to the land in a source water protection area could compromise the ability of a community water system to deliver safe and reliable drinking water to their customers and could pose a risk to public health.
- Under some scenarios, contaminants from a release could reach the drinking water intake for a community water system in less than an hour.
- Thus, it is critical that a community water system receives prompt notification so it can take actions to prevent contaminated water from entering its system or otherwise minimize the consequences of the release to the system and its customers.
- Finally, a community water system can proactively plan for potential releases if they have access to hazardous chemical inventories in their source water protection area. A hazardous chemical inventory, combined with other relevant information, allows a water system to characterize the risk of source water contamination threats and prioritize source water protection activities.

### Background

EPCRA was passed by Congress in 1986 in response to concerns raised about community preparedness for chemical emergencies and the availability of information on hazardous chemicals. The purpose of EPCRA is to:

- Encourage and support emergency planning efforts at the state, tribal and local levels;
- Provide local governments and first responders with information concerning potential chemical hazards present in their community;
- Prevent, prepare for, and mitigate the effects of a chemical incident; and
- Provide the public with information on chemical risks in their community and information on what to do if a chemical accident occurs.

To achieve these goals, the law assigned responsibilities to state and local agencies to implement EPCRA. Accordingly, the Governor of each state designated a State Emergency Response Commission (SERC) to assist and supervise Local Emergency Planning Committees (LEPCs), who are responsible for developing emergency response plans for their communities. In tribal regions, Tribal Emergency Response

Commissions (TERCs), have the same responsibilities as SERCs and Tribal Emergency Planning Committees (TEPCs) have the same responsibilities as LEPCs.

### What are the EPCRA amendments that are important to community drinking water systems?

AWIA Section 2018 amended the Emergency Release Notification (EPCRA section 304) and Hazardous Chemical Inventory Reporting (EPCRA section 312) sections of EPCRA.

#### Overview of EPCRA emergency release notification (section 304)

Under EPCRA section 304, facilities are required to provide immediate notification to the appropriate SERC (or TERC) and LEPC (or TEPC) of any releases of Extremely Hazardous Substances (EHSs) and hazardous substances (HSs) listed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at or above their Reportable Quantities. The list of EHSs and their Reportable Quantities can be found in appendices A and B of 40 Code of Federal Regulations (CFR) part 355 and the list of CERCLA HSs can be found in 40 CFR 302.4.)

Section 304(b) requires the following information to be provided in the initial release notification:

- The chemical name or identity of any substance involved in the release;
- An indication of whether the substance is an EHS;
- An estimate of the quantity of any such substance that was released into the environment;
- The time and duration of the release;
- The medium or media into which the release occurred;
- Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals;
- Proper precautions to take, including evacuation (unless such information is readily available to the community; and
- The name(s) and telephone number(s) of the person or persons to be contacted for further information.

Section 304(c) requires facilities to provide a follow-up written report with additional information as soon as practicable after the release that updates information included in the initial release notification and provides additional information including:

- Actions taken to respond to and contain the release;
- Any known or anticipated acute or chronic health risks associated with the release; and
- Where appropriate, advice regarding medical attention necessary for exposed individuals.

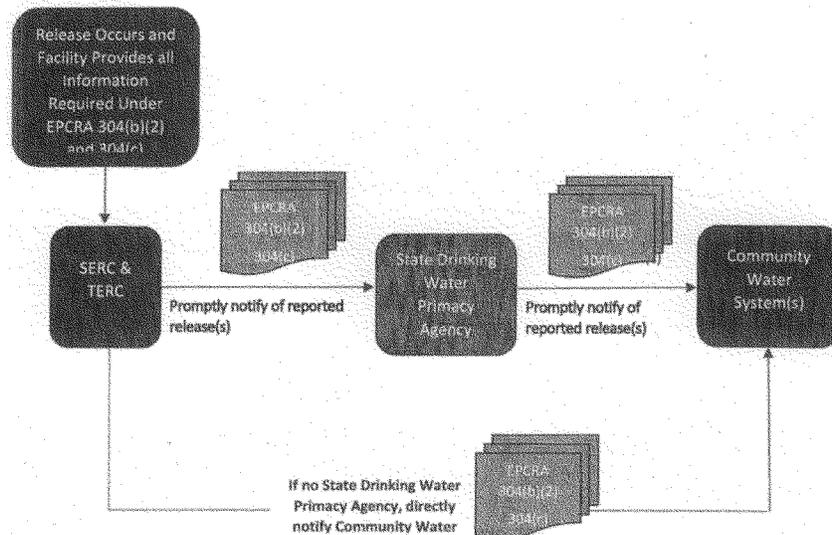
---

#### AWIA amendment to EPCRA section 304

AWIA section 2018(a) amends EPCRA section 304 to add a new sub-section, section 304(e), *Addressing Source Water used for Drinking Water*. This new sub-section requires SERCs and TERCs to promptly notify the applicable state agency (i.e., state drinking water primacy agency) of any reportable release and provide this agency with:

- The information collected under section 304(b) from the initial release notification; and
- The follow-up written report received under section 304(c).

The state drinking water primacy agency is then required to promptly provide all the information regarding the release to any community water systems whose source water is affected by the release. The source water for a community water system is potentially affected if the release occurs in that system's source water area (also known as a source water protection area) or upstream of the system's water intake. Drinking water primacy agencies and community water systems can provide the boundaries for source water protection areas. If there is no state drinking water primacy agency, the SERC (or TERC) is required to directly notify the potentially affected community water systems.



LEPCs should work with community water systems to include potential releases that affect community water systems into the LEPC emergency response plan

#### Overview of hazardous chemical inventory reporting (sections 311 & 312)

Sections 311 and 312 of EPCRA contain provisions for hazardous chemical inventory reporting, also known as community right-to-know reporting. Facilities that handle hazardous chemicals, defined under the Occupational Safety and Health Act and its implementing regulations, above set threshold amounts are required to provide information on the chemicals, quantities, locations, and potential hazards. Section 311 requires facilities to submit a Material Safety Data Sheet, MSDS (or Safety Data Sheet, SDS) for each hazardous chemical, or a list of hazardous chemicals, present at or above the reporting thresholds specified in the implementing regulations. Section 312 requires that facilities submit an inventory of these hazardous chemicals (Tier II form) annually by March 1st. The MSDSs or list of chemicals and Tier II form are submitted to the SERC (or TERC), LEPC (or TEPC), and the local fire department. The implementing regulations, which include reporting thresholds can be found in [40 CFR part 370](#).

Tier II forms contain the following information:

- The chemical name or the common name of the chemical as provided on the MSDS.

- An estimate (in ranges) of the maximum amount of the hazardous chemical present at the facility at any time during the preceding calendar year.
- An estimate (in ranges) of the average daily amount of the hazardous chemical present at the facility during the preceding calendar year.
- A brief description of the manner of storage of the hazardous chemical.
- The location at the facility of the hazardous chemical.
- An indication of whether the owner elects to withhold location information of a specific hazardous chemical from disclosure to the public as a trade secret.<sup>1</sup>

Some states require submission of more information than is required by the Federal program. Furthermore, SERCs, TERCs, LEPCs, and TEPCs have authority to request Tier II information from facilities for any hazardous chemical that is below the reporting thresholds established in the regulations.

#### AWIA amendment to EPCRA section 312

AWIA Section 2018(b) amends Section 312 to require SERCs (or TERCs) and LEPCs (or TEPCs) to provide affected community water systems with chemical inventory data (i.e. Tier II information) for facilities within their source water protection area upon request. Source water protection areas may span multiple jurisdictional boundaries at the local and state levels, potentially requiring access to Tier II data from multiple SERCs or TERCs, LEPCs or TEPCs. If the SERC, TERC, LEPC, or TEPC do not have Tier II information, these entities should request the information from facilities and make such information available to the affected community water systems. This includes requests for Tier II information below the reporting thresholds.

This data is collected at the state level, so how a community water system gets access to this information for their community will vary from state to state, as well as the required security and protection controls for potentially sensitive information. Further, some states require more information than the Federal program. Additionally, community water systems should be involved in larger planning efforts undertaken by the LEPC or TEPC, as section 2013 of AWIA requires community water systems to coordinate, to the extent possible with LEPCs or TEPCs since drinking water is a vital component of any community.

#### Key definitions

The following definitions are important to keep in mind while using this Guide:

- **Applicable State Agency** – the drinking water primacy agency that has primary responsibility to enforce the requirements of the Safe Drinking Water Act (SDWA) in the State. (*Note: The website below for the Association of State Drinking Water Administrators (ASDWA) provides a link to the website for each drinking water primacy agency*)

<sup>1</sup> Facilities are allowed to claim specific chemical identity as trade secret on their Tier II form, or state equivalent, provided that they submit trade secret claim package to EPA according to the regulations at 40 CFR part 350. State may request access to trade secret claims as provided in 40 CFR 350.19. Facilities are also allowed to claim hazardous chemical storage location information confidential, if they submit the confidential location information sheet along with their Tier II form to the SERC, LEPC and the fire department. (*Note: Facilities are not allowed to claim trade secrets under EPCRA section 304 release reporting*).

- **Community Water Systems** – a system that provides water for human consumption through pipes or other constructed conveyances and has at least fifteen service connections or regularly serves at least twenty-five individuals, and which serves the same population year-round (as defined in SDWA section 1401(15)).
- **Affected Community Water System(s)** – One or more community water systems (as defined in SDWA section 1401(15)) that receives supplies of drinking water from a source water protection area, delineated under SDWA section 1453, in which a facility that is required to prepare and submit an inventory form is located.

## Resources

[EPA EPCRA Regional Contacts](#)

[EPA EPCRA, RMP & Oil Information Center](#)

[EPCRA Factsheet](#)

[EPCRA Training for States, Tribes, LEPCs, Local Planners and Responders \(Non-Section 313\)](#)

[How to Better Prepare Your Community for a Chemical Emergency: A Guide for State, Tribal and Local Agencies](#)

[List of State Drinking Water Primacy Agencies](#)

[State Drinking Water Information System](#)

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SEP 09 2019

OFFICE OF  
RESEARCH AND DEVELOPMENT

**MEMORANDUM**

**SUBJECT:** FY2020 Call for Nomination of Chemicals as a High Priority for an IRIS Assessment

**FROM:** Jennifer Orne-Zavaleta, Ph.D.  
Principal Deputy Assistant Administrator for Science  
Office of Research and Development

**TO:** Assistant Administrators and Deputies

The Office of Research and Development (ORD) is issuing its annual solicitation for input on Program high priorities for development of future Integrated Risk Information System (IRIS) assessments.

As directed by then Acting Administrator Wheeler in 2018, the Office of Research and Development implemented a new process for soliciting Agency input on high priorities for IRIS assessments. The purpose of this new process is to ensure that IRIS assessment activities are focused on the most important Agency needs, properly scoped to inform the decision context for the requesting office, and that timelines are established at the outset so that completed assessments can inform and facilitate timely Agency decision-making. Table 1 describes the status of the assessments requested by the Agency in FY2019.

*FY2020 Nomination of IRIS Priorities*

To nominate a chemical as a new IRIS priority, please complete the IRIS Assessment Request Form (attachment 1). Specifically, ORD requests the following information:

- Requesting office name
- Chemical name & CASRN
- Requested completion date
- Scope of assessment
- Reason for request
- Signature of Program Office Assistant Administrator (for Program and Regional requests) or Associate Deputy Administrator (for offices within the AO)

When making nominations for high priority IRIS assessments the Programs should consider the information needs necessary to satisfy its statutory and regulatory mandates. The Programs should also consider other existing assessment activities within the Agency (e.g., PPRTVs, TSCA activities, Office of Water (OW) Health Advisory/Effects documents, Office of Pesticide

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 50% Postconsumer content)

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

Programs (OPP) Registration/Reregistration Reviews, etc.) in submitting their high priorities. The following links provide information where the Agency has provided advanced information on assessment activities:

- [IRIS](#)
- Chemical Prioritization under TSCA:
  - [First 10 chemicals identified for risk evaluation](#)
  - [Proposed 20 high priority substances](#)
  - [Proposed 20 low priority substances](#)
- [Pesticide Registration Review Schedules](#)

It is the Administrator's expectation that leadership in the offices nominating a chemical will have been briefed by their staff on the need for an assessment and that the Assistant Administrator will endorse each request by signing the attached form. Regional offices are asked to submit their nominations through their Regional Administrator to the relevant National Program Manager for the same Assistant Administrator endorsement and signature. Nominations from Offices within the Administrator's Office are required to have the endorsement and signature of the Associate Deputy Administrator.

Beginning October 18, ORD will evaluate the nominations to determine feasibility and ORD's capacity, including available resources, to conduct the assessment. ORD will brief the Administrator on its recommendations prior to finalizing any new IRIS priorities. Once new priorities have been finalized, an updated nomination form signed by the Assistant Administrator for the nominating Program (or the Associate Deputy Administrator in the case of the AO), and the Principal Deputy Assistant Administrator for Science for ORD, will be generated to formalize the request.

ORD will solicit new assessment needs annually and welcomes requests for new IRIS priorities in conformance with the process outlined in this memo at any time.

Please return nominations to me by **October 18, 2019**. To coordinate with the IRIS Program, please contact Kris Thayer at 919-541-0152 or [thayer.kris@epa.gov](mailto:thayer.kris@epa.gov). If you have any other questions regarding this request, please feel free to contact me.

Thank you again for your assistance in developing an updated list of IRIS assessment priorities.

**Attachments:**

1. Table 1: FY2019 IRIS Assessment Priorities
2. IRIS Assessment Request Form

**CC:** Andrew Wheeler, Administrator  
Doug Benevento, Associate Deputy Administrator  
Henry Darwin, Assistant Deputy Administrator  
David Dunlap, Deputy Assistant Administrator for Science Policy, ORD  
Regional Administrators and Deputies  
IRIS Points of Contact

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

Table 1: FY2019 IRIS Assessment Priorities

Chemical	Requested Routes of Exposure and Scope	Sponsoring Office	Status*/Chemical-Specific Web Page
Hexavalent Chromium	Oral and inhalation cancer and noncancer	OW, OLEM	Step 1 (Systematic Review Protocol released 3/2019) <a href="https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=144">https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=144</a>
Inorganic Arsenic	Oral and inhalation cancer and noncancer	OW, OLEM	Step 1 (Updated Problem Formulation and Systematic Review Protocol released 5/2019) <a href="https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=278">https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=278</a>
Mercury salts	Oral and inhalation cancer and noncancer	OLEM	Step 1 (IRIS Assessment Plan not yet released) Chemical-specific web page forthcoming.
Methylmercury	Oral and inhalation noncancer	OLEM	Step 1 (IRIS Assessment Plan released 4/2019) <a href="https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=73">https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=73</a>
PCBs	Oral and inhalation noncancer	OLEM	Step 1 (Systematic Review Protocol not yet released) <a href="https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=294">https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?&amp;substance_nmbr=294</a>
PFAS (PFBA, PFHxA, PFHxS, PFDA, PFNA)	Oral cancer and noncancer	OW	Step 1 (Systematic Review Protocol not yet released) Chemical-specific web pages forthcoming.
Vanadium and Compounds	Oral cancer and noncancer	OW	Step 1 (IRIS Assessment Plan not yet released) Chemical-specific web page forthcoming.

\* IRIS assessments undergo a 7-step process. More information on the IRIS process may be found at <https://www.epa.gov/iris/basic-information-about-integrated-risk-information-system/process>.

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES

**IRIS Assessment Request Form**

**Requesting Office:**

**Request Date:**

**Requested Completion Date:**

**Chemical Nominated for Assessment:**

**Scope of Assessment** (Please provide needed types of toxicity values, routes of exposure, etc.):

[Empty box for Scope of Assessment]

**Reason for Request** (Please provide decision or regulatory context, e.g. to identify cleanup levels, develop an MCL, etc.)

[Empty box for Reason for Request]

**Signatures:**

\_\_\_\_\_  
Program Office Assistant Administrator  
or Associate Deputy Administrator

\_\_\_\_\_  
ORD Principal Deputy Assistant  
Administrator for Science

INTERNAL DOCUMENT OF THE U.S. EPA; DISCLOSED AUTHORIZED ONLY TO THE  
U.S. HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY FOR OVERSIGHT PURPOSES