

ENERGY INFRASTRUCTURE AND ENVIRONMENTAL JUSTICE: LESSONS FOR A SUSTAINABLE FUTURE

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND
MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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OVERSIGHT HEARING ON ENERGY INFRASTRUCTURE AND ENVIRONMENTAL JUSTICE: LESSONS FOR A SUSTAINABLE FUTURE

Tuesday, July 14, 2020
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 1:02 p.m., via WebEx, Hon. Alan S. Lowenthal [Chairman of the Subcommittee] presiding.

Present: Representatives Lowenthal, Levin, Cunningham, DeGette, Huffman, Grijalva (ex officio); Gosar, Westerman, and Hern.

Mr. LOWENTHAL. The Subcommittee on Energy and Mineral Resources will come to order. The Subcommittee is meeting today to hear testimony on energy infrastructure and its relationship to environmental justice and lessons that we have learned for building a more sustainable, clean energy future.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chair and the Ranking Minority Member or their designees. I ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted to the Subcommittee Clerk by 5 p.m. today or at the close of the hearing, whichever comes first.

Hearing no objection, so ordered.

Without objection, the Chair may also declare a recess, subject to the call of the Chair.

Hearing no objection, so ordered.

As described in the notice, statements, documents, or motions must be submitted to the electronic repository at HNRCdocs@mail.house.gov.

Additionally, please note that, as with in-person meetings, Members are responsible for their own microphones. Members can be muted by staff only to avoid inadvertent background noise. Finally, Members or witnesses experiencing technical difficulties should inform Committee staff immediately.

STATEMENT OF THE HON. ALAN S. LOWENTHAL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. LOWENTHAL. It is an undeniable fact that in our country, it is often the very wealthy and politically connected who have an outsized voice in the public decision-making process. When a privileged community decides it doesn't want something in its backyard, quite often, it is the backyards of the less powerful, less connected, and less wealthy that end up bearing the burden.

Fossil fuel companies know the toll that their infrastructure takes on public health and environment. They know that up front. They look to site projects where they will face the least amount of political and public resistance, which, unfortunately, is often in poor, underserved, and under-represented communities.

That is why for decades people of color and low-income communities have suffered from fossil fuel companies routing pipelines, drilling for oil and gas, siting refineries, and building power plants in their neighborhoods and near their homes. This pattern holds true for other types of fossil fuel infrastructure across the country. For example, in Pennsylvania, multiple studies of the Marcellus Shale region found there were a disproportionate number of minority and low-income residents living in areas near oil and gas wells.

For too long, companies paid little public price for this decision making, which was based on both systemic racism and unconscious bias.

Just as white Americans can no longer ignore the systemic inequalities in policing, in public health, and in the criminal justice system, we cannot ignore the racism that is ingrained in the systems that keep our lights on, our cars moving, our homes heated in the winter and cooled in the summer.

Thanks in large part to brave activists who are willing to put their bodies on the line in order to highlight racial injustices, there has been an enormous public awakening.

Two recent announcements on high-profile pipelines can be directly attributed to environmental justice activism. Over the Fourth of July weekend, Dominion Energy and Duke Energy announced the cancellation of the Atlantic Coast Pipeline, a 600-mile-long natural gas pipeline that had one of its permits revoked because of a lack of consideration for environmental justice issues when proposing to place a compressor station in a historically black community in Virginia, one that was founded by freed slaves. One of our witnesses today is from this community, Ella Rose, and she will share with us the threat that this pipeline posed for her community.

Thank you, Ella Rose, for your years of activism.

The very next day after the cancellation of the Atlantic Coast Pipeline, a Federal judge announced that the Dakota Access Pipeline must be completely emptied and shut down by August while the U.S. Army Corps of Engineers completes a more thorough environmental review, which validates many of the concerns raised by the Standing Rock Sioux Tribe, who faced water cannons and police violence while protesting against this pipeline in sometimes freezing temperatures.

I am proud of the work done by this Committee to address environmental justice, led by our Full Committee Chair, Raúl Grijalva, and our Subcommittee colleague, Representative McEachin. Their work on H.R. 5886, the Environmental Justice for All Act, was recently included by the Select Committee in their comprehensive report to address the climate crisis.

That legislation is designed to ensure that we don't make the same mistakes as we look forward to the infrastructure requirements of clean energy resources, like wind and solar, on public lands.

While new wind and solar farms will reduce pollution, lower energy costs, and create new jobs, we must ensure that infrastructure planning, especially transmission, respects local input and improves environmental justice outcomes. Clean energy on public lands should be leveraged to ensure a just and equitable transition away from fossil fuels, especially for minority and tribal communities that have been the most impacted by pollution.

We need to write a new playbook, one that rights historical wrongs, addresses the existential threat of climate change, and builds a more just and equitable future.

I want to thank the witnesses for appearing before the Committee, and I really look forward to your testimony.

[The prepared statement of Mr. Lowenthal follows:]

PREPARED STATEMENT OF THE HON. ALAN S. LOWENTHAL, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF CALIFORNIA

It is an undeniable fact that in our country, it is very often the wealthy and politically connected who have an outsized voice in the public decision-making process. When a privileged community decides it doesn't want something in its backyard, it is the backyards of the less powerful, less connected, and less wealthy that end up bearing the burden. Fossil-fuel companies know the toll that their infrastructure takes on public health and the environment. They look to site projects where they will face the least amount of political and public resistance, which is often in poor, underserved, and underrepresented communities.

That's why for decades, people of color and low-income communities have suffered from fossil-fuel companies routing pipelines, drilling for oil and gas, siting refineries, and building power plants in their neighborhoods and near their homes. This pattern holds true for other types fossil-fuel infrastructure across the country. In Pennsylvania, multiple studies of the Marcellus Shale region found that there are a disproportionate number of minority and low-income residents living in areas near oil and gas wells.

For too long, companies paid little public price for this decision making, which was based on both systemic racism and unconscious bias.

Just as white Americans can no longer ignore the systemic inequalities in policing, in public health, and in the criminal justice system, we cannot ignore the racism ingrained in the systems that keep our lights on, our cars moving, our homes heated in the winter and cooled in the summer.

Thanks in large part to brave activists who are willing to put their bodies on the line in order to highlight racial injustices, there has been an enormous public awakening.

Two recent announcements on high profile pipelines can be directly attributed to environmental justice activism. Over the fourth of July weekend Dominion Energy and Duke Energy announced the cancellation of the Atlantic Coast Pipeline, a 600-mile long natural gas pipeline that had one of its permits revoked because of a lack of consideration for environmental justice issues when proposing to place a compressor station in a historically black community in Virginia, one that was founded by freed slaves. One of our witnesses today is from this community, Ella Rose, and she will share with us the threat that this pipeline posed to her community.

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respects local input and improves environmental justice outcomes. Clean energy on public lands should be leveraged to ensure a just and equitable transition away from fossil fuels, especially for minority and tribal communities that are most impacted by pollution.

We need to write a new playbook, one that rights historical wrongs, addresses the existential threat of climate change, and builds a more just and equitable future.

Mr. LOWENTHAL. I now recognize Ranking Member Gosar for his opening statement.

STATEMENT OF THE HON. PAUL A. GOSAR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA

Dr. GOSAR. Thank you, Chairman Lowenthal. And thanks to the witnesses for taking the time to join us today to discuss planning for energy infrastructure.

I would like to first note my disappointment in the recent cancellation of the proposed Atlantic Coast Pipeline (ACP). The project sponsor cited the risk and uncertainty associated with ongoing litigation as the primary reason for canceling the project.

The ACP proposed to transport cheap, clean-burning, American-produced natural gas across West Virginia, Virginia, and North Carolina, creating approximately 17,000 well-paying jobs, union jobs, and \$2.7 billion worth of economic activity in the process.

The project was also expected to generate about \$4.2 million in local tax revenue every year to the communities along the pipeline route. One such community is Union Hill, Virginia, in Buckingham County. The pipeline proposed called for a location of a compressor station in this county, as the pipeline would need to connect to the existing Transco Pipeline, which runs through that county.

The project sponsors worked with the local community to create the Greater Union Hill Development Corporation and offered the organization \$5 million to put toward projects for the betterment of Union Hill's community. Some of these projects included new recreational facilities, a new health clinic, job training for the project at a local community college and a fully funded year-round fire station, as the town of Union Hill had recently lost theirs due to the lack of funding. The project sponsors had committed to hiring at least 25 percent of the workforce from the local community in a county with 10 percent unemployment. This project would have also allowed local manufacturing facilities to switch from diesel to natural gas to power their operations.

Five local pastors recognized the potential of this project to improve life in their community and signed this letter of support for the ACP. They noted that, once the project sponsors made an effort to engage with the community, they gained a better understanding of the residents and their needs and made a financial commitment to community development projects.

I would like to submit that for the record; did you get that, Alan?

Mr. LOWENTHAL. Without objection.

[The information follows:]

Submission for the Record by Rep. Gosar

November 20, 2018

The Honorable Ralph S. Northam
Governor
Commonwealth of Virginia
1111 East Broad Street, 3rd Floor
Richmond, VA 23219

Dear Governor Northam:

We greet you as clergy members and religious leaders in Buckingham County to share our opinion about Dominion Energy and the Atlantic Coast Pipeline. In the beginning, Dominion did not really have an understanding of our community or our concerns. They thought everyone in Buckingham County thought the same about the pipeline. But we are all different and hold individual opinions. While Dominion may have not fully understood our community and its history initially, over the past few months, they have worked hard and tried to learn more about us. They have been here many times and met with people in Buckingham and our communities on different occasions. We greeted them with respect and they treated us the same, as we can all continue to learn from each other in this process. We are operating in good faith that Dominion is trying to help Buckingham by providing jobs for our neighbors and their families who only want to make an honest living and be safe. That is not too much to ask.

Our meetings with Dominion have resulted in a positive support package for Buckingham County and the Union Hill area. The support package focuses on keeping the community safe and revitalizing the community. The public safety package includes about \$1,520,000 for salary support for emergency responders, facility upgrades, a dedicated emergency channel and emergency equipment. Approximately \$3,600,00 is being provided to improve community health, education and economic development opportunities through building a Community Wellness, Education and Economic Development Center, community park and event pavilion in the Union Hill community. They also helped established the Greater Union Hill Community Development Corporation, which will take the lead in making sure these decisions come from the community and are open to everyone and that Dominion makes good on their commitment.

We know that some other people think the compressor station and pipeline issue is discriminatory and against black people. But a lot of this information is incorrect, and we do not feel this is the case. In fact, most of the people living in the area around the compressor station are white. Regardless of who is affected, all people, voices and opinions matter and it's not just one group.

We are committed to holding up our end for our community. We will work with the people at Dominion and the Greater Union Hill Community Development Corporation to ensure that our community, especially our most vulnerable residents, benefit from the construction of the Atlantic Coast Pipeline.

Sincerely,

Joe Chambers, Jr.,
First Baptist Church

Joi Goodman,
CCM

Sharon Williams,
Jerusalem Baptist Church

George Robert Woodson,
Chestnut Grove Baptist Church

Joseph Scruggs,
New Hope Baptist Church

Dr. GOSAR. My colleagues have responded to the cancellation of this project with glee and are here today to take a victory lap, celebrating the loss of 17,000 new union jobs that disappeared the instant ACP was canceled. They claim that we will make up for these missed opportunities for job creation with cleaner burning

energy with a massive scale-up in renewable projects someday, if these projects can overcome NEPA, if they can find funding, if they can clear the NIMBYism that threatens to stop every major project.

In the meantime, my colleagues sign onto the pie-in-the-sky proposals like the Green New Deal and pass bill after bill through this Committee designed to kill conventional energy development. The so-called Unity Task Force, made up of staffers from the Biden-Sanders camps and Representative Ocasio-Cortez, have naively called to end carbon-based electricity generation by 2035 and net-zero emissions in the United States by 2050.

At the same time, my colleagues block Republicans' attempts to fast-track renewable energy developments on public lands. They refuse to mark up Representative Fulcher's bill to promote geothermal energy because it would speed up geothermal exploration through the use of a categorical exclusion. The Majority included my bill in the Public Lands Renewable Energy Act in their partisan highway bill earlier this month, but strangely left out language that would have included the Forest Service lands and targeted planning for renewable energy development. How sad.

If we are going to take smart planning for renewable energy on public lands seriously, I encourage my colleagues to work with us in two critical areas: First, NEPA reform and securing our endless litigation under NEPA. We must engage in meaningful NEPA reform if we ever wish to see a significant increase in renewable generation and transmission on Federal lands.

Further, we must acknowledge that increased demand for renewable energy will drive up the demand for critical minerals, which are integral to these technologies. Cobalt, for example, is required for electric vehicles, satellites, and wind turbines to function. Sixty percent of the global cobalt supply is mined in the Congo, where abhorrent child labor practices are well-documented, and China now controls at least half of all the cobalt production in that country.

Fortunately, the proposed Twin Metal Mines in Minnesota would serve as a rare source of domestic cobalt, but, of course, my colleagues aim to shut that project down as well, passing language to do so through the Appropriations Committee just last week.

Our inaction on critical minerals has consequences. We have sat idly while China has gained almost full global control over dozens of important minerals, putting our medical, manufacturing, technology, and energy supply chains at their mercy. The American people experienced the consequences of their over-reliance on China firsthand in recent months, and I think we all agree that the status quo is unacceptable.

If we choose not to engage on these two critical topics, NEPA reform and domestic mining investment, the vibrant U.S. economy, powered by significant renewable energy generation, will remain just that, a fantasy. Delaying the development of new natural gas pipelines only increases our reliance on foreign oil and gas while American jobs hang in the balance.

The American people are tired of the delays caused by endless litigation, delayed jobs, delayed investment in their communities, and delayed economic certainty that feels like it will never come. It is time for us to stop delaying, stop letting litigation and regula-

tion prevent us from modernizing our infrastructure and start building.

With that, Chairman, I yield back.

Mr. LOWENTHAL. Thank you, Ranking Member Gosar, for your opening statement.

Now I will introduce today's witnesses. Ms. Jacqueline Patterson is the Senior Director of the Environmental and Climate Justice Program at the NAACP. Ella Rose is a resident of Union Hill, Virginia, and worked for many years as an activist against the now canceled Atlantic Coast Pipeline. Julia Prochnik is the founder of JASenergies, a consulting firm which specializes in renewable energy transmission. And, finally, we have Sarah Obed, the Senior Vice President of External Affairs at Doyon Limited, an Alaskan Native Regional Corporation.

Let me remind the witnesses that under our Committee Rules, they must limit their oral statements to 5 minutes but that their entire written statement will appear in the hearing record. When you begin, the timer will begin, and it will turn orange when you have 1 minute remaining. I recommend that Members and witnesses jointly use the grid view of the timer so that they may pin the timer onto their screen.

If your testimony is complete, please remember to mute yourself to avoid any inadvertent background noise. I will also allow the entire panel to testify before questioning the witnesses.

The Chair now recognizes Ms. Patterson to testify.

**STATEMENT OF JACQUELINE PATTERSON, SENIOR DIRECTOR,
ENVIRONMENTAL AND CLIMATE JUSTICE PROGRAM,
NAACP, BALTIMORE, MARYLAND**

Ms. PATTERSON. Thank you so much. Hopefully you can hear me. Yes, OK, good.

If he were here today, 10-year-old Thomas of Jacksonville, Florida, could share his part of the story of the complex relationship between our energy infrastructure and the health and well-being of black communities. Thomas lives just 2 miles from a coal-fired power plant. He has severe asthma and has to stay home from school on poor air quality days. When Thomas stays home, his parents, who don't have paid sick leave, miss income while Thomas loses critical ground in his educational advancement.

Mr. Hartwell of Charles Town, West Virginia, who is a coal miner, is in a profession where 76,000 of his comrades have lost their lives to black lung disease, yet he feels trapped in the only job he has ever known, one that puts food on his family's table, provides health care, and guarantees a pension.

When Grandma Maisie of St. Louis, Missouri, was asked about whether she would be in favor of a hike in her electricity bill to finance investment in energy efficiency, she responded that she would gladly pay more if it meant that she didn't have to take her grandbaby to the emergency room for his asthma attacks driven by pollution from power plants.

Ms. Eglan of Gulfport, Mississippi, says there has to be a better way than her \$400-per-month summer energy bills. She and her husband are on a fixed income as retirees in a state with such high

energy burden that some people pay upwards of 30 percent of their income on electricity.

These aren't just one-off examples. Each of these is an illustrative indicator of a widespread pattern of systemic energy injustice. In our "Coal Blooded" report and "Fumes Across the Fence-Line" report, we describe how black communities are more likely to live in the shadows of coal plants and oil and gas refineries. These fossil fuel facilities pollute our communities with mercury, arsenic, lead, sulfur dioxide, nitrogen oxide, methane, and benzene—toxins that are tied to respiratory, digestive, and circulatory illnesses, cognitive and behavioral challenges, and endocrine disruption. Impacts include cancer clusters, poor birth outcomes, adults who are less likely to smoke but more likely to die of lung disease, and children who are two to three times more likely to die of an asthma attack.

Through our partners, we have heard of missing and murdered Indigenous women around the pipelines and man camps of the oil and gas industry in South Dakota and beyond. In our report, "Lights Out in the Cold: Reforming Utility Shut-Off Policies as if Human Rights Matter," we chronicle families who paid the price of poverty with their very lives, whether they were burning down their homes in using candles or space heaters, or dying in their sleep from carbon monoxide poisoning from bringing a generator inside for safekeeping, or the multiple examples of respirator-dependent people who had their electricity cut off over a \$60 energy bill.

In our report, "Ten Equity Implications of the COVID-19 Pandemic," we spoke of how the situation has severely exacerbated energy insecurity as well as how, according to Harvard University, pollution from energy production creates particulate matter that has been tied to our differential COVID-19 susceptibility and mortality.

In our "In the Eye of the Storm" toolkit, we detail impacts of the excessive greenhouse gas emissions that have us in the crosshairs of catastrophic climate change, which also disproportionately impacts our communities.

In our "Fossil Fueled Foolery" report, we detail how profits from pollution are invested in anti-clean air and anti-clean energy lobbying to maintain a status quo that is a death sentence for too many of our communities.

But it doesn't have to be that way: Robert Wallace of BithGroup Technologies, a multi-million dollar tech company in Baltimore; Jihan Gearon, formerly of the Black Mesa Water Coalition, which owns its own energy infrastructure in Flagstaff; NAACP leader Rosemary Harris Lytle in Colorado Springs, who started the PowerUp Employment Project to train formerly incarcerated persons in solar installations; Denise Fairchild of Emerald Cities Collaborative paved the pathway for high-road careers in renewable energy. All of these leaders and more have seen the promised land.

In our "Just Energy Policies" report, "Power to the People" toolkit, and "Unleashing the Power of the People" report, we lift up the community-building work of NAACP leaders in Oregon, Maryland, Indiana, Mississippi, Illinois, and beyond, as well as partners:

Kentuckians for the Commonwealth, Soulardarity, Co-Op Power, People’s Solar Energy Fund, and the Local Clean Energy Alliance, Native Renewables, and so many more. We have not only seen what is possible, but we have been inspired by what is already happening, and our only task is to scale up.

In closing, if we believe that Black Lives Matter, if we deeply value taking the knee of white supremacy off the neck of Black America, if we sincerely want to end the inhumane practice of sacrifice zones poisoning entire communities, if we truly want to legislate upholding human and Earth rights, we must dismantle a utility business model that withholds life-saving heating, cooling, or electricity for a respirator from impoverished households while filling the coffers of utility CEOs to the tune of an average \$9.8 million in annual compensation. We must advance a radical transformation, a just transition to a new economy. We must have a system that puts power in the hands of the people, literally and figuratively. Thank you.

[The prepared statement of Ms. Patterson follows:]

PREPARED STATEMENT OF JACQUI PATTERSON, SENIOR DIRECTOR, ENVIRONMENTAL AND CLIMATE JUSTICE PROGRAM, NAACP

Ten-year-old Thomas of Jacksonville, Florida can tell an illustrative tale of the complex relationship between our energy infrastructure and the health and well-being of black communities. He lives 2 miles from a coal fired power plant. He has severe asthma and has to stay home from school on poor air quality days. When Thomas stays home from school, his parents, who do shift work without paid leave, lose income, while Thomas loses critical ground in his educational advancement.

Grandma Maisie of St. Louis, MO could further elaborate on the complexities. When she was asked about whether she would be in favor of a hike in her electricity bill so that the utility could invest in energy efficiency measures, she responded that she would gladly pay more, if it meant that she didn’t have to take her grandbaby to the emergency room due to his asthma attacks because of pollution from power plants.

Mr. Hartwell of Charles Town, West Virginia would say that there are no easy answers. He is a coal miner who is in a profession where 76,000 of his comrades have lost their lives due to black lung disease. Yet he feels trapped in the only profession he has ever known that puts food on his table, provides health care, and guarantees a pension.

Ms. Eglund of Gulfport, MS keeps saying there has to be a better way than the \$400 monthly energy bills she pays during the summer while she and her husband are on a fixed income in a state with such high energy burden that some people pay upwards of 30 percent of their income on electricity.

These aren’t just one-off examples. Each of these is an illustrative indicator of a widespread pattern of systemic energy injustice:

In our Coal Blooded Report, we found that 68 percent of African Americans live within 30 miles of a coal fired power plant and our Fumes Across the Fence-Line Report describes how African American, Latino American, and Native American communities we are more likely to live in the shadows of oil and gas refineries. These fossil fuel facilities pollute our communities with mercury, arsenic lead, sulfur dioxide and nitrogen oxide, methane, and benzene—toxins that are tied to respiratory, digestive, and circulatory illnesses, cognitive and behavioral challenges and endocrine disruption. For us that spells cancer clusters, poor birth outcomes, adults who are less likely to smoke but more likely to die of lung disease, and children who are 2–3 times more likely to die of asthma attacks.

While we are more likely to suffer the impacts of exposure to pollution from energy production, we are less likely to have the benefit of energy. In our report titled, Lights Out in the Cold: Reforming Utility Shut Off Policies as If Human Rights Matter, we chronicle family after family that have paid the price of poverty with their very lives whether they are burning down their houses with candles or space heaters, or dying in their sleep from carbon monoxide poisoning from bringing

a generator inside, or the multiple examples of respirator dependent sick people who had the source of energy for their lifeline cut off over a \$60 energy bill.

In our report on the 10 Equity Implications of the COVID-19 Pandemic we spoke of how the pandemic has severely exacerbated energy insecurity as well as how pollution from energy production creates particulate matter that has been tied by Harvard University to our COVID-19 susceptibility and mortality.

Through our coalition building with the groups involved in the Extreme Extractive Energy convening, we heard of missing and murdered indigenous women around the pipelines and man-camps of the oil and gas industry.

In our In the Eye of the Storm Toolkit and Equity in Climate Resilience Training, we detail the impacts of the excessive greenhouse gas emissions that have us in the crosshairs of catastrophic climate change which also disproportionately impacts economically and politically disenfranchised communities.

And In our Fossil Fueled Foolery Report we detail how profits from pollution are invested in anti-clean air and anti-clean energy lobbying to maintain a status quo that is a death sentence for too many in our society, the oft disenfranchised, whom the Bible refers to as “the least of these.”

However, Robert Wallace the African American President and CEO of BithGroup Technologies, which is a multi-million dollar clean tech company; Jihan Gearon, Executive Director Emeritus of the Black Mesa Water Coalition in Flagstaff, Arizona which owns its own energy infrastructure; Rosemary Harris Lytle, President of the NAACP Rocky Mountain Area Conference, who started a PowerUp Employment project in Colorado Springs, Colorado, for formerly incarcerated persons to be trained in the new energy economy; and Denise Fairchild of Emerald Cities Collaborative which is creating high road careers in renewable energy. All of these leaders and more have seen the promised land!

In our Just Energy Policies Report we shared data from the National Renewable Energy Laboratories that clearly says we have extensive wind and solar potential from Alaska to Florida and in between.

In our Power to the People Toolkit, we have shared how we can develop microgrids, create jobs, and ensure access to clean energy for all!

In the Our Communities, Our Power Toolkit, we describe comprehensive models of developing and financing community building anchored by clean energy development.

In our Unleashing the Power of the People Report we uplift the work of NAACP leaders in like Oregon, Maryland, Indiana, Mississippi, and Illinois resulting in policies and practices that center human rights in the new energy economy.

In our work with partners like, Kentuckians for the Commonwealth, Soulardarity, Co-Op Power, People’s Solar Energy Fund, the Local Clean Energy Alliance, Native Renewables, and so many more, we have not only seen what’s possible. We’ve seen what’s already happening.

Our only task is to scale up!!

If we are truly serious about Black Lives Mattering; If we deeply value taking the knee of white supremacy off of the neck of Black America; If we sincerely want to end the inhumane practice of sacrifice zones and the poisoning of entire communities of African Americans, Latino Americans, Indigenous Nations, Low income white American communities, and others with toxins; If we truly want to legislate upholding human rights and preservation of the earth . . . We must aim to deconstruct a utility business model that will withhold life-saving heating or cooling or the electricity to power the respirator of an oxygen-dependent sick person all while lining the pockets of the utility baron to the tune of an average of \$9.8 million in annual compensation. We must advance a radically transformative transition to a new energy economy.

We must have a system that puts power, literally and figuratively, in the hands of the people. ALL people. Thank you!!

Mr. LOWENTHAL. I want to thank you, Ms. Patterson.
The Chair now recognizes Ms. Rose. Welcome to the Committee,
Ms. Rose. You have 5 minutes.

**STATEMENT OF ELLA ROSE, UNION HILL RESIDENT,
BUCKINGHAM COUNTY, VIRGINIA**

Ms. ROSE. Thank you. My name is Ella Rose, and I was born and raised in Nelson County, Virginia. I retired to Buckingham County, a neighboring county, about 8 years ago.

I learned about the Atlantic Coast Pipeline and the associated compressor station in 2014. A neighbor invited me to a church meeting where a newly organized group, Friends of Buckingham, were conducting a meeting to share information and concerns and to learn more about what this would mean for our neighborhood.

The more I learned, the more I realized that I had to protect my home and community. This was especially so when I learned that the location of the compressor station, a very large, noisy, polluting infrastructure, was on the land only 150 feet from my front door.

There were originally three considerations for the placement of the compressor station. Dominion Energy decided to place it in our 84 percent African American neighborhood of Union Hill. Opposing the pipeline and the compressor station became a full-time job for me as I became more and more active.

This was not the plan I had for my retirement. I had spent much of my life working in cities, and they were noisy and chaotic. This home that I had just moved into 2 years before and had taken many years to pay for, was the peace and quiet that I had always hoped for. I enjoy the wildlife nearby, including looking out of my window to see deer, turkey, and occasionally a bear. These are simple pleasures, and it is very important to me to be able to enjoy them.

Although it was not something that I was used to doing, I began to speak at public hearings. It started with the local ones, which were necessary for Dominion Energy to obtain for the county, such as a special use permit, as the rural area of Union Hill was zoned for agriculture. I also spoke at the Federal Energy Regulatory Commission (FERC) hearing and later at multiple hearings with the Virginia Department of Environmental Quality (DEQ).

Despite my efforts to make my voice heard, I felt largely ignored by the local government, FERC, and Virginia DEQ. No one from the Federal Government had come to talk to the community about this project, and Dominion acted like the pipes were already in the ground. The Department of Environmental Quality finally came 4 years later, at the invitation of Friends of Buckingham and only after we had raised the public awareness of the location in our low-income and African American neighborhood.

The attitude from Dominion was that the project was inevitably going to happen, and we needed to accept it. This is what divided the community. Many who had not been coming to our meetings weren't as informed as some of us in the neighborhood, and the community decided to take the deal Dominion was offering, such as a community center.

Many of us who were on the other side of this were not invited to those meetings. So, deals were struck based on the compressor station being built. I was not included in any of those negotiations nor was the Friends of Buckingham, where I was now a Council member.

My concerns about the compressor station were multiple. I was very concerned about the air quality. As I was so close, I would have been forced to breathe emissions on a daily 24/7 basis for the rest of my life in this location. I was deeply concerned that I would develop respiratory problems or other medical conditions as a result of these emissions. My sister-in-law, who lives across the road, already has a respiratory problem, as do many others in our neighborhood community.

I was aware that there would be blowdowns, when a large amount of emissions would be blown into the air. When Dominion first started talking about these blowdowns during the local meetings with our Board of Supervisors, they said they would only occur every few years. Over time, the information changed, with at last count being multiple times per week. It seemed that we were getting a lot of misinformation. This did not increase my trust in them.

I was also concerned about the constant noise and what it would do to my stress level. I was additionally afraid of what the pipeline, with all the digging and trenching, would do to my shallow well, my only source of drinking water, which was the same for many other community members.

I was also troubled by the reason why my neighborhood was selected for the location of the compressor station. My neighborhood is predominantly African American. It is 84 percent African American, settled after emancipation by the enslaved Freedman people who worked the plantations in the area. The environmental impact studies never indicated this. It is one of the reasons I believe we won in the Fourth Circuit Court.

DEQ did not take into consideration who lived there and the disproportionate impact on us. I believe that they picked this location and not the other two they had identified because they did not think we would speak up. Our lives count, and we should not be a sacrifice zone for financial interests.

Thank you for this opportunity to speak about my experiences.

[The prepared statement of Ms. Rose follows:]

PREPARED STATEMENT OF ELLA ROSE, UNION HILL RESIDENT, BUCKINGHAM COUNTY, VIRGINIA

My name is Ella Rose and I was born and raised in Nelson County, Virginia. I retired to Buckingham County, a neighboring county about 8 years ago. I learned about the Atlantic Coast Pipeline and the associated compressor station in 2014. A neighbor invited me to a church meeting where a newly organized group, Friends of Buckingham, were conducting a meeting to share information and concerns and to learn more about what this would mean for our neighborhood. The more I learned the more I realized that I had to protect my home and community. This was especially so when I learned that the location of the compressor station, a very large, noisy polluting infrastructure, was on land only 150 feet from my front door. There were originally three considerations for the placement of the compressor station. Dominion Energy decided to place it in our 84 percent African American neighborhood of Union Hill. Opposing the pipeline and compressor station became a full time job for me as I became more and more active. This was not the plan I had for my retirement.

I had spent much of my life working in cities and they were noisy and chaotic. This home that I had just moved into 2 years before and had taken many years working to pay for was the peace and quiet that I had always hoped for. I enjoy the wildlife nearby including looking out my windows to see deer, turkey and occasionally a bear. These are simple pleasures and it is very valuable to me to be able to enjoy them.

Although it was not something I was used to doing I began to speak at public hearings. It started with the local ones which were necessary for Dominion Energy to obtain from the county, such as the Special Use Permit as the rural area of Union Hill was zoned for Agriculture. I also spoke at the Federal Energy Regulatory Commission Hearings and later at multiple hearings with the Virginia Department of Environmental Quality.

Despite my efforts to make my voice heard I felt largely ignored by the local government, FERC and Virginia DEQ. No one from the Federal Government had come to talk to the community about this project and Dominion acted like the pipes were already in the ground. The Department of Environmental Quality finally came 4 years later at the invitation of Friends of Buckingham and only after we had raised the public awareness of the location in our low income and African American neighborhood.

There was an attitude from Dominion that the project was inevitably going to happen and we all needed to accept it. This is what divided the community. Many who had not been coming to our meetings and weren't informed as some of us in the community, decided to take the deals that Dominion was offering such as a community center. Many of us who were on the other side of this were not invited to those meetings. So deals were struck based on the compressor station being built. I was not included in any of those negotiations nor was the Friends of Buckingham where I was now a Council member.

My concerns about the compressor station were multiple. I was very concerned about the air quality as I was so close. I would have been forced to breath the emissions on a daily 24/7 basis for the rest of my life in this location. I was deeply concerned that I would develop respiratory problems or other medical conditions as a result of these emissions. My sister-in-law who lives across the road already has respiratory problems as do many others in our community. I was aware that there would be blowdowns when a larger amount of the emissions would be blown into the air. When Dominion first started talking about these blowdowns during the local meetings with our Board of Supervisors they said they would only occur once every few years. Over time the information changed with at last count being multiple times per week. It seems that we were getting a lot of misinformation. This did not increase my trust in them. I was also concerned about the constant noise and what it would do to my stress levels. I was additionally afraid of what a pipeline with all the digging and trenching would do to my shallow well, my only source of drinking water, which was the same for many other community members.

I was also troubled by the reason my neighborhood was selected for the location of the compressor station. My neighborhood is predominately African American. It is 84 percent African American, settled after emancipation by the enslaved Freedmen people who worked the plantations in the area. The Environmental Impact Studies never indicated this. It is one of the reasons I believe we won in the Fourth Circuit. DEQ did not take into consideration who lived there and the disproportionate impact on us. I believe that they picked this location and not the other two they had identified because they did not think we would speak up. Our lives count and we should not be a sacrifice zone for financial interests.

Thank you for this opportunity to speak about my experiences.

Mr. LOWENTHAL. Thank you, Ms. Rose.

As members of this Committee know, I do not strictly adhere to the limits. I would like Members and also panelists to try to keep their remarks to the 5 minutes, but if you go slightly over, I will not penalize you. And I allow both Republicans and Democratic Members to do that, and staff.

Now I would like to recognize Ms. Prochnik to testify.

Ms. Prochnik, you have 5 minutes for testimony or slightly more.

**STATEMENT OF JULIA PROCHNIK, FOUNDER JASENERGIES,
SAN FRANCISCO, CALIFORNIA**

Ms. PROCHNIK. Thank you. Can you hear me OK?

Mr. LOWENTHAL. Yes, we can hear you very clearly.

Ms. PROCHNIK. OK, great. Thanks.

Thank you, Chairman Lowenthal and members of the Committee. It is an honor to be here with all of you and my fellow panelists to testify today.

I stand in solidarity with the black communities deeply harmed by our social injustices and inequalities. As a mother with young children, I am committed to a clean energy future, an inclusive economy for the benefit of all, and a just and equitable society. It cannot come to pass without acknowledging and overcoming insidious discrimination.

As we become increasingly dependent on electricity, the United States needs to modernize the grid, expanding capacity and improving reliability for a strong, prosperous future. Clean energy will help us achieve this task and recover from the current COVID-19 recession, but we must act and think differently to ensure diverse stakeholders, including disadvantaged and frontline communities, Black and Brown organizations, are at the table, participating in and benefiting from each step toward a brighter future.

I will cover challenges and opportunities facing the electric grid in two themes: Inequities of the grid, and inclusive planning. The electric grid is the economic backbone of our country. As with every other aspect of the Nation, it needs greater inclusivity and equality. In the last 9 years, U.S. power companies announced the retirement of more than 546 coal-fired power units, most of which are located in frontline or disadvantaged communities or on tribal lands. Another 17 gigawatts, about three times what Washington, DC uses, of coal-fired capacity will retire by 2025.

In April 2019, renewable energy overtook coal for the first time in the United States, providing 23 percent of our power compared to coal's 20 percent. Historically, planning has sidestepped social and climate justice concerns. As grid generation changes, transmission changes too. Public policies promoting 100 percent clean energy and carbon reduction seek economic stimulus, and market and regulatory certainty. Community transition is not always at the top of the list and must be part of the plan.

There is no one-size-fits-all solution. To change the inequities in planning a community benefits framework is recommended as an integrated approach that simultaneously considers the demand and supply network, as well as the land footprint and the system as a whole.

Expanding access to data and information will help decrease the pressure on frontline and disadvantaged communities, who are continually exploited by fossil fuels. Attention must be paid to the unique characteristics of rural and Indigenous communities. When siting transmission lines and renewable energy, it is essential to have inclusive policy discussions to discuss options and involve communities in decisions on how best to reduce land and community impacts.

Reliability standards also need innovation. Transmission rights-of-way are networked on many Federal public lands where vegetation management is necessary to maintain reliability. Tree contacts have caused many wildfires and blackouts in the United States and around the world. Pathways and benefits of integrated vegetation management can be balanced, however. An inclusive cost-benefit

analysis of land factors and conservation can provide a better understanding of grid hardening.

When transmission cannot be upgraded or built, non-wire solutions can assist grid reliability. Federal and state policies provide for consideration of non-transmission alternatives, like rooftop solar, storage, conservation, energy efficiency, and local and regional transmission planning processes.

One tool to bridge inequities in planning is to incorporate inclusive “Smart from the Start”, which enables utilities and developers to engage affected communities early in the process and discuss potential issues with possible construction sites and consider multiple alternatives. The existing NEPA process, using “Smart from the Start” planning, should be strengthened to be more inclusive and expand opportunities for public involvement in the Federal decision-making process.

Inclusion means impacted communities are treated as equal partners and their interests are protected equally. Congress, agencies, and legislators can streamline and clarify the text of laws to make requirements more understandable, reduce paperwork burdens, and have multiple agencies that administer similar requirements jointly approve projects. Federal agencies need to increase public comment periods, conduct various types of public hearings for greater accessibility, and translate information about proposed projects.

The initial West-Wide Energy Corridor’s Section 368 interagency plan did not incorporate “Smart from the Start”. It was a first-of-its-kind report and a good start, but the Federal Government has to play an inclusive role, ensuring environmental justice principles are addressed to close the climate gaps when developing clean energy infrastructure projects on public lands.

I offer these recommendations for key changes for the grid. Keep the just and equitable transition in mind for all types of planning. Create access to capacity data, planning tools, and new models, coordinate inclusive state, regional, and inter-regional planning, improve Federal resource planning and coordination.

In order to provide a more equitable and inclusive transmission system on public lands, Congress needs to: (1) direct the Bureau of Land Management, U.S. Forest Service, and U.S. Department of Energy to publish the final West-Wide Energy Corridor Plan and begin a new wind and solar programmatic inclusive study; (2) direct all Federal agencies to implement tribal and environmental justice policies and include them in holistic planning; and (3) direct all Federal land agencies to create criteria protecting tribal, low-income, frontline and disadvantaged communities from green gentrification.

Thank you for the opportunity to testify. I look forward to your questions and working together to solve the inequities of the grid.

[The prepared statement of Ms. Prochnik follows:]

PREPARED STATEMENT OF JULIA SOUDER PROCHNIK, FOUNDER, JASENERGIES LLC

Thank you Chairman Lowenthal and members of the Committee. It is an honor to be here with all of you and my fellow panelists to testify before the Subcommittee on Energy and Mineral Resources on “Energy Infrastructure and Environmental Justice: Lessons for a Sustainable Future.”

I stand in solidarity with Black communities that have been deeply harmed by our society's injustices and inequalities. As a mother with young children, I am committed to a clean energy future and economy that is inclusive of all, for the benefit of all, and that contributes to a Just and Equitable society; it cannot come to pass without acknowledging and overcoming insidious discrimination.

As many lifestyles become increasingly dependent on electricity, the United States needs to make major investments in a modernized grid to expand capacity and improve reliability as we plan for the future.

For the first time in the United States in April 2019, renewable energy overtook coal, providing 23 percent of U.S. power generation, compared to coal's 20 percent share.¹

Between 2010 and the first quarter of 2019, U.S. power companies announced the retirement of more than 546 coal-fired power units, most of which are located in frontline or disadvantaged communities or on tribal lands, and totaling about 102 gigawatts (GW) of generating capacity. Plant owners intend to retire another 17 GW of coal-fired capacity by 2025, according to the U.S. Energy Information Administration. After a coal unit retires, the power plant site goes through a complex, multi-year process that includes decommissioning, remediation, and redevelopment including a repurposing of transmission lines. The U.S. electric transmission network consists of over 350,000 circuit miles of lines² connecting communities and provides a backbone of reliability and economic support.

As coal plants are retired, capacity opens up on transmission lines. Renewable energy can step in and provide reliable, inexpensive and clean power. Solar and wind do not fit on the footprint of every coal plant site. Economics and public policies are pushing faster closure of coal plants and accompanied transitioning of local communities and infrastructure. The Centralia transition agreement is an example of a well-funded, long-term transition plan. Unlike many coal plant closures today, it was forged not because the company was going out of business but to address climate change.³ There are only 20 coal plants in the continental West with owners who haven't committed to fully retiring them by specific dates or given the local communities a transition plan.⁴

Transmission planning activities are undertaken to enable future reliable and efficient utilization of transmission facilities by addressing many factors but historically have not often addressed social or climate justice concerns. Transmission constraints and economic congestion (e.g. when it is too costly to move resources or no resources are available) are closely related phenomena,⁵ but are presented separately in reporting and are not shared with other agencies as openly as possible. Given the diversity of the transmission system itself—in ownership, operation, planning, and physical characteristics—presenting the data in a unified framework is challenging, but achievable.

I will cover the need to ensure coordinated planning in three themes: inequities of the grid, climate change and the grid, and inclusive planning for the grid. The electric grid is the economic backbone of our country and must now transition toward increased inclusivity and equality.

INEQUITY AND THE GRID

Clean energy will help us recover from the current COVID-19 recession, but we must act and think differently to ensure diverse stakeholders including disadvantaged and front-line communities, Black and Brown organizations are at the table and able to participate in the changes.

Over the past few years I have worked with communities, policymakers, advocates, unions and industry to help transition fossil fuel assets and infrastructure embedded in communities across the country. Just and Equitable Transition⁶ must benefit the local community and must come with financing, retraining, fair wage jobs and lost income protection. These efforts must prioritize the areas that are most vulnerable to climate change, including low-income neighborhoods and communities

¹ Oliver Milman, "US generates more electricity from renewables than coal for first time ever," Guardian, October 2018, <https://www.theguardian.com/environment/2019/jun/26/energy-renewable-electricity-coal-power>, accessed October 2018.

² <https://www.energy.gov/sites/prod/files/2018/03/f49/2018%20Transmission%20Data%20Review%20FINAL.pdf>.

³ <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2020/03/04/as-us-coal-plants-shutter-one-town-tests-an-off-ramp>.

⁴ <https://www.latimes.com/environment/story/2020-02-04/coal-power-plants-western-us>.

⁵ <https://www.energy.gov/sites/prod/files/2018/03/f49/2018%20Transmission%20Data%20Review%20FINAL.pdf>.

⁶ <https://westerngrid.net/wcea/jet/>.

of color. Due to historic discrimination and residential segregation, these are often located near fossil fuel plants and mines, in flood-prone areas, or are exposed to disproportionately high heat, pollution, and other environmental risks.⁷

The Environmental Justice community strives for fairness and climate justice where aspects of mitigation and adaptation are uneven. There is a climate gap, which is an issue of human rights, public health, and equality and demonstrates how climate change does not affect everyone equally, and it is people of color and the poor who will be hurt the most.⁸

Transmission and distribution planning must be better coordinated. Confusing jurisdictions, lack of transparency, misaligned agency missions, lack of funding to bring diverse meaningful stakeholders into the complex process are all hurdles. But matching supply and demand in a more unified fashion will help the communities with costs, the industry with better information and policymakers with clear drivers to set goals.

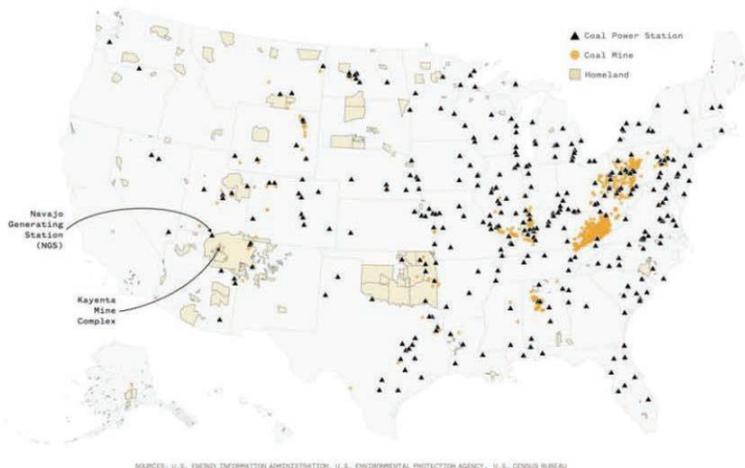
To attain these benefits, planning criteria and methodologies need to be revised to include climate justice and resilience. The design of resilient power systems starts with the overall planning of the entire system. Until recently, there had been little work on including climate considerations in planning.⁹

Tribal Energy and Infrastructure

The President of the Navajo Nation delivered a heartfelt wake-up to many white people of the many hardships the Nation has faced and the strength and resiliency in the Navajo People. President Nez said in his testimony to Congress, “I implore you to help address the systemic changes that need to occur for the improvement and advancement of Indian Country.” He also said “Today, I am asking that our environment and natural resources be protected, and our needs be promoted. With the protection of our resource and our participation in the 21st century, we will be able to live in a more harmonious state in our permanent homeland for generations to come.”

Renewable energy policies must recognize—and attempt to correct—the history of fossil fuel oppression and displacement of Indigenous people. The Federal Government has directive to advance Tribal Sovereignty and Rights, and 100 percent regenerative energy policies should include the leadership and consultation of Indigenous communities, particularly around energy sovereignty.

Federal agencies should collaborate on coordinated processes with Tribes to be put in place to ensure advocates and policymakers intentionally consult with Indigenous communities on land, water, and air rights related to renewable energy.



⁷ <https://www.americanprogress.org/issues/green/reports/2019/08/01/473067/a-perfect-storm-2/>.

⁸ https://dornsife.usc.edu/assets/sites/242/docs/ClimateGapExecSumm_10ah_small.pdf.

⁹ <https://openknowledge.worldbank.org/bitstream/handle/10986/31910/Stronger-Power-Improving-Power-Sector-Resilience-to-Natural-Hazards.pdf?sequence=1&isAllowed=y>.

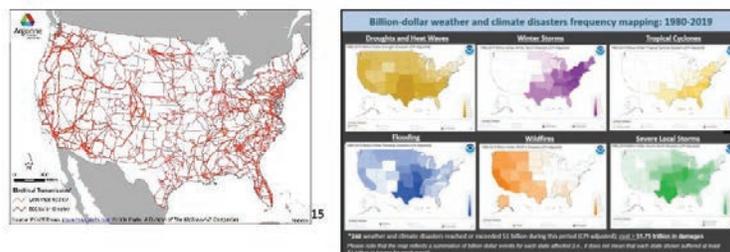
When developers are working with tribes and Federal agencies there must be attention paid to the unique characteristics of rural and Indigenous communities, such as siting of renewables on sensitive lands, “off grid” solar options, and “green businesses”.¹⁰

As outlined in the 100-network building blocks report,¹¹ “when planning transmission and generation together it is recommended to include renewable energy projects both “located in” and “benefiting” EJ communities (while recognizing that it is not always feasible to site all renewable energy within target communities) because it rectifies disproportionality of dirty energy impacts and structural inequities.” The public health and economic goals of achieving 100 percent regenerative energy will only be achieved if renewables are located in and benefit BIPOC¹² (black, Indigenous and people of color) and frontline communities.¹³

CLIMATE CHANGE AND THE GRID

As coal plant closures create changes for the electric system, the National Oceanic and Atmospheric Administration (NOAA) notes that extreme weather caused by climate change is growing and transmission lines are at risk across the country as storms grow more severe.

Many leaders have referred to the electric grid in the U.S. as the largest single machine in the entire world, and it is an incredibly complicated thing to manage and balance.¹⁴ The grid on the right shows areas in the U.S. affected by climate disasters, which always affect some part of the grid (map on the left).¹⁵



In broader context, the total cost of U.S. billion-dollar disasters over the last 5 years (2015–2019) exceeds \$525 billion, with a 5-year annual cost average of \$106.3 billion, both of which are records. The U.S. billion-dollar disaster damage costs over the last decade (2010–2019) were also historically large, exceeding \$800 billion from 119 separate billion-dollar events. Moreover, the losses over the most recent 15 years (2005–2019) are \$1.16 trillion in damage from 156 separate billion-dollar disaster events.¹⁶

Significant portions of the nation’s energy production and delivery infrastructure are in low lying coastal areas and low income disadvantaged and frontline communities; these facilities include oil and natural gas production and delivery facilities, refineries, power plants, and transmission lines. The traditional approach to infrastructure design may no longer be adequate. It is important to capture key features of a changing grid and the additional benefits to approaching adaptation in a more proactive way in order to adequately estimate future climate change impacts to all communities. Increasing transmission capacity within and between regions is critical to addressing extreme weather events, changes in peak loads, water and weather constraints on energy production, and sea level rise.¹⁷

¹⁰ https://www.100percentnetwork.org/uploads/cms/documents/100-network_comprehensive-building-blocks-for-a-just-regenerative-100-policy-2020.pdf.

¹¹ Ibid.

¹² <https://www.nytimes.com/article/what-is-bipoc.html>.

¹³ https://www.100-network_comprehensive-building-blocks-for-a-just-regenerative-100-policy-2020.pdf.

¹⁴ <https://www.latimes.com/environment/story/2020-02-04/coal-power-plants-western-us>.

¹⁵ <https://www.anl.gov/>.

¹⁶ <https://www.climate.gov/news-features/blogs/beyond-data/2018s-billion-dollar-disasters-context>.

¹⁷ <https://openknowledge.worldbank.org/bitstream/handle/10986/31910/Stronger-Power-Improving-Power-Sector-Resilience-to-Natural-Hazards.pdf?sequence=1&isAllowed=y>. Nicolas, C., J. Rentschler, A. Potter van Loon, et al. 2019. “Stronger Power: Improving Power Sector

Anticipated impacts of climate change can be addressed with increases in generating, transmission and distribution capacity, as well as through improvements to equipment design.¹⁸ My colleague Rob Gramlich mentioned in a 2019 congressional testimony that “new technologies are commercially available and are being deployed in other countries to reduce transmission congestion and improve reliability, such as Dynamic Line Ratings, power flow control, and topology optimization. Congress can direct the Federal Energy Regulatory Commission (FERC) to ensure that transmission owners have an incentive to deploy these technologies to a wide range of customers including low income and disadvantaged communities.”¹⁹

Transmission planning at Federal, state and local levels must be inclusive of resilience and climate justice concerns as well as adaptive and mitigation measures.

Renewables and Public Opinion

As a recent Yale study points out “Voters support establishing a national renewable portfolio standard (RPS) requiring 100 percent of electricity to be generated from renewable sources by 2050 (71 percent) and say enacting a national 100 percent RPS would have a positive impact on the environment in the U.S. (77 percent) and the U.S. economy (61 percent), bring down electricity costs (61 percent), and benefit rural and farming communities (56 percent).”²⁰ They also say infrastructure investments should repair old roads and bridges (92 percent), repair and modernize America’s public school buildings (84 percent), expand the use of renewables (81 percent), build new power lines for transmission of renewable energy (81 percent), expand rural broadband (80 percent), build new roads and highways (79 percent), and expand public transportation (76 percent). And 76 percent say it’s important to invest in building infrastructure to withstand the effects of climate change.²¹

U.S. renewable energy development has skyrocketed in recent years. In 2020, the Energy Information Administration projected that U.S. solar generating capacity in 2019 and 2020 would increase by 65 percent from 2018 capacity. And in 2020, approximately 44 percent of new U.S. electric generating capacity installed will be wind generation, and 32 percent will be solar photovoltaic. Pluralities of voters think a 100 percent RPS policy would help bring down the unemployment rate (46 percent), improve wages for American workers (46 percent), and benefit communities of color (42 percent).²²

Public policies pushing the need for 100 percent clean energy and carbon reduction promote the economic stimulus for market and regulatory certainty; however, community transition is not always at the top of the list and must be part of the plan. As the electric generation changes on the grid, the transmission changes too; especially the capacity on the lines and the upgrades needed.

Resilience to Natural Hazards.” Sector note for LIFELINES: The Resilient Infrastructure Opportunity, World Bank, Washington, DC.

¹⁸ <https://www.osti.gov/biblio/1026811>.

¹⁹ <https://gridprogress.files.wordpress.com/2019/06/testimony-to-roundtable-on-electricity-transmission-infrastructure-.pdf>.

²⁰ Climate Nexus, Yale Program on Climate Change Communication, George Mason Center for Climate Change Communication, 09/13/19.

²¹ *Ibid.*

²² *Ibid.*

Cities with 100 Percent Clean Electricity Commitments²³



Clean power commitments have increased at the county and city level, with a total of 11 counties and 104 cities pledging to 100 percent clean energy goals at the end of 2018. Approximately 50 million people live in places with these goals, making up about 15 percent of the Nation's population.²⁴

The next step is to ensure the commitments also include environmental justice policies and climate justice goals. There is no "one size fits all" solution and this should not supersede the interests and self-determination of local frontline communities. A "community benefits" framework is recommended that includes ecological, health, and economic benefits.²⁵ Public land issues and eminent domain need to also be considered in the policy.

RPS policies should clearly outline and make transparent purchase agreements of renewable energy and ensuring that policies related to the grid are linked to disaster preparedness and clear ways to address the climate gap.

State and local policies have pushed the desire to meet climate goals and the Federal Government could assist by enacting a Federal renewable portfolio standard (RPS). State integrated resource plan planning process, which could facilitate investment-level analysis of these public policy-enabling projects²⁶ as well as a new FERC Order on mandated coordinated planning.

INCLUSIVE PLANNING FOR THE GRID

Incentives to Drive Inclusive, Data-Driven Planning

The North American Electric Reliability Corporation (NERC) creates standards for the electric grid as well as enforces compliance for the bulk power system. NERC Standards coordinate resiliency and reliability, but the needs must also account for and include frontline, disadvantaged and tribal communities.

Transmission standards could also be improved to standardize equipment for plug and play interoperability, as well as conventionalize geographic information systems (GIS) to provide visualization of power outages to Federal and state agencies to better depict planning for climate change disasters.²⁷

To better account for resilience considerations, utilities will also have to adopt a holistic approach. Currently, planning exercises are disconnected from each other and since the power system is a network, the resilience of the whole system must be considered as a unit. An integrated approach that simultaneously considers both the resilience of individual assets and that of the system as a whole would be highly desirable. Despite challenges, my recommendation is to adopt interdisciplinary models that can simulate the behavior of the power system and its reaction to a

²³ <https://www.cfra.org/sites/www.cfra.org/files/publications/CapacityForChange.pdf>.

²⁴ Ibid.

²⁵ <https://nationaleconomictransition.org/>.

²⁶ <https://static1.squarespace.com/static/59b97b188fd4d2645224448b/t/59f40357652dea26877e092e/1509163867513/RETI+2+Western+Outreach+Project+Report.pdf>.

²⁷ US National Rural Electric Cooperative Association uses the Los Alamos tool online to see what upgrades it recommends for their systems.

models that can simulate the behavior of the power system and its reaction to a natural disaster.²⁸

Transmission infrastructure rights of ways weave across the country and over 17,000 miles on BLM land²⁹ and over 6,000 on Forest Service public land.³⁰ As climate change affects the landscape of Federal lands, it is the responsibility of the government to ensure effective management of our limited natural resources, protect wilderness and conservation sites, establish renewable energy sources and develop environmental regulation and public participation that includes climate justice.

As mentioned before, transmission right of ways are networked on many Federal public lands and vegetation management is necessary to maintain reliability. A critical reliability standard is vegetation management of rights-of-ways. Tree contacts have caused many blackouts in the U.S. and around the world. But there can be balance with certain pathways. Additional benefits of integrated vegetation management are the reduction of invasive species and the possibility of creating new pollinator or wildlife habitat, offering a considerable number of acres in the form of right-of-way corridors in new habitat across the U.S. These corridors can also serve an important role in providing transition landscape for several species, promoting biological diversity while reducing habitat fragmentation.³¹ Conducting an inclusive costs benefit analysis of various land use factors can provide a better understanding of hardening of grid.

Costs for transmission right-of-way leases can also change. Landowners who host wind turbines receive annual land lease payments, but payments for a transmission line right of way are typically one-time sums that are much smaller in comparison. Utilities and developers can form new models providing benefits to communities near transmission projects.³²

Asking the right questions is key and listening to the diverse answers is critical. Some groups would say in the California Central Valley, decarbonizing residential fuel combustion (such as wood-burning stoves and fireplaces) and diesel-powered transportation is more urgent than installing rooftop solar for improved air quality. The California Energy Commission (CEC) helped fund microgrids to strengthen the energy resilience of communities in the Central Valley and supporting energy infrastructure, especially in low-income areas affected by PG&E public safety power shutoffs.

Electrical grid reliability and outages can have a significant impact on the health and safety of customers, especially in regions affected by extreme heat and in need of cooling and in low-income and disadvantaged communities. State policy makers are asking for additional data in utility integrated resource plans, but more has to be done to address the climate gap especially since high energy bills relative to income may drive low-income households to make do with insufficient heating or cooling, which can increase the incidence of asthma, especially in children.³³

A robust and efficient transmission system will be essential to reap the benefits of renewable energy resources. Planners should aim not just for the immediate needs of the transmission grid but take a long-term view of the changing electric power sector. Utilities and transmission developers must work to change the process for designing and constructing grid projects, employing approaches and techniques that will lead to increased satisfaction for all stakeholders and improved impact mitigation that provide Just and Equitable outcomes for each community.

²⁸ <https://openknowledge.worldbank.org/bitstream/handle/10986/31910/Stronger-Power-Improving-Power-Sector-Resilience-to-Natural-Hazards.pdf?sequence=1&isAllowed=y>.

²⁹ <https://www.blm.gov/programs/lands-and-realty/rights-of-way/electric-power-lines>.

³⁰ <https://www.govinfo.gov/content/pkg/CHRG-113hhrg87850/html/CHRG-113hhrg87850.htm>.

³¹ Benefits of Integrated Vegetation Management (IVM) on Rights-of-Way." US Environmental Protection Agency, Pesticide Environmental Stewardship Program, Nov. 4, 2016. epa.gov/pest/benefitsintegrated-vegetation-management-ivm-rights-way. Accessed June 2019.

³² Using underground lines can improve resilience of the grid, as they are shielded from the elements of nature. However, burying overhead wires costs \$300,000—\$1,250,000 per kilometer (compared to \$80,000-\$240,000 for above ground wires). The per-mile cost of HVDC projects ranges between \$1.17 million and \$8.62 million per mile, according to a review of recent proposals and relevant regulatory filings. Additionally, underground wires take longer to restore in the event of a fault, and repair costs are also higher. The advantages therefore need to be balanced carefully against the disadvantages of siting transmission above or below ground and usually in rights of ways with existing corridors.

³³ Based on a 2016 study by Drehobl and Ross. <https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>.

Enhance Data Access and Modeling

The U.S. Department of Energy deployed hundreds of phasor measurement units to measure the electricity flow on the wires in real time. This data is immense, and many universities and labs have started to study the plethora of information.

Transmission and distribution phasor measurement units (PMU) provide an unprecedented ability to compare time-stamped, synchronized measurements of voltage and current magnitudes and phase angles. This data, in conjunction with new and existing distribution-grid planning and operational tools, is expected to enable better model validation, event detection and location, and renewable resource and load characterization, among other applications. Adjunct Professor Alexandra von Meier is researching and using PMU data to define a nimble and resilient electricity infrastructure to support a carbon-neutral energy sector.³⁴

Smart grids and advanced metering infrastructure both improve situational awareness and facilitate rapid restoration of service. PMUs have averted widespread blackouts even in normal operations. They rapidly assess and report the state of the transmission network, and, when employed in wide-area monitoring systems, automatically react to changes in the network. The information from PMUs and other intelligent electronic devices helps improve grid performance and resilience, and is vital to system operators, who are otherwise blind to rapid changes in the power system.³⁵

Another type of automation, created at Texas A&M, relies on sensors at substations—facilities where high-voltage lines that travel long distances meet low-voltage lines that weave through neighborhoods. These sensors monitor how electricity is flowing through power lines connected to the substation. These electrical signals also contain clues about where problems are—sometimes down to the exact location on an individual power line.³⁶

One key challenge is data recording is rapidly outstripping the processing capabilities of standard planning and operational tools. Continuous innovation is a must as we work to improve situational awareness and gain a deeper understanding of the physics of the electric grid. The ability to launch new technologies and digitization, and capabilities in hybrid technologies and storage to counteract intermittency as well as new tower designs with AC/DC bi-poles is important in current research, development and deployment. Digital tools and skills will be key to competitiveness along the asset life cycle of clean energy tools and infrastructure, from site identification to project compilation.³⁷ Making the data available to more diverse students can broaden insight into better grid planning.

Bilateral Contracts Obscurity

There is an unfortunate lack of access to the actual numbers of megawatts moved around the grid through bilateral contracts. Gaining access to this data would provide numerous benefits to planning, operation and resilience measures for the grid.

As the resource portfolio in the western interconnection evolves into the 2030s, the need for transmission becomes more obvious and resources will face transmission constraints. Increased transparency with bilateral contracts is needed to better understand resource adequacy on the system and adjust for flexibility. Having more access to information will decrease the pressure to lean on frontline and disadvantaged communities who are continually exploited by fossil fuels.

The use of bilateral contracts and electric transfers via transmission lines are likely to increase in the coming years and such economic transfers are one of the most effective tools to for increasing system flexibility. Open and coordinated power markets help make these transactions more efficient in the short term.³⁸ Currently, lack of grid flexibility is leading to more and more curtailment, a reduction in generation output, which often impacts renewable energy first due to the variability of these resources across a region and constraints such as limited transmission capacity. Decreasing curtailment would infuse the grid and electric markets with more low-cost renewable energy while improving revenue for generators—a key concern in the initial planning of projects.³⁹

³⁴ <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118755471.sgd087>.

³⁵ The GridWise Alliance 2013; White House 2013.

³⁶ <https://www.sciencenews.org/article/u-s-power-grid-desperately-needs-upgrades-handle-climate-change>.

³⁷ <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/rethinking-the-renewable-strategy-for-an-age-of-global-competition#>.

³⁸ <https://westernenergyboard.org/wp-content/uploads/2019/12/12-10-19-ES-WIEB-Western-Flexibility-Assessment-Final-Report.pdf>.

³⁹ Denholm, Paul, et al. "On the Path to SunShot: Emerging Issues and Challenges in Integrating High Levels of Solar into the Electrical Generation and Transmission System."

FERC, Regional Transmission Organizations and states should provide a more supportive policy environment for the types of bilateral contracts that are most beneficial to developing healthy, competitive electricity markets.⁴⁰

Non-Wires Alternatives

When transmission cannot be upgraded or built, then non-wires solutions can assist grid reliability. Outlined in Federal and state policies non-transmission alternatives (e.g., demand-side management, distributed generation, conservation, and energy efficiency) are also considered during the local and regional transmission planning process; however, despite these efforts, new transmission will enable renewable energy development. Education and outreach are part of early adaption of non-wires solutions. For example, increasing access to rooftop solar for low-income customers can reduce energy burden, if energy use coincides with periods of sunshine or rooftop solar is combined with energy storage that can be discharged after the sun sets. Sometimes a non-wire alternative like storage can assist with keeping clean power on the system longer. Especially if the storage can provide short and/or long duration storage. This energy can then be used on the distribution or transmission system.

Transmission and distribution planning should account for the growing penetration of behind-the-meter resources and energy efficient appliances and buildings,⁴¹ and the willingness of customers to reduce electricity consumption during peak electricity demand. There are many black and brown communities who pay higher rates for energy than wealthier neighborhoods and cannot afford EV or solar.⁴²

Inclusive “Smart from the Start” Siting

There is a significant value in incorporating environmental justice, cultural and environmental awareness information upfront in the transmission planning process, which provides a range of optionality to reduce the potential for conflict during siting, permitting, and construction.

My colleague Jennie Chen outlined that the National Environmental Protect Act (NEPA) and Federal permitting requirements are important components of “smart from the start” planning in her 2019 congressional testimony.⁴³ Smart from the Start enables utilities and developers to anticipate potential issues with prospective construction sites and consider a multitude of alternatives while engaging affected communities early in the process. She shared the following principles outlined by Carl Zichella and Johnathan Hladik:⁴⁴

- Consult stakeholders early and involve them in planning, zoning and siting.
- Close collaboration with tribal, state, and local governments is critical, and robust public engagement is essential for the credibility of the siting, permitting, and review process.
- Use geospatial information to categorize the risk of resource conflicts.
- Avoid land and wildlife conservation and cultural resource conflicts and prioritize development in previously disturbed areas (use WECC environmental data viewer tool).⁴⁵
- Incentivize resource zone development with priority approvals and access to transmission. Consider renewable energy zones or development sites that optimize the use of the grid. Maximize the use of existing infrastructure.
- Where zoning is not feasible (as in much of the Eastern Interconnection), use siting criteria based on these principles.

National Renewable Energy Laboratory, US Department of Energy, May 2016, [nrel.gov/docs/fy16osti/65800.pdf](https://www.nrel.gov/docs/fy16osti/65800.pdf). Accessed June 2019.

⁴⁰ <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.179.1344&rep=rep1&type=pdf>.

⁴¹ <https://www.nrdc.org/experts/lara-ettenson/everyone-can-benefit-electric-homes-heres-how-0>.

⁴² <https://www.americanprogress.org/issues/race/reports/2018/02/21/447051/systematic-inequality/>.

⁴³ <https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Testimony-Chen-EP-Hrg-on-State-of-the-Nation%E2%80%99s-Energy-Infrastructure-2018-02-27.pdf>.

⁴⁴ Carl Zichella and Johnathan Hladik, Siting: Finding a Home for Renewable Energy and Transmission. <http://americaspowerplan.com/siting/>.

⁴⁵ <https://www.arcgis.com/apps/webappviewer/index.html?id=658e57d6a5d1450fac532c0110172d62>.

I would add:

- Agencies and legislatures can streamline and clarify the text of laws to make requirements more understandable, reduce paperwork burdens by providing for e-filing and approval, and have multiple agencies that administer similar requirements jointly approve projects.⁴⁶
- Address and include Climate Gap criteria.

As outlined in the Statement of Principles for Environmental Justice⁴⁷ mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things, and to prevent disproportionate shares of polluting projects from being sited in vulnerable communities. The existing NEPA process should be strengthened to expand opportunities for public involvement in the Federal decision-making process.

1. In any re-evaluation effort agencies need to build an inclusive process at every level of decision-making including assessment, planning, implementation, enforcement, and evaluation that is ongoing, inclusive and respectful.
2. Inclusion means impacted communities (EJ, Tribal, and frontline) are treated as equal partners and their interests are protected equally (if not more than) other industry interests.
3. All project decisions and evaluations need to fully reflect on-the-ground realities and cumulative impacts including but not limited to health and environmental outcomes, pollution levels, and impacts to sacred/ cultural resources.

Policymakers must craft effective solutions that cut across diverse policy areas and address region-specific climate change impacts.

Over the last 20 years the grid has changed dramatically as clean energy has been integrated. We have amazing grid operators who help keep the lights on and balance the system intricacies, but we must transition to a new system. As we plan for a better clean energy future, we will not make the mistakes of the past—disenfranchising brown and black people and their communities.

Public Lands and Coordinated Policymakers

The International Panel on Climate Change report⁴⁸ emphasizes how important it is to balance multiple public goods in land use planning—food security, environmentally responsible renewable energy development to fight climate change, and conservation of large, intact landscapes for multiple benefits, including their ability to sequester carbon.

The Bureau of Land Management, steward of millions of acres of public lands in the West is charged with implementing innovative programs including the West Wide Energy Corridors, the Western Solar Plan (as well as the Wind and Solar Land Leases) and the Desert Renewable Energy Conservation Plan.

All energy sources have some impact on the environment—even renewables. Fortunately, as compared to fossil-fueled electricity, renewable energy has the potential to produce large amounts of clean electricity and reduce impacts on land, water, wildlife, human health and climate.⁴⁹ Incorporating nature at the outset of energy planning not only results in lower impacts to wildlife and habitat but improves energy planning so that new clean energy investments are directed to the places where they can be developed with more certainty. When clean energy can be

⁴⁶ For example, renewable energy developers building generation or transmission in wet areas typically must obtain state approval for dredging and filling in wetlands in addition to a Federal dredge and fill permit issued by the Army Corps of Engineers. When the state and Corps join forces and allow for one submission of project data to the state and the Corps and jointly process permit applications, this can save time and resources (US Army Corps of Engineers n.d.). Oregon follows a similar joint permitting process for wind energy under a Memorandum of Understanding between the Oregon Energy Facility Siting Council and the Bureau of Land Management[5] (US Department of the Interior, Oregon State Office 2009). As well as Governor Andrew Cuomo proposed all of these steps in the Accelerated Renewable Energy Growth and Community Benefit Act in February 2020, arguing that this expedited review will be necessary to meet New York's aggressive climate goals (Governor Andrew Cuomo 2020). Specifically, he proposed to “consolidate the environmental review and permitting of major renewable energy facilities to provide a single forum” for reviewing large environmental projects.

⁴⁷ <http://www.energyjustice.net/files/ej/energy-ej.pdf>.

⁴⁸ <https://www.ipcc.ch/>.

⁴⁹ https://www.scienceforconservation.org/assets/downloads/Technical_Report_Power_of_Place.pdf.

sourced across a larger area, there are more cost-effective opportunities to create balanced solutions for clean energy and land conservation.⁵⁰

Transmission is a long-lived investment, and it would be prudent to account for public policies that drive changes in the energy resources we use to power the grid. Planning should account for modern transmission technologies and other ways to increase the capacity on the system, reduce energy loss, and maximize the use of existing lines and rights of way. The Federal agencies need to continue to work together to ensure this criteria is incorporated into updated land use and resources management plans to ensure the inclusive public is receiving the greatest benefit.

A coordinated and guided development approach to development on public lands should identify areas with low natural resource values, high renewables potential, and needed infrastructure like transmission are suitable for development. By guiding projects to zones, the agencies can ensure that transmission and renewable energy projects are built faster, with community involvement, less expensive and better for the environment, developers and customers.

West-wide energy corridors are considered preferred locations for energy transport projects on lands managed by the BLM, U.S. Forest Service. When I worked on the Section 368(a) of the Energy Policy Act of 2005 (EPAct), interagency plan the National Park Service, the U.S. Fish and Wildlife Service, the U.S. Department of Defense, and U.S. Department of Agriculture (U.S. Forest Service) and the U.S. Office of Minerals were also working together to adjust land use and resource plans. It was a first of its kind report, and it was not perfect but a good start. Federal agencies need to increase public comment periods, conduct various types of public hearings for greater accessibility, and translate information about proposed projects.

The lessons learned focused on how to deal with conflicting interests, control, access and protection as well as a lack of knowledge in certain areas. The agencies were able to get past the infighting of mission creep and cross purpose goals to meet the underlined principle—“what is best for the American people.” However, at the time we naively did not consider the diversity of communities and resources available. Our knowledge was limited, and we didn’t seek more and that is a great fault, and now the need for the process to change for the better is beginning.

KEY CHANGES FOR THE GRID

All planning must be undertaken with Just and Equitable transition in mind and these key principles:

- Create access to capacity data, planning tools, and new models
- Coordinate state, regional and inter-regional transmission planning
- Improve Federal resource planning and coordination

Many of these challenges will require the government, industry, policymakers, regulators, developers, advocates and stakeholders to rethink traditional approaches to projects, whether that be the design phase of a project, conducting community outreach, or the actual construction of a line. But, implementing changes in the development process presents opportunities for transmission lines to be routed and built in ways that better consider the needs and desires of local stakeholders.⁵¹

Policymakers can support economic security, protect communities from the brunt of climate change impacts, and improve the availability, quality, and accessibility of affordable clean energy in frontline communities.

Congress needs to:

1. Direct BLM/USFS/USDOE to publish final West-Wide Energy Corridor Study and begin a new wind and solar study.
2. Direct all Federal agencies to implement EJ policies and include in holistic transmission and distribution planning.
3. Direct all Federal land agencies to create criteria protecting tribal, low income, frontline and disadvantaged communities from green gentrification.

“Climate change does not affect everyone equally in the United States,” according to Rachel Morello-Frosch, lead author of *The Climate Gap*, “People of color and the poor will be hurt the most—unless elected officials and other policymakers

⁵⁰ <https://www.nature.org/en-us/about-us/where-we-work/united-states/california/stories-in-california/clean-energy/>.

⁵¹ <https://www.cfra.org/sites/www.cfra.org/files/publications/CapacityForChange.pdf>.

intervene.”⁵² Climate change mitigation efforts must consciously protect low-income communities from “green gentrification.”

Thank you for the opportunity to testify, and I look forward to your questions and working together to solve the inequities of the grid.

Mr. LOWENTHAL. Thank you, Ms. Prochnik.
The Chair now recognizes Ms. Obed for testimony. Welcome.

**STATEMENT OF SARAH OBED, SENIOR VICE PRESIDENT,
EXTERNAL AFFAIRS, DOYON LIMITED, FAIRBANKS, ALASKA**

Ms. OBED. Thank you, Chairman Lowenthal, Ranking Member Gosar, and members of the Subcommittee. Thank you for the opportunity to testify on considerations regarding environmental justice in the context of American energy infrastructure needs.

My name is Sarah Obed. I am an Athabascan shareholder from the Native Village of Minto, approximately 130 miles northwest of Fairbanks, right in the heart of Alaska. I serve as the Senior VP of External Affairs for Doyon Limited.

Doyon is 1 of 13 Alaska Native regional corporations established under the Alaska Native Claims Settlement Act of 1971. We are based in Fairbanks, and we have more than 20,000 Alaska Native shareholders. We are the largest private landowner in Alaska, with a land entitlement of more than 12.5 million acres.

Our mission is to promote the economic and social well-being of our shareholders and our future shareholders, to strengthen our Native way of life, and to protect and enhance our land and resources.

We operate a diverse family of companies in industries, including oil and gas service contracting, natural resource development, government contracting and tourism, and utilities, among others. We are also pursuing several mineral, oil, and gas exploration projects in Interior Alaska. If successful, these projects will provide substantial benefits to Doyon and our shareholders.

Responsible development of our energy and other natural resources is of significant importance to Doyon and to our shareholders. Our success as an Alaska Native corporation demands that our investments in energy infrastructure and development be done with consideration for the needs of our people and the health of the land and water that has always supported our communities. The revenues, jobs, and economic activity from oil exploration and development are important to the present and future well-being of all Alaskans, including Native people, our village, and regional corporations. Services and contracts associated with oil exploration and development are a key source for jobs and revenues for Doyon and many others throughout the state.

At the same time, our lands and the resources thereon are critically important for customary and traditional subsistence uses of fish and wildlife. Our mission requires that we honor all of these interests, pursuing responsible economic development, while at the same time protecting and enhancing our socio-economic welfare, our culture, and our lands and resources.

⁵² <https://dornsife.usc.edu/pere/climategap/>.

When Congress in the late 1960s debated the merits of establishing corporations as the mechanism for settling aboriginal land claims in Alaska, Members spoke to the merits of empowering Alaska's Native people to own our own natural resources in Alaska. Our land was selected by us for our use. Many of our lands which were selected near villages are intended for traditional activities, such as hunting and fishing. Many of our lands were selected in regions that have oil and gas potential or have mineral potential.

For Doyon, environmental justice includes a focus on celebrating our way of life, a way of life that has existed since time immemorial. It is also an opportunity for Doyon to ensure socio-economic benefits for our people. This includes cash benefits, jobs, wages, and educational scholarships.

The Alaska oil and gas industry is important to Doyon. We have built a healthy and sustainable business that employs hundreds of our Alaska Native shareholders and provides career opportunities.

The economic impact of Doyon, together with other local Alaska Native organizations, including corporations and tribes, hit \$1.05 billion in 2016. Last year, we employed 968 employees, of which 316 were Doyon shareholders. We also contributed last year \$2.4 million to tribes, schools, non-profits, and our affiliated education foundation, the Doyon Foundation, including \$200,000, which is an annual contribution meant to rejuvenate and support indigenous languages of our region. We also distributed \$26 million in cash to our shareholders through the Doyon Settlement Trust. In addition to ensuring these benefits are shared with our people, we also recognize that we are engaged in project development.

We do recognize the critical importance of meaningful outreach and engagement with the Alaskan Native people, as our people have social, economic, and corporate interests in critical development.

Thank you for the opportunity to testify. I will answer any questions for members of the Subcommittee.

[The prepared statement of Ms. Obed follows:]

PREPARED STATEMENT OF SARAH OBED, DOYON LIMITED

Chairman Lowenthal, Ranking Member Gosar, and members of the Subcommittee, thank you for the opportunity to testify on considerations regarding environmental justice in the context of American energy infrastructure needs.

My name is Sarah Obed. I am an Athabascan shareholder from the Native Village of Minto—approximately 130 miles northwest of Fairbanks, in the heart of Alaska. I serve as Senior Vice President, External Affairs of Doyon, Limited.

Doyon, Limited (Doyon) is one of the 13 Alaska Native regional corporations established by Congress under the negotiated terms of the Alaska Native Claims Settlement Act (ANCSA) of 1971. Headquartered in Fairbanks, Doyon has more than 20,000 Alaska Native shareholders. Doyon is the largest private landowner in Alaska, with a land entitlement under ANCSA of more than 12.5 million acres. Doyon's lands extend from the Brooks Range in the north to the Alaska Range in the south. The Alaska-Canada border forms the eastern border and the western portion almost reaches the Bering Sea.

Doyon's mission is to promote the economic and social well-being of our shareholders and future shareholders, to strengthen our Native way of life, and to protect and enhance our land and resources. Our land and our resources serve and support our shareholders, whether as land to support subsistence hunting and fishing or as land to support the development of resources that serve the interests of Americans throughout our Nation.

Doyon, Limited operates a diverse family of companies in industries including oil and gas service contracting, natural resource development, government contracting

and tourism, among others. In furtherance of our mission, Doyon is also pursuing several mineral and oil and gas exploration projects in Interior Alaska. If successful, these projects will provide substantial benefits to Doyon and our shareholders, and, by providing new employment opportunities and helping alleviate the energy crisis in Interior Alaska, to all Alaskans.

Congress's establishment of Alaska Native corporations in Alaska was unique in the history of Indian law, aboriginal rights, and self-determination. When Congress in the late 1960s debated the merits of establishing corporations as the mechanism for settling aboriginal lands claims in Alaska, Members spoke to the merits of empowering Alaska's Native people to own our own natural resources in Alaska. The objective was to settle land disputes, allow access to Natural Resources for development, and for Alaska Natives to retain large amounts of aboriginal land. These lands were conveyed to Alaska Native corporations in settlement of aboriginal land claims, which would be used to serve our villages—in part, as land on which our people would continue to engage in subsistence hunting and fishing and, in part, as land from which we could extract or otherwise develop natural resources to serve the economic interests of our Native communities. For Doyon, environmental justice includes a focus on celebrating our way of life, a way of life that has existed since time immemorial. It also means the opportunity for Doyon to ensure socio-cultural and economic benefits for our people, for our shareholders, and for our future generations. This includes cash benefits, jobs, wages, and educational scholarship.

Energy and natural resource development in Alaska plays a critical role in providing economic resources to individuals, communities, and governments to help meet these needs. Even today, some rural Alaska Native villages continue to lack access to basic services like running water, low cost energy, and other public services that most Americans are able to take for granted. Funding to address infrastructure needs like these is hard to come by, and contributes to significant public health risks for these communities. Despite the State's significant natural resource reserves, energy costs particularly in rural Alaska are very high, and our communities have some of the highest costs of living anywhere in the country. Alaska is blessed with significant energy and other natural resources, the development of which provides critical economic resources to help meet these needs, including for underserved, rural Alaska Native communities.

Such activities, however, are very often targets of nationwide campaigns by environmental groups that choose to ignore these important benefits. According to the Environmental Protection Agency, "Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." When it comes to energy and other resource development and infrastructure projects in Alaska, this demands that the voices of those who might *support* these activities, and who directly or indirectly benefit from them, must also be heard and respected—not only those who might choose to oppose them.

Responsible development of our energy and other natural resources is of significant importance to Doyon and our shareholders. Our success as an Alaska Native Corporation demands that our investments in energy infrastructure and development be done with consideration for the needs of our people and the health of the land and water that has always supported our communities. The revenues, jobs and economic activity from oil exploration and development are critically important to the present and future well-being of all Alaskans, including Native people and our village and regional corporations. Services and contracts associated with oil exploration and development are a key source of jobs and revenue for Doyon and many others throughout the State. At the same time, our lands and the resources thereon are critically important for customary and traditional subsistence uses of fish and wildlife. Doyon's mission requires that we honor all of these interests, pursuing responsible economic development, while at the same time protecting and enhancing our health and welfare, our culture, and our lands and resources.

Natural Resource Development Creates Substantial Benefits for Doyon and Our Alaska Native Shareholders

Alaska's oil and gas industry is important to Doyon. We have built a healthy and sustainable business that employs hundreds of our Alaska Native shareholders and gives them career opportunities. Many of our positions are well-paying blue collar jobs, something that seems increasingly rare these days. It has also been a profitable business that allows us to fund scholarships and training opportunities for our shareholders and to pay dividends.

The economic impact of Doyon, together with other local Alaska Native organizations hit \$1.05 billion in 2016. In Doyon's fiscal year 2019, we employed 968 employees of which 316 were Doyon shareholders.

In fiscal year 2019, Doyon contributed \$2.4 million to our affiliated education foundation, the Doyon Foundation, and to other nonprofits, cultural programs, and Alaska Native Tribes. The \$2 million donation to the Doyon Foundation included donations for the endowment, operating expenses and scholarships, and for the Athabascan language revitalization program run by the Foundation, where we are working to enhance 11 Alaska Native languages. The contribution is possible, in large measure, because of our oil and gas services companies.

As an Alaska Native regional corporation, Doyon also shares our profits with our shareholders. We do this through a settlement trust that was created by a vote of our shareholders in November 2018. The purpose of the Doyon Settlement Trust is to promote the health, education, and welfare of its beneficiaries, and to preserve the heritage and culture of Alaska Natives. It accomplishes this by making distributions to its beneficiaries (shareholders). A cash distribution to shareholders was made in FY2019 totaling \$13 million from the Doyon Settlement Trust in December 2018, and a second distribution totaling \$13 million was paid on June 3 of this year. Much of the profit Doyon makes and that supports these distributions is from our oil and gas contracting business.

Doyon's shareholders are not the only Alaska Natives that benefit from oil and gas and other energy development. Subsidiaries of a number of other Alaska Native corporations provide services to the industry on the North Slope. The State as a whole benefits from new development. Each new development results in new jobs for Alaskans, tax revenue for the State, and potential profits for Alaska Native corporations and other companies in the industry. This results in continued services for our shareholders and Alaska citizens.

The broader Alaska Native community also benefits from energy development through Sections 7(i) and 7(j) of ANCSA, a unique revenue-sharing mechanism included by Congress in ANCSA by Congress to help ensure that all Alaska Natives benefit from resource development on ANCSA lands. Under Section 7(i), all regional corporations share 70 percent of their net revenue from timber and subsurface mineral resources developed on their lands with the other Native regional corporations; and, under Section 7(j), each regional corporation annually shares 50 percent of the money received under Section 7(i) with all of the village corporations in its region. Between 1982 and 2015 over \$2.5 billion cumulative was shared through the 7(i) formula, and oil and gas resources (56 percent) were from oil and gas resources.

Meaningful Outreach to and Engagement with Potentially Impacted Alaska Native Interests is Essential

Both as a developer of energy projects and an organization whose direct and shareholder socioeconomic and cultural interests may be affected by proposed energy development, Doyon recognizes the critical importance of meaningful outreach to and engagement with Alaska Native interests, including potentially impacted Alaska Native villages, our Tribes, and Alaska Native corporations.

Indeed, Doyon often participates actively in land management planning and other agency processes to ensure that those processes are consistent with and protect Alaska Native socioeconomic and cultural interests, such as subsistence use and access. In Executive Order ("EO") 13175, Consultation and Coordination with Indian Tribal Governments, the President required Federal agencies to implement an effective process to ensure meaningful and timely consultation with tribes during the development of policies or projects that may have tribal implications. Tribal consultation is intended to assure meaningful tribal participation in planning and decision-making processes for actions with the potential to affect tribal interests. While EO 13175 applies specifically to federally recognized tribal governments, pursuant to Public Law No. 108-199, as amended by Public Law No. 108-447, Congress specifically extended these obligations to Alaska Native corporations, requiring the Office of Management and Budget ("OMB") and all Federal agencies to "consult with Alaska Native corporations on the same basis as Indian tribes under Executive Order No. 13175."

In accordance with this mandate, in August 2012, the Department of the Interior ("DOI") issued its Policy on Consultation with Alaska Native Claims Settlement Act ("ANCSA") Corporations. In this Policy, the Department purported to "recognize[] and respect[] the distinct, unique, and individual cultural traditions and values of Alaska Native peoples and the statutory relationship between ANCSA Corporations and the Federal Government." Thus, the Policy states that "[w]hen taking Departmental Action that has a substantial direct effect on ANCSA Corporations, the Department will initiate consultation with ANCSA Corporations." In recognition

that “Federal consultation conducted in a meaningful and good-faith manner further facilitates effective Department operations and governance practices,” it further commits that the Department will “identify consulting parties early in the planning process and provide a meaningful opportunity for ANCSA Corporations to participate in the consultation policy.”⁵

This process provides an important mechanism for Doyon and other ANCs to participate in Federal land management and project permitting processes related to energy development that could impact our ability to fulfill the purposes for which we were established under ANCSA and to protect and advance the economic, social, and cultural interests of our shareholders. It allows us to help ensure that the interests and concerns of Alaska Natives and their communities are meaningfully considered, and that impacts are appropriately mitigated.

Doyon is at the Forefront of Efforts to Develop and Deploy New Technologies to Reduce Impacts

The industry in Alaska has made great strides toward responsibly designing projects with minimal impact on the environment, wildlife, and subsistence activities. And we at Doyon are proud to be at the forefront of developing and deploying new, modern technologies to help reduce the impacts of energy development.

New technologies help minimize the footprint and impacts of new oil and gas development. When oil companies developed Alaska’s Prudhoe Bay oil field in the early 1970s through the 1980s, they had to drill wells straight down and the spacing of the wells on the surface was usually about 120 feet. The roughly 3,000 wells sunk at Prudhoe Bay and their spacing caused the surface development there to affect about 19,000 acres.

Technological advances made since the Prudhoe Bay oil field’s development in the 1970s have resulted in increased oil recovery rates from fewer oil wells with far smaller surface impacts as a result of fewer and smaller drill pads. The technology has resulted in dramatically less overall surface disturbance, meaning far less impact on wildlife habitat and other resources.

Today’s drilling rigs can easily drill wells from a single pad that can access over 100 square miles. That means that pads can be spaced up to 10 miles apart and habitat between pads can be protected with little or no surface disturbance. One of Doyon’s wholly owned subsidiaries, Doyon Drilling, Inc. (“DDI”) has played a significant role, and continues to lead its industry, in innovation and the adoption of this new technology. DDI currently has over 300 employees. DDI has demonstrated our commitment to remain competitive in the industry by continually reinvesting in our employees and rigs. Investment and innovation in our fleet has helped to make our rigs more efficient and protective of the environment and local communities.

As an example of the implications of these innovations, Doyon’s Rig 142, in 2017, drilled a penta-lateral well in the Kuparuk field on Alaska’s North Slope. Five production wells were drilled from a single surface well bore. Doyon directionally drilled each of the legs of the penta-lateral well.

DDI’s Rig 26, an extended reach rig, to be commissioned into service on the North Slope later this year. Rig 26 will be able to drill up to 35,000 feet horizontally. That capability will allow the rig to drill wells covering 125 square miles from a single surface well pad. For perspective, that means that Rig 26 could drill horizontally from Capitol Hill in Washington, DC and hit a target the size of a small room at the National Harbor Resort and Convention Center on the Potomac River, 6½ miles away.

Doyon’s Rig 26 will allow our client to develop known but currently untapped oil resources from existing surface infrastructure. In other words, our client will not need to build any new pads, roads or pipelines to produce known oil reserves.

As renewable energy resources are developed, we may or may not see continued need to develop nonrenewable fuels. But natural gas, at a minimum, has an important role to play as a “bridge fuel” in any transition from fossil fuels to intermittent renewable resources like wind and solar. And the need for nonrenewable resources will continue. After all, wind and solar require an enormous amount of copper. Lithium batteries require an enormous amount of cobalt. All of us must weigh the trade-offs between renewable energy and mining. Whatever our Nation’s energy mix may be at any given time, environmental justice demands that we continually look for better ways to both protect and serve the needs of our communities at the local level.

In conclusion, as established by Congress, Doyon and other Alaska Native corporations have a unique perspective on these issues. We were created both to develop our land and resources economically for the benefit of our Alaska Native shareholders, as well as to protect our cultural heritage and preserve our lands and resources for the benefit of future generations. The responsible development of

energy resources and infrastructure in Alaska is part of our DNA. We have an obligation to both engage in meaningful outreach when we are in a project developer role; and we have an obligation to seek meaningful participation to protect the interests of Doyon and our shareholders when Federal agencies' and third party activities implicate our interests.

Energy resource and infrastructure development provides employment opportunities and contributes essential economic resources to meet public health needs and to otherwise enhance the general health and well-being of Alaska Natives and others in the State. It is our communities in Alaska that are best positioned to judge how these activities move forward and how impacts from them are appropriately addressed and mitigated. Environmental justice demands fair treatment and meaningful involvement of vulnerable populations, regardless of their views; it should not be viewed narrowly as a means to block energy resource and infrastructure development.

Thank you for the opportunity to testify today. I would be pleased to answer any questions the members of the Subcommittee may have.

Mr. LOWENTHAL. Thank you, Ms. Obed. Thank you for being the witness that tried to keep it within 5 minutes also. I appreciate that.

I thank all the panel for your testimony. I want to remind Members now that Committee Rule 3(d) imposes a 5-minute limit. I am going to let you also go over by a little bit, but try to keep it as close to 5 minutes as possible. I am going to recognize Members for any questions they may wish to ask the witnesses.

I am going to recognize Representative Levin for the first 5 minutes. Welcome, Representative.

Mr. LEVIN. Thank you very much, Mr. Chairman. Great to see you. Good to see my colleagues. And I want to thank you for holding today's hearing. And I really want to thank the witnesses, both for their activism and for their testimony. And I wanted to start with a question for Ms. Patterson.

From what I have read, the African American community not only suffers from higher rates of pollution from fossil fuel infrastructure but, on average, they also pay higher home energy bills than white people.

Ms. Patterson, what is the better option, in your view, for addressing these inequities, expanding use of fossil fuels or investing in clean energy and energy efficiency?

Ms. PATTERSON. Thank you so much. I appreciate the question, Representative Levin.

So, yes, for us, because of all of the other challenges around pollution from fossil fuel-based energy production, we definitely find that increasing investments in energy efficiency and clean energy is better for the well-being of our communities, both because of investing in energy efficiency, reducing the amount of energy that needs to be produced in the first place as well as reducing the bills that folks have to pay and investing in clean energy removes the burden of pollution that we have in our communities and also offers an opportunity for ownership of the energy infrastructure, which also increases financial security. Thank you.

Mr. LEVIN. Thank you for that, Ms. Patterson.

Ms. Prochnik, do you agree with that, and do you think that clean energy offers the best way to reduce the electricity bills for low-income people?

Ms. PROCHNIK. Thank you, Representative Levin. Yes, I do agree with Jacqui. I think she makes valid points that need to be heard and recognized. All of her points that she raised about acknowledging what needs to be done in low-income and disadvantaged communities, starting with energy efficiency conservation and helping fund a lot of the initiatives, is very beneficial.

Mr. LEVIN. Expanding on that, what role does transmission play in that effort? Could more efficient transmission planning and integration with renewables help lower household electricity bills, as well?

Ms. PROCHNIK. Yes, thank you again for that question. Transmission does play a role. It brings a lot of access to renewable energy that is on public lands across the country.

So, transmission lines help bring inexpensive solar and wind to urban centers, and it is a great way to bring resources from different communities together. It also provides a great way for reliability and really making use of our existing right-of-way system in our transmission lines.

Mr. LEVIN. I wanted to ask you also, Ms. Prochnik, about your time at the Department of Energy. I think you worked on the Section 368 West-Wide Energy Corridors. Could you describe what worked and what didn't work with that project and how updated corridors will help our transition away from fossil fuels and toward a clean energy future?

Ms. PROCHNIK. Thank you for the question. I did work at the Department of Energy, enjoyed my time there, learned a lot. And I think bringing together agencies, bureaus, and offices who had never really worked together before and had competing interests was a challenge, but we worked through the various expectations and found a common purpose.

We still missed sections that, if we would have been more inclusive, we would have produced a much better product. The updated report, which I look forward to reading, should be built on inclusive "Smart from the Start" planning and really have a more inclusive component for environmental justice, frontline, and tribal interests.

I hope they have also looked at the expanding need for new corridors in appropriate locations to access areas with high renewable energy potential and low-conflict renewable energy zones.

Mr. LEVIN. Thank you for that. What are the benefits to developers of working inside these designated corridors, and what are the environmental benefits?

Ms. PROCHNIK. There are many benefits to working inside these corridors because you have had the agencies work together and coordinate and streamline criteria. There could be a lot more benefits of more dialogue and discussion and more opportunity for public comment. It does help the process in time, that since you are coordinating, you can decrease the long lead time to build transmission, but I think there needs to be more on inclusivity.

Mr. LEVIN. Thank you, Ms. Prochnik. Your work at DOE reminds me of the Public Land Renewable Energy Development Act, the bill that I have introduced with Ranking Member Gosar. Our bill provides a "Smart from the Start" planning framework for renewable energy generation on our public lands. And that is better for

developers and better for consumers and ultimately will help facilitate more renewable energy projects.

I am very pleased that our Committee unanimously approved the bill, and I hope it will be considered soon on the House Floor.

Mr. Chairman, I will yield back.

Mr. LOWENTHAL. Thank you, Representative Levin.

I now recognize Ranking Member Gosar for his 5 minutes of questioning.

Dr. GOSAR. Thank you, Chairman.

And my friend from California, it would have been nice to see in the infrastructure bill our full bill placed in there, not excluding Forest Service, because we are stewards of the Federal inventory, and we need to have everything on the table. And I think Ms. Prochnik would actually agree on that.

My question is for Ms. Obed. Is it a one-size-fits-all, that we can't have our cake and eat it too? Isn't there a way that we can actually have energy production and still protect the environment? As particularly a Native American, you are one with nature. Tell us your aspects of having it both ways.

Ms. OBED. Thank you, Ranking Member Gosar. I would agree that oil and gas development will continue to be our ongoing business model looking forward into the future. We do support, as you mentioned, it is not a one-size-fits-all type of deal. You have to look at what fits each community and look at those considerations as we go forward and develop.

Here in Fairbanks, I burn diesel at my house. And if you move out to more areas into rural Alaska, they are burning diesel. And until it is economically feasible to do more of the renewable energy, I don't really see it transitioning very quickly to a lot of renewable resources until we have a plan that tells communities on how to transition. Without a plan, it is not very feasible to say we are going to transition.

Dr. GOSAR. So, that brings me to my point. The weakest link in renewable energy is batteries, is base load power. We have tons of power during the 11 to 6 o'clock period of time, and we have no place to actually put it. So, the batteries are actually problematic because they are the weak link in here.

That is going to require a lot of critical minerals. How do you see that playing out within your Alaska domain?

Ms. OBED. As I mentioned, we do have growing mineral import/export opportunities on land. We have 12.5 million acres of land, some of which will be for mineral development. And what we have seen is the push for renewable energies rise with increased investment in minerals export. People are looking for gold and copper, so it is definitely—the transition has benefited more people. So, if you are looking for renewable energy, it is driving interest and investment in minerals for construction.

Dr. GOSAR. Now I want you to tell us a little bit about the corporation set up, because the tribes are in charge of their resources, are they not, and they bid it out. Can you tell us a little bit about that, that you are empowered by overseeing the natural resources and how that parlays into shared revenues.

Ms. OBED. Sure. I will do my best. There are lots of Native tribes in Alaska, and there are lots of corporations, and I am a tribal member, and I am a chairwoman member.

Doyon is an Alaskan Indigenous corporation and one of the things that is required of the 12 regional corporations is revenue-sharing. So, if there is mineral resource development on Alaskan Native land from timber, oil and gas, or mineral, there is a requirement that we share 70 percent of the profit earned from these natural resources across the state. So, if there is development of resources on Doyon land, Doyon would be responsible for sharing those revenues with other Alaskan corporations who are in the state, both regional and village.

Dr. GOSAR. I want to get back to renewable energy. Right now, in Alaska, you have lots of daylight, right? Very little dark. But in the wintertime, you have lots of dark, very little sunlight.

So, that makes it very problematic when you are looking at natural resources or things like solar and wind. However, geothermal could also be an opportunity. But that is part of the problem, is it not?

Ms. OBED. I think it is due in large part on how many people live in each community and what resources are put aside. Geothermal is only available on microgrids, and don't benefit a large number of people across a large geographic area.

Similarly, we have solar panels on our roof, and I think the technology there is growing every day, but I think it has a very modest impact to our building. It works more in the summer than the winter, but, really, in the winter what you need is to focus on heat and that is really a mixed bag, in terms of looking at energy you are using.

Dr. GOSAR. Ms. Obed, thank you so very much. Thanks for your time. Wish I was in Alaska. Talk to you soon.

Mr. LOWENTHAL. Thank you both for those questions.

I now recognize Representative DeGette for 5 minutes of questions.

Ms. DEGETTE. Thank you so much, Mr. Chairman.

And I love Alaska too, but I am glad to be in Colorado right now. And I do have to say, as what appears to me to be the only female Member of Congress on this hearing, I am really proud of the fact that every single one of our witnesses talking about environmental justice is a woman. And for you guys—you know, this doesn't happen for me very often. Every one of you was a powerful, powerful witness, talking about how important these issues are to the health of our families and future generations, and I want to thank you.

Ms. Patterson, we saw you last month at the Energy and Commerce, Energy Subcommittee meeting, so welcome back. Glad to see you again.

And, Ms. Rose, I want to tell you, your story was so powerful to me because I represent Denver, Colorado, and we have a lot of environmental justice areas in my district. In particular, we have an area up in the northern part of my district that is right adjacent to some industrial areas, Swansea, Elyria, and Globeville.

And the residents who live in these areas, they tend to be communities of color, lower income neighborhoods, but very solid historic communities of home ownership, people who have lived

there for a long time and who have been subjected for many generations to environmental degradation in their areas. And, of course, their kids have health problems. There is an increase in asthma. All the things that you talked about today in your testimony, we are seeing in these communities in my district.

So, I want to ask a little bit to some of the witnesses about this, and I want to start with you, Ms. Patterson. When you hear something—and let me just back up for a minute, one of the issues I have been focusing on lately right near my district is there is a Suncor refinery. There is a refinery right near these neighborhoods.

Ms. PATTERSON, when you hear about something like a refinery located right next to a minority or low-income community, does that set off any alarm bells for you?

Ms. PATTERSON. Yes, thank you. As we detailed in our “Fumes Across the Fence-Line” report, from reviewing multiple communities that are on the fence lines of these oil and gas refineries, we have found, along with our work with groups like Physicians for Social Responsibility, the National Medical Association, the Clean Air Task Force, that the health impacts of being on the fence lines of these facilities are extremely detrimental. There is a pattern of cancer clusters, other types of illnesses, asthma clusters, and so forth that are causing morbidity and mortality for our communities.

Ms. DEGETTE. And, you know, that is what we have seen as well. And then just to add, the Suncor plant has a huge pattern of air quality violations. And the standard that they had was a standard that the state of Colorado let them set. So, they were complying with their own standard that they set, and what the standard was for was hydrogen cyanide. And I actually introduced Federal legislation to set a Federal standard that people would have to comply with.

And I guess I just want to ask you, how important is real-time monitoring and reporting of pollution if there is an energy infrastructure right next to these neighborhoods, these really vulnerable neighborhoods?

Ms. PATTERSON. Yes, extremely important because, for one thing, you have different times when there is an escalation of emissions. So, we really need to know at all times what is happening at these plants. If there are flaring or peaker plants that are operating at some times and not others, we need to know.

Ms. DEGETTE. We have to look at the cumulative impacts as well, right, of all sorts of pollution?

Ms. PATTERSON. Yes.

Ms. DEGETTE. Recently, I introduced the Clean Energy Innovation and Deployment Act to drive the deployment of clean energy and to also provide assistance to low-income households and help energy workers in communities.

I am wondering, Ms. Prochnik, if you can tell us why it is important to seek environmental justice in communities when we are looking at the transition to a clean energy economy.

Ms. PROCHNIK. It is critical, and thank you for the question. I think the clean energy industry should start with three steps: acknowledging and incorporating environmental justice principles and the fact that racism exists and work to change this; conduct

conclusive policy discussions and change the process and decision making and being more inclusive; and provide needed data to all decision makers so they can make informed choices in planning, standard development, and compliance.

Ms. DEGETTE. Thank you.

I just have one last question.

Ms. PATTERSON, is climate change an environmental justice issue?

Ms. PATTERSON. Absolutely, because we see across the continuum where communities of color, frontline communities, are most impacted, from the pollutants that cause climate change to the impacts of climate change, whether it is shifts in agricultural yields, sea level rise, or disasters. We see how communities, vulnerable communities, politically and economically disenfranchised communities, are deeply impacted disproportionately.

Ms. DEGETTE. Thank you so much.

Mr. Chairman, thank you for having this important hearing. It is really important, and I appreciate it.

I yield back.

Mr. LOWENTHAL. Thank you.

I now recognize Representative Westerman for 5 minutes of questions.

Mr. WESTERMAN. Thank you, Mr. Chairman, and greetings from the front lines of Washington, DC, where I believe congressional business should take place.

There has been a lot of talk about social and environmental justice in this hearing today, two things I think we are all concerned about, and it reminded me of an article that I read a few years ago that Peggy Noonan wrote in the *Wall Street Journal* where she talked about two classes of people in this country. She talked about the protected and the unprotected.

In her words, she said, "The protected are those who make the rules. The unprotected live with those rules."

She said, "The protected are the accomplished, the secure, the successful, those who have power or access to it. They are protected from much of the roughness of the world. More to the point, they are protected from the world they have created. Again, they make public policy and have for some time."

In March of this year, Peggy Noonan did a follow-up to that article, and within 1 day of that, a writer for the *New York Times*, Bret Stephens, he quoted that article, and he talked about not the protected and the unprotected but the remote and the exposed.

And I think that is what we are talking about here today are those people who are on the front lines and those people who are able to work from the basements of their homes who don't have to get out to make a living.

And I wanted to ask Ms. Obed this question. If some of these heavy-handed policies proposed by the left were implemented, what would happen to the hardworking men and women of the Doyon Regional Corporation who are on the front lines every day so we can do our jobs remotely by WebEx from the safety of our office?

Ms. OBED. Thank you for the question, Representative Westerman.

I think Doyon, as an Alaskan Native corporation, makes decisions based on the long term, we don't have quarterly reports. As

an Alaskan corporation, we can't buy and sell their stock, so we make long-term decisions. We really aim to hire our Alaskan shareholders. I actually started at Doyon as an intern years ago, and [inaudible]—

Mr. WESTERMAN. Ms. Obed, if I can interrupt. It is inaudible. If you can answer that and submit it to the record. I think it is just a poor connection. That is one of the problems of doing these types of hearings.

I am going to move on. And talking about the Atlantic Coast Pipeline and looking at it in the light of environmental justice and social justice, let's look at it environmentally. This pipeline was going to be carrying clean domestically produced U.S. natural gas. If you look at the biggest advocacy group for the Appalachian Trail, I would say that is the Appalachian Trail Conservancy, and in an NPR article in February 2020 that I would like to submit for the record, called "The Supreme Court Pipeline Fight Could Disrupt How the Appalachian Trail is Run," the Appalachian Trail Conservancy said that they do not oppose the pipeline.

The group warns that a ruling could upend the complicated structure that allows them to maintain the trail. The Appalachian Trail is being used as a tool to stop it. That was a quote from the Appalachian Trail Conservancy. The Conservancy said that it saw complications from the case as the Forest Service asked them to halt maintenance due to ongoing litigation.

Let's look at it from a social justice standpoint. There were going to be 17,000 well-paying union jobs that were lost because this pipeline would stop. The potential benefits of the Atlantic Coast Pipeline for Union Hill were that the project sponsors created a local development corporation and had prepared to offer \$5 million for projects like a fire station, a health clinic, recreational facilities, and job training for local residents to work on the pipeline. There is currently 10 percent unemployment in the area. The project sponsors were offering well-paying union jobs during the pandemic. Local manufacturing facilities have been able to switch from diesel to natural gas, which would improve the environment. And the list goes on and on, on both the social and environmental justice benefits of this project.

And as the left is taking a victory lap on this project cancellation, I have a question. I guess I could open it to the whole panel, but I want to start with Ms. Prochnik. Given the documented environmental, social, and economic benefits of the pipeline, are you celebrating a victory for the unprotected and exposed who deserve justice or the remote and protected like yourself who got their way on this project?

Ms. PROCHNIK. Thank you, Representative, for the question.

I do think that natural gas is a fossil fuel, and I do think that we need to transition to a clean energy economy.

Mr. WESTERMAN. I want to stop there for just a second.

You can put this in a written statement because you probably don't have time to answer it, but please explain to me—and I am a big supporter of renewable energy—how do you have renewable energy without coal, natural gas, or nuclear power? Now you can carry on.

Ms. PROCHNIK. I would love to provide a written statement, too, with a lot more data and background, but I will point out that it can be done. Renewable energy—

Mr. WESTERMAN. I am an engineer, and I would love to see that. I would love to read that data.

Ms. PROCHNIK. OK.

Mr. WESTERMAN. Renewables are less than 10 percent of the mix right now.

Ms. PROCHNIK. Actually, it is almost 25 percent, and they are very reliable. In the last 5 years, we have realized that renewables provide ancillary services to keep the lights on. And when you combine long duration and short duration storage with renewable energy, you can get to 100 percent clean coal, and the grid will work because we have grid operators.

Mr. WESTERMAN. If you had the storage, which we don't.

Ms. PROCHNIK. And wind and solar, and geothermal and hydro, and we do. Our Nation has wonderful natural resources that are clean that we can use.

Mr. WESTERMAN. Yes.

I am way over time, Mr. Chairman. So, I will let you decide whether you want to let others answer or move on.

Mr. LOWENTHAL. Actually, you each can have a very short answer if you want to ask others, but you are over.

Does anyone else on the panel want to answer that?

Ms. PATTERSON. I would just point to data in terms of the work that comes out of Stanford, I think it is Dr. Mark Jacobson, on some of the scenarios for how we can actually achieve 100 percent renewable, given the technology at hand and the technology that is in the pipeline, so to speak.

Thank you.

Mr. LOWENTHAL. Thank you.

I am going to let the other panelists answer it in a written form because we have gone over.

And I am going to move forward to Representative Huffman. Representative, you have 5 minutes.

Mr. HUFFMAN. Thank you very much, Chairman Lowenthal. And just following on my colleague, Bruce Westerman's interesting questions just now, I am coming to you from Northern California where the lights are actually on in my house, and it is an amazing thing because that is happening with 100 percent clean energy here in Marin County. We have a community choice aggregator, Marin Clean Energy, and, amazingly, they are able to generate electrons using 100 percent clean renewable energy for me and for much of Northern California.

So, there is really no mystery to it, and I know the COVID-19 crisis has canceled a lot of our plans. I had hoped to have Mr. Westerman out to my district for a district exchange as part of the Bipartisan Policy Institute. I now know to include more than just forestry in that visit. I want to show him how we actually have a modern clean energy grid and that we can do this.

So, I appreciate that question.

Mr. Chairman, to the point of this hearing, I think we have a series of recent decisions involving pipelines that highlight the reality that impacts on local communities, as well as basic economics,

are contributing to the movement away from these dirty destructive fossil fuels and away from unnecessary and dangerous pipelines and toward these cleaner energy, climate friendly, and environmentally just practices that many of us want to see.

I also know that this pandemic has, unfortunately, shed a light on deep and pre-existing racial disparities, and I think we have a moment right now to really consider the voices of minority and tribal communities, how they have been disproportionately impacted by harmful fossil fuel pollution and how we can use all of this societal momentum to advance our transition to safe clean energy and to include our public lands in that.

I would like to start, if I could, with a question for Ms. Prochnik. I am interested in the fact that we continue to hear these dismissals of clean energy. You heard it just now—you can't get there from here, you can't balance the grid, the sun doesn't always shine, the wind doesn't always blow. How do these characterizations square with the reality of our increasingly nimble interconnected grid, the magic of me being able to turn on my light switch right over here and to actually power my home and much of the North Coast of California with 100 percent clean energy?

And then, while you are answering that, could you speak to how transmission and an increasingly interconnected grid plays a role in making this magic happen?

Ms. PROCHNIK. Sure. Thank you, Representative.

And it is great that you have solar on your roof, and I hope that more communities can have that benefit because there are still a lot of inequities out receiving renewable energy, but it is great in that we do have clean energy.

As you pointed out, when the wind dies down, grid operators do a fantastic job of moving power around the high voltage transmission systems. They are linked over hundreds of miles on the West Interconnection, for example, moving wind from the Rockies, hydro in the Northwest, solar in the Southwest.

Back when we had the solar eclipse, that was a huge deal in our country, I stood in the control room of Peak Reliability and watched the operators get prepared for watching 9,000 megawatts of solar come off the grid and then watch it come back on. It is amazing during this huge, what could have been an epidemic, there was no blackout. The operators, the agencies, the states, the utilities all worked together for almost a year to prep for this.

We can do this. We have the tools. We have the information. We need to include more people at the table so we can get even better decision making, but we know how to manage the grid, and as we transition, we can do this in a much more reliable way.

Mr. HUFFMAN. I believe during your time at the Department of Energy, you worked on efforts to identify West-Wide Energy Corridors and to do a little bit more preplanning so we could bring more of this clean energy on line and make the grid work without some of these false choices we hear, that you have to have coal and you have to have natural gas.

I would like to ask you what worked and what didn't with that energy corridor project and how updated corridors can help our transition away from fossil fuel.

Ms. PROCHNIK. Thank you for the question.

The clean energy economy will only be successful if it is truly inclusive of all of the communities affected. It is really important that the “Smart from the Start” funding that I mentioned in my testimony from NEPA needs to be inclusive. There were conflicting missions and goals that we as different agencies had to come together on. But we still missed huge areas because we didn’t have all of the resources at the table. So, really incorporating environmental justice principles, frontline communities, and a more diverse group to be part of the planning inclusive is really critical.

Mr. HUFFMAN. I am out of time, but thanks so much for that answer. And thanks for the hearing, Mr. Chairman. I yield back.

Mr. LOWENTHAL. Thank you.

I now recognize Representative Hern for your questions. Welcome.

Mr. HERN. Mr. Chairman, Republican Member Gosar, thank you for this opportunity. Thank all of the witnesses for being here today. While we may disagree totally on some of the positions that are on this Zoom meeting, I certainly appreciate one’s expertise coming to bear.

I do find it interesting that some of the companies that we know as some of our greatest companies in the world, I will use one in particular, one we all know very well in Google, has its largest data server farm in the world literally 30 miles from my house here in what probably many of the folks on this call that are representing California would say is probably one of the dirtiest states in the world. So, it is just sort of interesting how it is literally sitting a thousand yards from a natural gas plant so they have reliable energy, but I digress.

As a Member, as an engineer as well—I am not a forestry engineer as my colleague from Arkansas is—but an engineer who appreciates technology. I am a Member who has stated many times that I have an all-of-the-above approach to energy production. I actually spent most of my life within about 15 miles of a nuclear power plant in Arkansas, so I know the reliability you get there and the importance of how clean that energy is. And my colleague from Arkansas now represents that area, so we have a lot in common.

I am very interested in listening to what you all have to say about energy initiatives and production, but we also have to talk about costs around this. We have had these dialogues before in hearings in the past, and I think it is interesting how we talk about the sustainability, but we don’t talk about the costs, the hard costs associated with what many of the minority in low-income areas would have to pay for these costs, assuming you are not seeking a Federal subsidy or a state subsidy to offset those costs. Because, at the end of the day, as we have talked about many times over in our hearings, it is more costly to do some of these New Green Deal ideas.

As we increase the world’s carbon footprint by pushing production to countries with minimal regulations, as we move folks out, we are not isolated from CO₂ emissions. While we may be lowering, which we have, other parts of the world are making up for that exponentially.

We need to stop making America more reliant on foreign adversaries for energy production as we have talked about changing some of our refineries so that we use more of our fossil fuels here as opposed to bringing in heavy crudes from around the world, to put refined products back out around the world.

All of this is applicable to a bill introduced by Chairman Grijalva in the so-called Environmental Justice for All Act, a veiled attempt by the Chairman to stop American energy production, and my colleagues will claim this bill implements necessary reporting requirements to gauge the health impacts of energy production. What they won't tell you is that the considerations already there are unnecessary as they are already addressed in NEPA, the Clean Air Act, the Clean Water Act, and other applicable statutes.

What they also won't tell you is that these assessments will not consider benefits of proposed energy infrastructure projects, including thousands of well-paying jobs, access to reliable or affordable energy for communities, and the prevention of energy poverty.

The same is true in this hearing today. This is not an effort to find solutions to environmental justice. This is an attempt by Democrats to bash the fossil fuel energy production in America.

And I have a question today for Ms. Obed. Through your work, your business generates economic opportunities for its shareholders through responsible natural resource development. Could you explain these benefits of natural resource development for tribal communities in Alaska?

Ms. OBED. Yes, Representative. Thank you for the question.

At Doyon, we seek to provide benefits to our shareholders through jobs, wages, charitable contributions, donations, and scholarships for education for our future shareholders. Those are the reasons why we have strong shareholder support for a lot of the natural resource development projects that we participate in.

Mr. HERN. Thank you so much.

I appreciate everybody being on here today to express your points of view, and it is great to hear some of the benefits of energy production, and I hope that my colleagues will understand that I see these benefits, too.

Mr. Chairman, as always, I appreciate being with you on the Committee, and I will sell you a razor when we get back.

Mr. LOWENTHAL. Well, thank you. Thank you, Representative Hern. I look forward to being back with you also.

I now recognize Chairman Grijalva for 5 minutes of questions. Welcome, Chair.

Mr. GRIJALVA. Thank you. Thank you for the hearing. I appreciate it very much.

And, first of all, I just want to tell Ms. Rose that I wanted to congratulate her for the recent success of the cancellation of the Atlantic Coast Pipeline. It is good to see her again. I think it is a success story that other people across the Nation could learn from, and her leadership and the coalition that she was a part of took this environmental justice issue of great significance to that community and, with persistence, succeeded. And I just want to congratulate her.

I think that the question that I have, there is no either/or here. There are some important points. Renewable alternative energy is,

like it or not, an inevitability for this Nation. That is the direction we are going. And much of what we see in the decline of fossil fuel in this country, coal being the primary one, has to do with the economies of that extraction of that fuel and the consumer preferences that are going on worldwide and certainly nationwide. And to say that the straits that those companies find themselves in is all a consequence, including the Atlantic Pipeline and the Dakota Access Pipeline, is because of the protests around those issues is disingenuous at best. Now, we have all of these bankruptcies going on across the country from gas, from fracking enterprises, from extraction enterprises, and as they leave, they leave their pollution behind, and they leave the bill to the American taxpayers to have to clean up after them. And I think, when you look at this, it is a much more comprehensive package than a simple either/or.

I wanted to ask, Ms. Patterson, you are probably aware that the failure to comply with the National Environmental Policy Act resulted in the Dakota Access being shut down. Along with my colleague, Representative McEachin, as the Chairman indicated at the beginning of the meeting, we want to introduce the Environmental Justice For All Act. It is not so-called, it is real, and all of us are going to have a chance to deal with it in the near future. And to try to get more public input for major projects, like oil, gas pipelines, in this instance, and begin to address the impacts of environmental discrimination, racism, and to deal with the cumulative effect.

What is your assessment of the bill, and do you think it could have a meaningful impact going forward?

Ms. PATTERSON. Thank you so much.

I think that the bill is absolutely critical, having the communities, as we have seen from my co-panelists, particularly Ms. Rose, that communities know the solutions that work for them, and it is really having communities on the front lines of making the decisions that result in decisions that are the real solutions versus advancing those who aren't of the community making decisions for the community.

So, even when we think about examples like in New York, in response to the heat waves, there was a well-meaning attempt to—recognizing that cooling centers are difficult in this COVID-19 reality, there was a decision to give window units of air-conditioning to communities, but because there was that dialogue, they heard back from the community that that would be great, but we are already suffering from energy burden. So, combined with giving the air-conditioning, they also provided relief for bills. So, those are the kinds of integrated policy making that only results from having community input.

Mr. GRIJALVA. And I think, Ms. Prochnik, let me ask you the same question essentially that Ms. Patterson just dealt with about your assessment of the Environmental Justice for All Act. Have you had that opportunity?

Ms. PROCHNIK. Thank you, Representative. Thank you, Chairman.

I think the clean energy economy—and I agree with Jacqui Patterson because it really is about inclusivity. Clean energy economy will only be successful if it is truly inclusive of all of the

economies affected. For so long energy production delivery has focused on depleting the resources from frontline communities or burning them with health hazards. For example, the Navajo Nation provided land, water, coal, labor and did not receive electricity produced from the land. Some utilities today are starting to right the wrong, but to be more good stewards, we need to demonstrate how the industry is different and how environmental justice principles and community voices must be included.

Mr. GRIJALVA. OK. Thank you very much.

Mr. Chairman, again, thank you. And this is a very important hearing, and I appreciate the witnesses and our colleagues that have shown up. Thank you a lot, I appreciate it.

And I yield back.

Mr. LOWENTHAL. Thank you.

I am going to recognize myself now for the final 5 minutes of questions.

And I am going to preface my statement with—because we are talking about environmental justice, I want to share with you what happened the other night at a community meeting online, which was held by having my neighborhood be responsive—Long Beach is very unfortunate where I live to have our own health department and our director of the health department was there. And the first thing, one of the early things that she said was, on the west side of Long Beach, which is primarily an industrial complex with a lot of stable neighborhoods, primarily neighborhoods, people of color, first generation into our community—it is the home of the Port of Long Beach, lots of the warehouses, distribution centers, all of the rail lines, the freeways that lead in and out of the port with large numbers of truck traffic. And I was struck when she said the life expectancy of someone on the west side of Long Beach is a little over 69 years. And then she said when you are talking about on the east side of Long Beach, the life expectancy of a new child is 86 years. That means just a few miles away from me, a child already starts with a life expectancy difference of 17 years.

That is unconscionable. I have not been able to get that out of my mind for the last week or so. It brings it home to me we have this responsibility to ensure that as we do new development, new energy, that we make sure that we do not repeat some of the mistakes of the past and make it such that impacts—I am not saying that people do it deliberately or not.

I do know that, Ms. Patterson, that you have another appointment and you need to depart in 1 minute from this hearing. I just want to ask you one quick question. We are talking about reducing pollution, helping environmental justice communities, primarily low-income minority communities. Can we do that in Congress through voluntary actions, or do we really need to have State and Federal Government engage in more regulatory action? I would like to hear your opinion quickly.

Ms. PATTERSON. Thank you. Yes, we absolutely need to have mandatory action. Our advocacy has been around renewable portfolio standards that are mandatory, energy efficiency resource centers that are mandatory, recognizing that without having that kind of compelling legislation, that we won't make the aggressive shifts that we need to make to take the toxic pollution out of these

communities and shift us to a new energy economy that provides the energy that we need while protecting the health and well-being of communities that are currently in harm's way.

Mr. LOWENTHAL. Thank you.

And you may leave the meeting. I know you have to leave.

Ms. PATTERSON. Thank you.

Mr. LOWENTHAL. I would now like to turn to Ms. Rose. First of all, I want to thank you for your long-term commitment and activism as a volunteer, someone in your community who, as you say, you moved to this community to retire, and look what happened. You became a community activist. And I want to know, what was the pressure? We have heard for years about the needs to rush the Atlantic Coast Pipeline because we have a dire need for more natural gas. As a local resident, did you feel that pressure, that there was some sort of rush to get this pipeline approved and it would be better for you just to get out of the way because of this?

Ms. ROSE. Thank you for the question. Dominion Energy always told us through their mailings, through their informational meetings, TV ads, and even a few meetings they had in Union Hill, after we raised the poverty awareness here, that the gas was needed, would bring jobs and would be inevitable. It was as if the pipes were already in the ground. Some people believed this, and so they did not feel they could resist it.

Mr. LOWENTHAL. Thank you for that. So, you did feel the pressure?

Ms. ROSE. Yes.

Mr. LOWENTHAL. I am really at the end. I have many more questions, but I will submit them in writing. I want to thank all the panelists. I want to thank all the witnesses. I have found this to be an extremely productive hearing, and I like the attitude between all of us, even when there were disagreements, that we dealt with this in a very positive, congenial manner.

So, with that, I want to say that there is no further business—

Mr. WESTERMAN. Mr. Chairman?

Mr. LOWENTHAL. Yes.

Mr. WESTERMAN. Mr. Chairman, I have some items to submit for the record.

Mr. LOWENTHAL. Without objection.

Mr. WESTERMAN. I will start with some articles that highlight that access to natural gas continues to be a challenge for some minority communities because there is not yet pipeline infrastructure connecting those communities to natural gas.

The first article is a *Chicago Tribune* article, dated December 2019, titled, "Residents of impoverished Pembroke Township live without natural gas heat. Now Jesse Jackson is joining the push to bring a pipeline to the community."

The second article is an *Axios* article entitled, "Inside Rev. Jesse Jackson's push for natural gas pipeline," from May 2020.

I would also like to submit for the record a lawsuit filed by a group called The Two Hundred. I think my California colleagues will recognize that group. I believe it is led by a Democratic California assemblyman. It is an organization that works on affordable housing issues, and the lawsuit is against the California Air Resources Board. In 2018, the suit argued that California's climate

policies, including a net zero requirement for all housing projects for construction for operation, were hurting the ability of low-income Californians to obtain affordable housing and driving up the cost of transportation.

Also, I have some charts here from the U.S. Energy Information Administration. It may be hard to read, but this little green slot shows that of all energy consumption, a whopping 11 percent of that was from renewables. And you know I am a huge fan of renewables, especially biofuels. And 43 percent of that 11 percent came from biomass.

And then I also have this additional chart that shows that of all electrical generation, there was less than 10 percent that came from solar and wind.

And, finally, without objection, I would like to submit a documentary by an icon of the left, Michael Moore, called the “Planet of the Humans” that delves into the fallacy behind reducing all carbon emissions by going to things like electric vehicles.

Mr. LOWENTHAL. Without objection, they are now submitted into the record.

Mr. WESTERMAN. Thank you, Mr. Chairman.

Mr. LOWENTHAL. Again, the members of the Committee may have some additional questions for the witnesses, and we will ask you as the witnesses to respond to these in writing. Under Committee Rule 3(o), members of the Committee must submit their witness questions within 3 business days following the hearing, and the hearing record will be held open for 10 business days for these responses.

If there is no further business, without objection, this Committee stands adjourned.

[Whereupon, at 2:36 p.m., the Subcommittee was adjourned.]

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE COMMITTEE’S OFFICIAL FILES]

Submissions for the Record by Rep. Westerman

1. NPR Article—Supreme Court Pipeline Fight Could Disrupt How The Appalachian Trail Is Run, Becky Sullivan, February 21, 2020:
<https://www.npr.org/2020/02/21/807417611/supreme-court-pipeline-fight-could-disrupt-how-the-appalachian-trail-is-run>
2. Documentary—“Planet of the Humans” by Michael Moore:
<https://planetofthehumans.com/>
3. EIA chart—Renewable energy explained:
<https://www.eia.gov/energyexplained/renewable-sources/>
4. EIA data—What is U.S. electricity generation by energy source:
<https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>

5. Chicago Tribune article—Residents of impoverished Pembroke Township live without natural gas heat. Now Jesse Jackson is joining the push to bring a pipeline to the community. John Keilman, December 2019:
<https://www.chicagotribune.com/news/breaking/ct-pembroke-nicor-gas-jackson-20191217-3lxvyxklwvgshfbxznbh3t5ggy-story.html>
6. Axios Article—Inside Rev. Jesse Jackson’s push for a natural gas pipeline. Amy Harder, May 2020:
<https://www.axios.com/jackson-natural-gas-3e1af88d-a823-4096-975d-c9b0ad207806.html>
7. Lawsuit filed by “The Two Hundred” against the California Air Resources Board (CARB) in 2018, Superior Court of the State of California, Case No. 18CECG01494:
http://www.thetwohundred.org/wp-content/uploads/2018/07/Complaint_signed.pdf

