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CLEAN POWER PLAN 2.0:

EPA'S LATEST ATTACK ON AMERICA'S ELECTRIC RELIABILITY

TUESDAY, JUNE 6, 2023

House of Representatives,

Subcommittee on Environment, Manufacturing,

and Critical Minerals,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to call, at 10:30 a.m., Room 2322, Rayburn House Office Building, Hon. Bill Johnson [chairman of the subcommittee], presiding.

Present: Representatives Johnson, Carter, Palmer, Crenshaw, Joyce, Weber, Allen, Balderson, Fulcher, Pfluger, Miller-Meeks, Obernolte, Rodgers (ex-officio); Tonko, DeGette, Schakowsky, Sarbanes, Clarke, Ruiz, Peters,

Barragan, and Pallone (ex-officio).

Also present: Representative Duncan.

Staff Present: Sarah Alexander, Professional Staff Member, Energy and Environment; Kate Arey, Digital Director; Sarah Burke, Deputy Staff Director; Sydney Greene, Director of Operations; Jack Heretik, Press Secretary; Nate Hodson, Staff Director; Tara Hupman, Chief Counsel; Sean Kelly, Press Secretary; Peter Kielty, General Counsel; Emily King, Member Services Director; Mary Martin, Chief Counsel, Energy & Environment; Jacob McCurdy, Professional Staff Member, Energy; Kaitlyn Peterson, Clerk, Energy and Environment; Karli Plucker, Director of Operations (shared staff); Carla Rafael, Senior Staff Assistant; Emma Schultheis, Staff Assistant; Olivia Shields, Communications Director; Peter Spencer, Senior Professional Staff Member, Energy; Michael Taggart, Policy Director; Dray Thorne, Director of Information Technology; Timia Crisp, Minority Professional Staff Member; Waverly Gordon, Minority Deputy Staff Director and General Counsel; Anthony Gutierrez, Minority Professional Staff Member; Caitlin Haberman, Minority Staff Director,

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Environment, Manufacturing, and Critical Materials; Mackenzie Kuhl, Minority Digital Manager; Kylea Rogers, Minority Policy Analyst; and Rebecca Tomilchik, Minority Junior Professional Staff Member.

*Mr. Johnson. The Subcommittee on Environment, Manufacturing, and Critical Materials will now come to order.

The chair now recognizes himself for five minutes for an opening statement.

Well, again, good morning, and welcome to today's hearing titled, "Clean Power Plan 2.0: EPA's Latest Attack on America's Electric Reliability.''

Since day one, President Biden has jeopardized America's energy security by pushing a "whole of government climate agenda'' that increases energy costs, degrades energy reliability, and harms our economic and national security. At the forefront of this regulatory onslaught is the EPA's recent announcement proposing expensive and unproven greenhouse gas emissions standards on electric generating units, particularly coal and natural-gas-fired power generation, which alone make up 60 percent of America's electric generation capacity.

Under the Biden Administration's Clean Power Plan, existing coal-fired generation must either, one, limit its capacity factor to 20 percent; co-fire with 40 percent natural gas; or capture 90 percent of its carbon dioxide with

carbon capture technology. Similarly, natural-gas-fired power generation must either, by varying dates, co-fire with 30 percent clean hydrogen; or install carbon capture and sequestration and co-fire with over 90 percent clean hydrogen.

Now, this sounds great, except the devil is in the details. These requirements on this timeline -- and let me emphasize "on this timeline'' -- experts tell us are infeasible and technically unattainable if the grid is to remain operational. That is a big problem, and I look forward to hearing more about this today.

I do wonder, though: Is that by design?

We are starting down a path to severe grid reliability challenges throughout the country. In fact, a case could be made that we are already there. Just a few months ago, the nation's largest grid operator, the PJM Interconnection, whose service territory covers the entire State of Ohio, released a report noting it could face severe generation capacity shortfalls by 2030. The report specifically noted that existing EPA regulations, including the coal combustion residuals, the good neighbor rule, and the effluent

limitation guidelines are all reasons for this potential capacity shortfall.

Add all this new regulatory attack on baseload generation to that list, even though the proposal is not finalized, it sends signals to the market that investing in new gas-fired power generation or keeping existing units operating through their service life is not economically feasible.

In addition, the North American Electric Reliability Corporation, in its annual summer reliability assessment, warned that the vast majority of the country is at elevated risk of insufficient operating reserves during above-normal demand this summer -- not 2030, this summer. Let me emphasize that.

This isn't happening by accident. These electric reliability challenges are a direct result of onerous climate regulations favored by many congressional Democrats and the Biden Administration. The Biden Administration has no plans to ensure more reliable generation capacity is connected to the grid.

Due to the intermittent nature of renewable energy, a

megawatt of wind or solar is fundamentally not the same as a megawatt of coal, nuclear, or natural-gas-fired generation. That is science folks, it is not -- it is a fact. Yet the Biden EPA insists on regulating reliable sources of energy out of existence.

The proposed regulation is another attempt by the environmental left to fundamentally change our nation's electric generation portfolio. This is -- this blatantly contradicts a state's right to choose its own electric generation mix, which is a core component of the Federal Power Act.

We saw what happened last time they attempted to regulate natural gas and coal out of existence. In a landmark decision in West Virginia versus EPA, the Supreme Court found that such sweeping regulations by the Federal Government failed the Major Questions Doctrine, which states that an action of major national importance must have explicit direction from Congress. EPA had no such authority then, and it has no such authority now to transform our electric sector.

I am also concerned about the process by which this

proposed regulation was developed. According to numerous reports, the EPA submitted an original proposal to the White House for review that did not include regulations on existing natural-gas-fired generation. But after the White House had a chance to review, the EPA reportedly revised the rule to put existing natural-gas-fired generation in their crosshairs.

They took this extreme action in spite of the fact that natural gas makes up roughly 40 percent of our electric generation portfolio, and is the primary driver behind emissions reductions in the electric power sector. This is further proof that this Administration is interested in nothing else but decarbonization. Consumer costs and energy reliability and resilience are afterthoughts in their pursuit of a zero-carbon electric grid and a net-zero economy.

Thank you to our witnesses for being here today, especially Mr. O'Loughlin and Mr. Snitchler, who hail from the Buckeye State.

Thank you both for being here.

I look forward to hearing from each of our witnesses on the harmful effects this proposed regulation will have on our

energy sector reliability, resiliency, and affordability.

[The prepared statement of Mr. Johnson follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. And with that, I yield back and I recognize the ranking member from New York, Mr. Tonko, for his opening statement.

*Mr. Tonko. Thank you, Chair Johnson, and thank you to our witnesses for attending today.

Under the Clean Air Act, EPA has a responsibility and an obligation to protect Americans' public health and the environment from air pollution, and this does include carbon pollution.

As we know, the power sector is the second largest source of greenhouse gas emissions in our United States. Many of the coal-fired power plants that we will hear about today will have been operating for over 60 years by the time EPA's proposed rule would require them to take any compliance action. During those decades they have been able to emit limitless carbon pollution without consequences. Now, do my Republican colleagues truly believe these plants should continue to be able to pollute at these levels for as long as possible?

Section 111 of the Clean Air Act allows the agency to establish standards of performance. Those standards are for

new and existing electric generating units. EPA has successfully used this authority to reduce air pollution since the 1970s, and each time regulated entities have found cost effective methods by which to comply with reasonable -- and with reasonable standards. This proposed rule will be no different, but today I expect we will hear misrepresentations of what is included in the proposal, and fearmongering about how it will jeopardize grid reliability.

So I would like to be clear about what is actually in the proposed rule.

First, the rule is reasonable. It is a far cry from a government takeover of our power sector. On the contrary, it is based on existing market trends, which include significant coal plant retirements for economic reasons and increased deployment of renewables. This is ultimately a modest rule that builds upon the Inflation Reduction Act, which will further support cost effective compliance with the proposed standards.

Second, this proposal provides ample flexibility to entities. The rule has proposed to regulate generating units by subcategories, taking into consideration a variety of

factors such as the size of units, when units plan to retire, and just how often units intend to operate. It acknowledges that, depending on the date of retirement, the cost effectiveness of pollution controls will change.

Therefore, units planning to shut down within the next 15 years will need to take less stringent steps to comply, and some units will not need to do much of anything at all. This will avoid stranded assets from the installation of pollution controls on power plants that will not operate for long enough to make those investments recoverable.

The proposal also allows for several pathways for compliance, and does not dictate a specific type of pollution control strategy. Some units may choose to pursue carbon capture, others may adopt hydrogen co-firing, and it provides ample timelines by which they can strive for compliance, which will allow utilities and grid operators to make those long-term plans.

Third, this proposal is targeted. The most stringent emissions controls will only be required on a small number of the largest and, indeed, most-polluting power plants. These are disproportionate polluters: 28 percent of power sector

emissions come from just 45 facilities that provide only 11 percent of our nation's power. This rule intends that the most polluting sources of carbon pollution take greater action to reduce that pollution, and it ensures that smaller units, which may have a role to play in grid balancing as we achieve a cleaner electricity mix, are able to continue to operate. For example, existing gas peaker plants, which do not run as often, will likely not be covered at all.

Finally, I want to say a word on reliability. Despite this rule being incredibly different from the Obama Administration's Clean Power Plan, many of the attacks against it remain unchanged. Back then we also heard scare tactics that the rule would threaten reliability. What happened instead? Before the rule would have even gone into effect, market trends enabled nearly every state to achieve the 2030 goals of the proposal. Just like then, today members are vastly underestimating just how quickly our electricity system is becoming cleaner, and how quickly pollution control technologies will become cheaper.

Now, there certainly are steps Congress should take to strengthen the reliability of our electric grid.

Unfortunately, our Republican colleagues missed a huge opportunity by failing to agree to any serious transmission policies as part of last week's debt ceiling agreement. We could have taken meaningful, common-sense steps to strengthen transmission connections between and amongst regions. This definitely would have enhanced grid resilience in the short term, as we face increasing numbers of extreme weather events, and the long term, as our electricity mix continues to change.

Mr. Chair, I believe, despite what we will hear today, EPA has taken a sensible, flexible, targeted, and certainly achievable approach to reduce emission from some of the largest carbon polluters in our country. I do look forward to today's discussion. But more importantly, I look forward to EPA finalizing this proposal.

[The prepared statement of Mr. Tonko follows:]

**********COMMITTEE INSERT**********

*Mr. Tonko. And with that, Mr. Chair, I yield back.

*Mr. Johnson. The gentleman yields back. The chair now recognizes the chair of the full Committee on Energy and Commerce, Mrs. McMorris Rodgers, for five minutes for an opening statement.

*The Chair. Thank you, Mr. Chairman. Thank you to our witnesses.

Energy is foundational to everything we do, and America's ability to harness it through innovation and entrepreneurship has completely transformed the human condition.

Energy powers our economy, and it is why America is leading lifting people out of poverty and raising the standard of living. And we have achieved this while being the leader in emissions reduction and maintaining some of the highest environmental and labor standards in the world.

In order to build on this remarkable legacy, we must continue to innovate and take advantage of our abundant natural resources for a diverse energy mix. Today, however, more and more people in America are being forced to face the threats of blackouts and brownouts. This is happening across

the country. In California, rush-to-green policies are driving out baseload and dispatchable generation in exchange for less reliable weather-dependent substitutes. This crisis is playing out in Texas, too, where over-reliance on weather-dependent sources has limited its capacity to endure severe regional weather.

Last year, the American -- North American Reliability Corporation [sic], NERC, warned that more than half the nation was at an elevated risk of forced blackouts during the summer. This year NERC is projecting that number will be roughly two-thirds of the nation.

The reliability of our electric grid is essential to America's health and safety. Rushing to dismantle our nation's electricity generation is not how we improve people's lives and well-being. Yet the EPA has sought to use the Clean Air Act to restructure the American power sector by shutting down coal-fired power plants and shifting electricity generation to weather-dependent sources.

These efforts to transform the nation's electricity system would have damaging and lasting effects on reliability for Americans across the country, and would go well beyond

the EPA's congressionally mandated authority. The Supreme Court ruled just that in West Virginia versus EPA when it found that the EPA's efforts to circumvent Congress and restructure the U.S. power sector through the Clean Air Act were unconstitutional. Given the court's ruling, the EPA must be completely transparent with the public about how its sweeping new rules would jeopardize the reliability of our electric grid and shut down our economy.

This morning the committee sent a letter to the EPA Administrator Regan, demanding the agency extend its comment period for the proposed greenhouse gas and power plant rules. The EPA is setting a strict, costly, and untested standard on both new and existing natural gas generators and remaining coal generators, and the agency is doing it on an extremely fast compliance timeline. This is unacceptable. This complex proposal would affect the entire U.S. coal-generating fleet, all future natural gas power plants, as well as existing plants producing more than 300 megawatts of power. These changes will have a chilling effect on American natural gas, which is critical for generating electricity across the country. It will make life more expensive across the board.

It is clear these profound changes sought by the EPA pose risk to the structure of our entire electric generation and energy mix. The comment period on the proposal should be extended to enable stakeholders time to evaluate and respond fully.

In order to ensure the American people have access to affordable, reliable energy to keep them safe, fed, and warm, it is vital that we, the committee of jurisdiction, understand and take actions to address the EPA's proposals and what they mean for the nation's electricity systems, as well as Americans -- America's energy leadership. That is our goal today.

[The prepared statement of The Chair follows:]

**********COMMITTEE INSERT**********

*The Chair. And I thank the witnesses for being here, and I look forward to our discussion. I yield back.

*Mr. Johnson. The gentlelady yields back. The chair now recognizes the full committee ranking member, Mr. Pallone, for five minutes for an opening statement.

*Mr. Pallone. Thank you, Chairman Johnson.

Today we will be discussing the EPA's recently proposed new carbon pollution standards for fossil fuel power plants. This proposal is long overdue, and is critical to reducing dangerous air pollution, fighting the worsening climate crisis, and protecting communities across the nation. It builds on the climate and public health investments President Biden and congressional Democrats made with the Inflation Reduction Act, and it is necessary now because the power sector is the second largest source of climate pollution in the United States, yet these power plants are still allowed to spew carbon pollution without any oversight.

I think most Americans would be surprised to hear that right now there are no limitations on how much carbon pollution these power plants can emit. It simply defies logic when you consider that, week in and week out,

communities around the nation are devastated by extreme weather events made worse by the climate crisis: lives are lost; homes and livelihoods are destroyed.

Power plants are the single largest industrial cause of global warming in the United States. They make up 25 percent of all carbon pollution nationwide. With fossil fuel power plants being such a significant tributary to dangerous air pollution that only exacerbates the worsening climate crisis, these proposed standards are an important complementary action that will benefit all Americans, as well as our environment and our economy.

Now, the EPA's proposal will finally set necessary emission limits and guidelines for carbon pollution from new and existing fossil fuel power plants. It will cut dangerous carbon pollution and dramatically improve public health, particularly for communities already overburdened by air pollution. And this is critical to our ongoing efforts to safeguard clean and safe air for all Americans.

The proposal is estimated to avoid up to 617 million metric tons of total carbon dioxide through 2042. That is equivalent to the annual emissions of roughly half of the

cars in the United States. And within the same timeframe, EPA projects that the proposed standards will result in up to $85 billion in net climate and health-related benefits. We are going to save billions of dollars because Americans will be healthier, thanks to this proposal's reductions in carbon pollution.

Now, these are significant benefits, but my Republican colleagues would rather ignore them as they continue to push their polluters-over-people agenda. They have no problem letting dangerous air pollution go unchecked. In fact, they are opposed to this proposal. So today we will undoubtedly hear arguments from the Republican majority about how EPA's proposal is illegal, will shut down power plants and turn off the lights. We have heard these claims before, and none of them are true. In fact, they get rolled out whenever this or any administration acts on air pollution or the climate crisis.

Now, take the critical investments included in the Bipartisan Infrastructure Law and the Inflation Reduction Act to upgrade our nation's power infrastructure, strengthen the grid, and cut power sector pollution with clean energy tax

credits. Just because none of my Republican colleagues here today voted for these laws doesn't mean they don't get -- exist. They did get enacted. The truth is the market, bolstered by these few -- by these key Federal investments, is already driving changes in the power sector. And EPA's proposal merely builds on this existing momentum. Republicans are simply not interested in finding solutions to our carbon pollution problems. They are not interested in developing a plan to help us reduce emissions while still maintaining a safe, reasonably-priced electricity system.

The Clean Air Act is clear. EPA has both the authority and obligation to protect Americans from dangerous carbon pollution, and Republicans have not offered any practical solution to address the serious threat of air pollution and the climate crisis. Frankly, I think the Republican policy of just say no to any climate action is just getting old.

In my opinion, the EPA's proposal, combined with the historic climate investments Democrats made last Congress, will put us on track to cleaner air, better health, a safer climate, and a stronger economy.

[The prepared statement of Mr. Pallone follows:]

**********COMMITTEE INSERT**********

*Mr. Pallone. And with that, Mr. Chairman, I yield back the balance of my time.

*Mr. Johnson. The gentleman yields back. We now conclude with member opening statements. The chair would like to remind members that, pursuant to the committee rules, all members' opening statements will be made part of the record.

We want to thank all of our witnesses for being here today and taking the time to testify before our subcommittee.

Each witness will have the opportunity to give a five-minute opening statement, followed by a round of questions from members.

Our witnesses today are Mr. Patrick O'Loughlin. He is president and CEO of Buckeye Power and Ohio Rural Cooperatives. Welcome.

Mr. Todd Snitchler is president and CEO of the Electric Power Supply Association, or EPSA.

Mr. Jay Duffy is litigation director with the Clean Air Task Force.

And Mr. Michael Nasi is a partner with the Jackson Walker law firm.

We appreciate you being here today. We will now recognize Mr. O'Loughlin for five minutes to give an opening statement.

STATEMENT OF PATRICK O'LOUGHLIN, PRESIDENT AND CEO, BUCKEYE POWER INC. AND OHIO RURAL ELECTRIC COOPERATIVES; TODD SNITCHLER, PRESIDENT AND CEO, ELECTRIC POWER SUPPLY ASSOCIATION (EPSA); MICHAEL J. NASI, PARTNER, JACKSON WALKER; AND JAY DUFFY, LITIGATION DIRECTOR, CLEAN AIR TASK FORCE

STATEMENT OF PATRICK O'LOUGHLIN

*Mr. O'Loughlin. Thank you, Chairman Johnson.

Buckeye Power operates as a not-for-profit electric cooperative owned by and serving 25 electric distribution cooperatives that provide electric service to approximately 1 million Ohioans. Ohio Electric Cooperative members are largely residential, and generally living in rural and lower-income parts of the state.

Buckeye owns and operates a diverse set of generating resources to meet the power demand requirements of our members reliably and economically every hour of every day, during normal weather, and during extreme weather events. Today we use coal, natural gas, hydropower, biogas, and solar generation, coordinated with an extensive demand response

program to achieve this mission.

Buckeye Power has invested more than $1 billion in environmental control technologies over the last 20 years, and achieved not only full compliance with all current environmental regulations, but truly state-of-the-art emission reductions.

Today, however, our electric power system is already straining to provide reliable, continuous service. Throughout the country we are experiencing supply emergencies any time there is an extreme weather event. The demand for electricity is continuing to increase, and is expected to increase at an even faster pace as more and more end uses are electrified, especially the growing demand for electricity to fuel our transportation needs.

New generation editions in recent years have been limited almost exclusively to natural gas, wind, and solar, but they have not kept pace with the rapid and disorderly retirement of coal-fired generation over this period. Reliability challenges have continued to grow as that always-available generation is increasingly being replaced by intermittent renewable sources. These retirements and many

more expected in the coming years have largely resulted from a never-ending flood of environmental regulations.

EPA's existing 2020 wastewater discharge rule has caused several more plants to plan to retire by 2028. EPA has since proposed a new wastewater rule that creates even greater hurdles to continued operation.

The proposed greenhouse gas rule for power plants forces unproven emission control concepts on power plant operators in unrealistic timeframes. If enacted, it will jeopardize nearly every coal-fired power plant by 2039 and, in fact, most by 2030. Buckeye Power will likely be required to shut down all of our coal units by 2030, which currently supply more than 80 percent of our annual energy requirements, and we have nearly no hope of replacing this generation within that short timeframe.

Carbon capture for coal-fired power plants has not been proven on more than a portion of the flue gas at a few sites, and has not been able to operate on a continuous basis at the required removal rates that EPA proposes. Large-scale carbon capture projects cannot be permitted, designed, procured, and installed on more than a few units -- being those that are

already in advanced design stages today -- by the 2030 deadline EPA requires in order for continued operation.

The more than 500-page rule follows 3 other major environmental rules either proposed or finalized by EPA aimed at fossil-fired power plants just this year, all with somewhat questionable support from both an economic and technical viewpoint.

We are a small company. Our entire office staff is about 80 people charged with running a generation transmission utility to meet our members' needs. We are not a regulatory review company, yet we are forced to review and comment on these very significant regulations in only 60 days. Our company and our member consumers can't afford to implement full-scale science experiments at our production facilities.

We all need a reliable electric system for our safety, security, and well-being. We can and have implemented large-scale environmental improvements at our power plants when we have commercially available technology that has been demonstrated at a reasonable cost. This proposed rule ignores these needs that a well-functioning electric system

requires.

Thank you for having me here today, Chairman.

[The prepared statement of Mr. O'Loughlin follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. The gentleman yields back.

The chair now recognizes Mr. Snitchler for your five minutes.

STATEMENT OF TODD SNITCHLER

*Mr. Snitchler. Good morning, Chairman Johnson and the committee. Try that again. Good morning, Chairman Johnson, and to the committee. Thank you for the opportunity to appear before the subcommittee this morning.

EPSA is the national trade association representing America's independent power producers that compete every day in regions operating competitive wholesale markets. I would like to note that my testimony represents the position of EPSA, and not necessarily the review -- the views of any particular member.

EPSA members own and operate generating assets which account for roughly 20 percent of the nation's installed capacity. Those assets include nearly 115,000 megawatts of natural-gas-fired generation. Members also own and operate nuclear, wind, solar, battery storage, and coal resources.

EPSA's members have a deep commitment to the electric grid and its reliability, and strongly support the clean energy expansion. However, as -- even as this energy expansion takes place, we cannot lose sight of job number

one, which is to ensure reliability of the system.

To ensure reliability, the energy expansion must be done by augmenting investment in clean resources with an appropriate attention to dispatchable resources, and not simply ignoring the impacts of efforts to drive dispatchable resources from the grid.

I would like to highlight a few key aspects from my testimony.

First, natural gas generation is critical, and a critical component to electric grid reliability, and will only increase in importance as variable weather-dependent resources become a greater part of our generation mix. In the coming years, natural gas generation will be even more important to our electric grid reliability in an era of evolving climate priorities.

As the nameplate capacity for wind and solar resources on the electric grid increases, the potential volatility of real-time renewable energy production increases, as well. Grid operators will need sufficient dispatchable resources like natural gas that can serve as a balancing resource as renewable energy output rises and falls. The most prominent

voices highlighting reliability concerns are NERC, FERC, and the grid operators themselves: neutral, independent parties with a great understanding of the threats facing the electric grid.

Second, electrification policies are only going to increase demands on the power grid at a time when state and Federal policies and regulations are driving existing dispatchable resources off the system. The electric grid expansion is not about a static level of demand being met by dynamic generation resources. Electrification policies are going to continue to increase demand for additional electricity generation. That means we will need more resources, not less, and those resources will have to complement each other to deliver on the goal of reliability.

Third, innovative technologies like carbon capture and sequestration, long duration electric storage, and hydrogen co-firing are promising, but are not yet commercially ready for widespread adoption. Some who would dismiss concerns about the loss of both natural gas and coal generation cite advancements in both long duration battery storage and CCS technologies to calm fears about reliability. It is

important to note that, as of June 2023, not a single commercial power plant in the United States uses CCS technology, and there are no megawatts of long duration, multi-day battery storage interconnected to the bulk power system. Co-firing hydrogen with natural gas to reduce carbon emissions is another developing technology that shows promise, yet does not have significant commercial adoption today.

Under the proposed rule, these technologies will be the key pieces needed to ensure reliability. However, despite not being widely used, there is an intense rush to disconnect existing resources vital to economic -- to electric grid reliability on the assumption that these not-yet-available technologies will be available when they are needed.

The voices seeking to dismiss reliability concerns by arguing the electric industry has always been able to meet policy demands and ensure power is reliable ignore the specifics of the current situation, and directly contradict the reliability concerns voiced by NERC, FERC, and the grid operators.

Our concern is that the EPA's proposed rule once again

puts aspirational policy goals ahead of operational reality. If finalized, these proposed rules will likely lead to power plant retirements or reduced availability due to operational limits at a time when reliability coordinators and regulators have warned that our nation is already facing a reliability crisis due to the accelerated retirement of dispatchable resources.

EPSA's members maintain a strong commitment to reliability, and stand ready to help the nation meet its reliability and growing energy needs while enabling the coming energy expansion.

Thank you for the opportunity to be here, and I look forward to your questions.

[The prepared statement of Mr. Snitchler follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. The gentleman yields back.

The chair now recognizes Mr. Duffy for five minutes.

STATEMENT OF JAY DUFFY

*Mr. Duffy. Thank you, Chairman Johnson, Ranking Member Tonko, and honorable members of the committee. My name is Jay Duffy. I am the litigation director at Clean Air Task Force, a non-profit organization. I have been an attorney with CATF for 10 years, working on the rules that we will be talking about today.

CATF's mission is to push the technology and policy changes needed to achieve a zero-emissions, high-energy planet at an affordable cost. In furtherance of that mission, CATF advocates for and defends strong pollution control standards for power plants.

A series of listings, findings, and rulemakings made pursuant to congressional instructions in the Clean Air Act require EPA to set standards and emission guidelines for greenhouse gases from fossil-fuel-fired power plants.

The Clean Air Act is technology forcing and forward looking, and its standards of pollution are based on pollution controls that the administrator determines are adequately demonstrated and cost reasonable.

The Supreme Court recently spoke more favorably about traditional, at-the-source pollution controls that are cost reasonable and cause a power plant to operate more cleanly. But a pollution control need not be on every street corner in order to be the basis of standards. Standards have been upheld on the basis of pilot control technology, test programs, operation of one-plant vendor information, and the performance of controls in other industries.

History shows that pollution control options can be developed, available, and cost reasonable, yet sit on the shelves gathering dust until some regulation or incentive pushes or pulls an industry to reduce their pollution. Accounting for the changing role and trajectory of the regulated power plants and the recent limits imposed by the Supreme Court, EPA has undertaken its job, as defined by Congress in the Clean Air Act, and it has proposed emission standards and guidelines for greenhouse gases from existing and new power plants. The proposal can and it should be strengthened, but the core elements of the proposal are strong.

It is key to reality: coal plants are retiring;

overall, fossil plants are running less; and they are supporting an increasingly renewable grid; pollution control costs are coming down, both due to learnings through the industry and advancements and incentives passed by Congress.

Generally, EPA's proposal provides a pathway for older plants that are approaching retirement and plants that do not operate as much to control their pollution based on fuels and efficiency. And let's be clear: As proposed, that is the majority of the fleet.

Irrespective of this rule, EPA's model projects that coal-fired generation capacity will fall from 100 gigawatts in 2028 to 33 gigawatts in 2035, and that 84 percent of new and existing gas units will fall into the proposed low and intermediate subcategories with less stringent standards. But for those baseload power plants that are operating the most and polluting the most, EPA proposes that they meet an emission limit commensurate with carbon capture and sequestration or hydrogen co-firing.

EPA first found CCS adequately demonstrated and cost reasonable in 2015 for new coal-fired power plants. Post-combustion capture has only become more cost reasonable,

widespread, and proven since that time. When EPA set standards based on sulfur scrubbers in the 1970s, there were only 3 units in operation, and 1 vendor for the technology. After regulation, the technology was successfully deployed, cost declined, and the control became the industry standard.

At least 13 vendors have done significant testing, and offer carbon capture and pollution standard -- carbon capture pollution controls specifically for coal and gas-fired power plants. And carbon capture has been -- or CCS -- has been installed and proven on two large-scale coal-fired power plants, and carbon capture is currently operating on three coal-fired power plants in the United States.

The Bellingham Natural Gas Combined Cycle Plant demonstrated post-combustion capture from 1991 to 2005, capturing 85 to 95 percent of its CO2 emissions. There are also several FEED studies that determine the technical and economic feasibility of applying post-combustion capture to coal and gas-fired power plants. Due to learning by doing and the 45Q tax credits, EPA found the cost of CCS even more reasonable now than they did in 2015, and it is well below the cost of sulfur scrubbers, a comparable pollution control.

EPA's record to support standards based on CCS is robust, and more than sufficient for the purposes of a forward-looking and technology-forcing statute.

The impacts of this proposal are modest and manageable. Several overlapping layers of security are in place to ensure that we do not need to choose between public health and reliable electricity.

Thank you for inviting me to this important hearing. I look forward to the discussion.

[The prepared statement of Mr. Duffy follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. The gentleman yields back.

The chair now recognizes Mr. Nasi for five minutes.

STATEMENT OF MICHAEL J. NASI

*Mr. Nasi. Thank you, Chair Johnson, Ranking Member Tonko, and members of the subcommittee. My name is Mike Nasi of the Austin office of Jackson Walker, and thank you for the opportunity to testify today regarding EPA's new section 111(b) and (d) new carbon rule for new and existing power plants.

As an environmental lawyer who has celebrated the success of the Clean Air Act in classes, businesses, and companies alike, I regret that the rule reflects a recent trend by EPA to act as an energy policymaker, as opposed to an environmental regulator.

As a practitioner with 28 years in the power sector and 20 years in CCS development, I am aware of the promises and the challenges we face in CCS. I am also involved in hydrogen projects, so I am no stranger to their promise or problems, either. It is with that background that I come before you today to express concerns about EPA's new carbon rule, and to point out the immediate and lasting impacts it will have on our nation's grid, our economic security, and

the rule of law.

In my written testimony I spend some time giving a sense of the risky state of the electric grid, because it is essential that we have that in mind when we enter into a discussion about the carbon rule.

I heavily -- I am heavily involved in other EPA dockets, each of which will have significant grid impacts, but none as significant as the new carbon rule.

One of the graphics I include in my written testimony depicts the compressed timeline that will force premature retirements of coal plants on the front end, and ultimately drive massive, wide-scale retirements of both coal and gas on the back end. For the existing coal fleet, we stand to lose about 155,000 megawatts of coal -- and that is not the coal that is already planning on retiring, that is the coal that is planning on sticking around -- because they will be faced with the immediate doubt and -- about the prudence of continuing to spend dollars on facilities whose useful lives are now going to be cut short because of the deadlines and the infeasible control requirements that are starting in just January of 2030, which will be, at best, 3 years, you know,

to do -- to come into compliance by the time the state plans are completed.

Just to give you perspective, 155,000 megawatts is the amount of power needed to power between 78 and 140 million homes.

For the existing gas fleet, which is in -- also in the same range of potential impacts ranging up to about 204,000 megawatts, they are going to be faced with an impossible choice. They are either going to have to down-dispatch to stay out of the baseload category, which in many regions will be uneconomic and means they will retire, or they will have to take the unprecedented risk of hoping that CCS and/or these hydrogen technologies will work.

For the hydrogen pathway, it involves displacing fully 30 percent of the natural gas they currently use with low GHG hydrogen, a water-consumptive fuel that is not yet in existence at scale. And in just 6 years after that they have to go to a 96 percent co-firing of low-GHG hydrogen. Again, a non-existent fuel, but then will require a whole new transportation pipeline system. If the low hydrogen pathway isn't chosen, they must deploy the already-mentioned carbon

capture at a scale and in a timeframe that is unprecedented, even if it is conceivable.

For those contemplating new gas generation, this rule has already chilled investment in efficient, combined cycle gas plants and large-frame combustion turbines because, as of last month, they will be held to the same standards with unproven technologies in their future. And our inability, our slowing of this new gas build is going to prevent us from filling the void that is being left by the continued retirement of coal, nuclear, and older gas units.

Turning to the legal defects of the new carbon rule, the Clean Power Plan certainly triggers major questions and, contrary to those who have suggested otherwise, is running afoul of the Supreme Court's decision in West Virginia v EPA.

No matter how much EPA and supporting advocates will try to argue that this rule is simply technology-forcing, the technologies they chose to force don't just force technology at the power plant; they force our entire nation to consent to, among other things, the construction of thousands of miles of hydrogen and CO2 pipelines and CO2 storage sites. Even if such an unprecedented national energy infrastructure

overhaul was conceivable, it is simply not EPA's job to mandate it.

This reliance on outside defense infrastructure is what distinguishes CCS from scrubbers, which you have referred to, for sulfur dioxide. When we put scrubbers in place, the entire system is in our control at the plant. We have the systems to manage it all on site. By contrast, CCS necessarily requires outside-the-fence infrastructure to transport and inject that CO2. In all but a handful of cases, that will be outside the control of the power plant operator.

In conclusion, I urge the committee to request the EPA to withdraw this proposal and rework the rule. EPA should simultaneously re-examine the grid impacts of this rule. And at the very least, EPA should extend the current 60-day time period to make sure that we do this rule right, because if we do it wrong it will be irreversible and ultimately tragic. Thank you.

[The prepared statement of Mr. Nasi follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. The gentleman yields back, and I thank our witnesses for their testimony, and we will now move into the Q&A portion of the hearing. I will begin the questioning, and I recognize myself for five minutes.

You know, the timing of this proposal rule -- proposed rulemaking could not be worse. Our nation's largest grid operator, PJM, which covers my district and the entire State of Ohio, warned it could face significant capacity shortfalls by the end of the decade. It cited specific EPA rules as the primary driver behind this energy shortfall.

And it is not just Ohio. In fact, the governor of Virginia sent me a copy of a letter he sent to the EPA yesterday in advance of this hearing. Virginia, part of the PJM grid, just as Ohio is, Governor Youngkin warns that "This proposal not only ignores this looming potential energy crisis, but exacerbates the problem.'' I have the letter right here, and I am entering it into the record.

[The information follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. The North American Electric Reliability Corporation, NERC, also has noted that significant portions of the country face capacity shortfalls during normal and above-normal demand scenarios. In fact, the CEO of NERC stated just last week before a Senate hearing that, "The pace of change is overtaking the reliability needs of the system.''

Unless reliability and resilience are appropriately prioritized, current trends indicate the potential for more frequent and more serious long-duration reliability disruptions, including the possibility of national consequence events.

I mean, I have heard my colleagues talk about the EPA's mission to manage public health. When is freezing to death and suffering from heat exhaustion because you can't heat and cool your home because your power is shut down -- why is that not a public health issue? And I don't understand why the EPA doesn't see that.

I have a question for each of you on the panel, starting with my fellow Ohioans.

Mr. O'Loughlin, for the record here, if this rule goes

into effect along with the litany of other EPA rules on power generation, can my constituents in the PJM grid and families across the country expect equal to or better grid reliability in 2032 than they do right now?

*Mr. O'Loughlin. Chairman Johnson --

*Mr. Johnson. A quick answer, if you could.

*Mr. O'Loughlin. I don't see any possible way that would be true. We are at great risk today, and this will definitely make it significantly worse.

*Mr. Johnson. Okay. Mr. Snitchler.

*Mr. Snitchler. Mr. Chairman, we would have concerns about what the ultimate outcome would be of the litany of policies EPA --

*Mr. Johnson. Is that a no under these rules? You don't think it is going to be --

*Mr. Snitchler. It has yet to be determined, but it sets us up for a real reliability challenge.

*Mr. Johnson. Okay. What about Mr. Duffy?

*Mr. Duffy. I think we can maintain reliability. There are plenty of flexibilities in this rulemaking, and long timelines --

*Mr. Johnson. Yes or no, will it be the same or equal to or better?

*Mr. Duffy. I think we can maintain reliability.

*Mr. Johnson. Okay. Mr. Nasi.

*Mr. Nasi. There is no way, if you look at the data of the RTOs, that our reliability will not be in a much worse shape.

*Mr. Johnson. Okay. I am also concerned this rule sends negative signals to the energy industry to invest in critical natural gas infrastructure. My district sits atop the Utica and Marcellus Shale, where we produce clean, abundant American natural gas for a number of power generation facilities in our region. However, due to many of the market subsidies like tax credits for unreliable and non-dispatchable wind and solar, natural gas generation is becoming increasingly less economically competitive.

On top of that, it is clear that EPA regulations are taking this one step further: threatening the economic viability of current and future gas-fired generation. For example, the proposed rule sets unrealistic requirements like co-firing with over 90 percent hydrogen by certain fast-

approaching dates, despite the fact this technology has never even been adequately demonstrated.

So, Mr. Snitchler, can you explain to us how this rule will further harm the economic viability of reliable gas generation on our electric grid now and into the future?

*Mr. Snitchler. As owners of natural gas resources or developers of new natural gas resources, we are always looking for some degree of certainty that would ensure the long-term viability and low-cost operation, because, unlike regulated utilities, competitive power generators have to compete to be the lowest cost, most efficient unit to run.

And when you find yourself in a situation where you are not sure that you will be able to earn a reasonable rate of return, and you are asked to make billions of dollars of investments, that has a chilling effect on investment that suggests that we will not see the needed amount of natural gas resources that, if you want to increase your wind and solar resources, you need to have additional natural gas resources to support them. They work together. And if you turn off one, you are left with only the other.

*Mr. Johnson. I would submit that PJM's report actually

says that, of all the retirement and the energy coming off of the grid, only six percent of it is -- of the replacement is natural gas, only six percent.

With that, I yield back and I recognize the ranking member, Mr. Tonko, for his questions.

*Mr. Tonko. Thank you, Chairman Johnson.

Many utilities -- excuse me -- and power producers have already made commitments to close their oldest and their most polluting power plants -- these announcements long predate this proposal -- and this is largely because all across the country renewable energy is able to compete with existing fossil fuel resources.

So Mr. Duffy, your testimony mentioned that EPA's modeling projects coal-fired power plant capacity will decline from 100 gigawatts in 2028, and I believe you said 33 gigawatts in 2035, irrespective of this rule. Can you expand upon this trend in the power sector toward cleaner alternatives?

And just how does EPA's proposed rule align with trends already underway?

*Mr. Duffy. Sure. So what EPA does here is it uses

design features that they have used for decades with the Clean Air Act. So they took the fleet, they divided it into subcategories, and then set standards for those subcategories. They took into account the fact that these plants are already planning on retiring. It doesn't make sense to do a big, huge pollution control project on a plant that is intending to retire. So there are pathways there.

And then, as we have mentioned before, the natural gas fleet is operating at lower capacity factors to support an increasingly renewable grid. And so for those plants there are less stringent standards. It is the baseload plants that is -- an increasingly small percentage that have the more stringent standards.

*Mr. Tonko. And again, Mr. Duffy, last year Congress enacted the Inflation Reduction Act. How do the incentives included in that law complement the rule?

And will the IRA help reduce compliance costs?

*Mr. Duffy. Yes, for sure. In 2015, when EPA decided that -- determined that CCS was -- adequately demonstrated cost reasonable, the 45Q credit was at $20. It is now at $85. So that significantly changes things.

And then the baseline, of course, of what the generation mix looks like right now has been changed, making, you know, carbon pollution standards easier to meet.

*Mr. Tonko. Right. Mr. Duffy, your testimony mentioned analysis that the proposed rule would only cover 7 percent of existing natural gas plants, which must be greater than 300 megawatts and have a capacity factor greater than 50 percent to be covered. And I am sure there are many environmental and public health organizations that feel too few existing gas plants are covered.

And for the record, I would like to see more sources covered, too. But for now let's just examine what EPA has actually proposed. Can you please help make this clear to everyone?

Has EPA gone to great lengths to tailor this rule, as proposed, toward the largest and the most polluting sources?

*Mr. Duffy. Yes, the most stringent standards are certainly on that small percentage that runs baseload.

*Mr. Tonko. And when setting these thresholds, was EPA considering the already-underway long-term expected shift in our electricity mix, where some of these gas plants --

smaller, less polluting ones that don't run as frequently -- may play a role in balancing a grid that is much more reliant on renewable resources?

*Mr. Duffy. Certainly. I mean, EPA makes clear that power trends were a driving factor in how they designed this rule, and also that reliability was of paramount concern in the design.

*Mr. Tonko. Right. Well, we made great efforts to make certain that we don't claw back some of the incentives of the IRA, which are extremely beneficial to this entire picture.

To summarize, many existing coal plants are already planning to retire, and certainly will not be required to take meaningful actions under the rule. And many existing gas plants, which can play a smaller but certainly perhaps needed a role -- needed role in grid balancing and reliability, are also not covered by the rule.

This, therefore, I believe, is reasonable and achievable as an approach that allows EPA to target the most polluting units, while following pre-existing power sector market trends. We should not suggest otherwise.

And with that, Mr. Chair, I yield back.

*Mr. Palmer. [Presiding] I thank the gentleman for his questions. The chair now recognizes the chairman of the full committee, the gentlelady from Washington, Mrs. McMorris Rodgers, for her questions.

*The Chair. Thank you.

Delivering electric power reliability and affordability is vital for public health and safety. Yet irresponsible climate policies have relentlessly been pushing to eliminate the baseload generation that is essential for assuring that people have power, especially when they need it the most. Grid authorities are finally speaking up about the risk to the public, as witnesses today are highlighting.

The Biden Administration, like the Obama Administration, has set policy goals to decarbonize the grid by 2035. And it is a pace that is dangerous to the public. The Obama Administration used the Clean Air Act to circumvent Congress as a weapon to force retirements and drive out baseload power, even when proposed standards did not withstand legal challenge. It looks like the Biden EPA is attempting the same thing.

Mr. Nasi, would you briefly walk through the estimates

in your testimony for the immediate and long-term impacts of EPA's proposals, how much coal and gas generation could be retired?

*Mr. Nasi. Thank you, Chairwoman, I will. Pages 11 and 12 of my testimony set out the data. EPA's models about what is going to happen, frankly, are not credible; they don't confer with NERC, FERC, RTOs, or states to develop them; and they conflict specifically with many of my clients' plans.

So you have to look at the data, and the data from EIA, both Forms 860M and 923, show that about 55,000 megawatts of coal is expected to retire by 2032, but 155,000 megawatts are not. And so that is what is on the block, the chopping block for retirement, for the reasons I explained.

On the gas fleet, because they have done this by capacity factor, you look at that same data set, and you look at the capacity factors. And those that are over a 45 percent capacity factor -- it depends on an economic test, but grossly speaking, that would impact 194,000 megawatts of existing gas-fired generation. At the best case, if it is actually only over a 55 percent capacity factor, it is 126,000 gigawatts of existing gas. So EPA's predictions are,

frankly, at odds with the data and the announced plans of folks, and the compressed timelines are going to force those retirements.

*The Chair. Thank you. Do you know how many plants would actually comply with this rule?

*Mr. Nasi. I mean, we will have a handful of plants -- I said in my written testimony I am a big supporter of CCS technology, I have been involved in projects for 20 years -- a handful of projects that are sitting on great geology that might be able to take the risk. But that is in the hundreds and maybe a couple thousand megawatts of that massive fleet. The other facilities are just too dependent upon pipeline infrastructure that doesn't exist and, on the gas side, hydrogen that doesn't exist. Low GHG hydrogen is not a commercial product.

And so to bank a standard on something that doesn't exist in reality now -- and even because of metallurgical and other reasons, frankly, can't realistically be moved around -- is a big problem.

*The Chair. Thank you.

Mr. O'Loughlin and Mr. Snitchler, you are either

directly responsible for producing and providing power or represent the companies that do so. Would retirements on this scale that Mr. Nasi just described substantially change the generation mix on the grid?

*Mr. O'Loughlin. It will. And what is particularly being targeted are baseload generation units, which may be few in number, but they provide a large percentage of the energy and a large percentage of the reliability services that we depend on.

You know, as I have said earlier, anybody that has seriously looked at our current situation realizes that we have elevated risk right now during extreme weather events, and any decline in those baseload resources greater than what we are already expecting is certainly going to have a negative impact on that, going forward.

*Mr. Snitchler. I would echo the comments about the need for us to ensure that we have sufficient resources. And if you look at the EIA data from their most recent report -- it just came out about a month ago -- it talks about the potential need for additional resources to support the system, even under a high renewables penetration scenario.

It is at a minimum of 9 gigawatts of new natural gas, or as high as 360 gigawatts of new natural gas which would be required in order to ensure reliability on the system. That suggests to me that we are going to need more, not less. It is a both-and not an either-or scenario.

*The Chair. Thank you. Back to Mr. Nasi.

You were involved in the litigation over President Obama's Clean Power Plan, which eventually resulted in West Virginia v EPA. Do you think section 111 of the Clean Air Act authorized EPA to transform the electric system like this, or is it just another example of the Federal agency circumventing Congress's Article I authorities?

*Mr. Nasi. Absolutely. You know, the Clean Air Act is based in a principle that you can't infer massive powers from Congress in vague language. And the Act requires -- and the Supreme Court's opinion requires -- that the system of emission reduction start and finish inside the fence of a facility.

When you are banking on an overhaul of an entire energy system, you are technology-forcing in a way that is explicitly prohibited by both the Act and by the Supreme

Court.

*The Chair. Thank you. We are the elected representatives of the people. We should be making these decisions around the Clean Air Act.

I yield back.

*Mr. Palmer. The gentlelady yields. The chair now recognizes the gentlewoman from Colorado, Ms. DeGette, for her questions.

*Ms. DeGette. Thank you very much, Mr. Chair. So the Clean Air Act was specifically designed to give the EPA the authority to regulate air pollution, to improve public health and the environment, and has held accordingly. And it was also designed to be a driver of technologies that can address air pollution in a forward-thinking way.

So, Mr. Duffy, I want to ask you, would you agree that the Clean Air Act is technology-driving?

*Mr. Duffy. I would and, I think more importantly, so would the courts.

*Ms. DeGette. Right.

*Mr. Duffy. They -- history shows that you can have pollution controls that are not -- you know, being deployed,

but they are not being deployed because there is not a regulation to require them. Why would you install a pollution control if there is no regulation to do so?

*Ms. DeGette. Exactly. And this rule that we are talking about today, as proposed, fits in with the description of technology-driving under the Clean Air Act. Is that right?

*Mr. Duffy. That is right. I mean, for, you know, the fuels and efficiencies, which is the bulk of -- the basis of the standards, those have been done for decades. CCS, there is adequate demonstration that it can be scaled up for this source category.

*Ms. DeGette. And also, this draft rule is aligned with EPA's previous work under the Clean Air Act. And I am wondering if you can expand your last answer to explain exactly how the draft rule is similar to previous EPA rules.

*Mr. Duffy. Sure. So, you know, I have used the example of sulfur scrubbers. You know, in the 1970s we were hearing these same sorts of arguments because there was only one vendor out there for sulfur scrubbers. There were only three in operation. And they set standards, and cost

declined, the pollution control was deployed, there were 16 vendors by the end of the decade, and it became the industry standard.

*Ms. DeGette. Right, that is right. So this rule, it seems to me, seems like sort of the next step in combating air pollution from coal and gas-fired plants.

And so I want to move on and say EPA projects that coal-fired electricity generation will fall to 33 gigawatts in 2035, regardless of whether this rule was implemented or not.

So how does this rule complement the trends that are already taking place in the markets?

*Mr. Duffy. Right. I mean, it was actually pursuant to, you know, large trade associations' request that that EPA set these glide paths, these pathways for plants that are nearing the end of their useful lives, such that they didn't have to install major pollution control technologies and make that investment when they wouldn't be able to recoup it. So that seems to me a meaningful -- a reasonable path forward when these plants are, you know, at the end of their useful lives.

Those that continue to run, CCS is cost effective and

available and, most importantly, reduces nearly all the pollution, the climate pollution, from the power plant. And so that is the basis of the standards for that sector.

*Ms. DeGette. Yes, and frankly, we are seeing this in my home state of Colorado already, where the coal-fired plants, for business reasons, are coming offline and people are moving to other alternatives.

And so Mr. Tonko asked you the question, and I think it is worth expanding on it. The Inflation Reduction Act actually lowered the cost for the new technologies, is that right?

*Mr. Duffy. That is right. As I said, it is kind of a two-part answer. It, number one, reduced the cost of CCS to be even more reasonable and, in some places, you know, cost effective, not just, you know, a cost of doing business. And so there is that.

And then there is also the fact that the grid is being supported in a way where, you know, replacement generation is more and more affordable.

*Ms. DeGette. Yes. So in your opinion, does this rule seem overly burdensome, or does it seem like a common-sense

next step that EPA should take?

*Mr. Duffy. This seems like a pretty traditional, inside-the-fence rule that EPA has been doing for decades under section 111.

*Ms. DeGette. Great. Thank you very much.

I yield back.

*Mr. Palmer. I thank the gentlelady. The chair now recognizes the gentleman from Georgia, Mr. Carter, for his questions.

*Mr. Carter. Thank you, Mr. Chairman, and thank each of you for being here. This is extremely important, and this is something I am very concerned with, and that is EPA and other agencies promulgating rules and essentially doing the work of what is supposed to be Congress and the elected officials, and then what we are going to find here is that this is going to send negative signals to the entire power industry to invest in baseload generation. And that is not what we need.

You know, I am still stinging from the State of the Union address, when the President of the United States, in the same breath, blamed the high price of gasoline on the fact that the fossil fuel industry was not investing in the

infrastructure, and then in the next breath said, oh, we are not going to need fossil fuels in the next 10 years, anyway. Duh.

I mean, this is serious stuff here, and I am very concerned about this. We are putting every rule imaginable into the way of the most reliable power-generating sources we have. Sixty percent of this nation's energy comes from natural gas and coal, and we are -- and here is the EPA, putting these rules and regulations in the way of this. And it is just -- when you talk about carbon capture technology, it is just not economical yet. Do we want to get there? Yes, we want to get there. But it is -- we are not there yet, and that is a problem.

I had the opportunity to travel with the conservative conference -- the Conservative Climate Caucus, to Europe. And what we recognized there and what we saw was that they have allowed their policies to get ahead of their innovation in Europe, and now they have got a mess. Now they are going back to coal after they shut down their nuclear plants and everything else. We should learn an important lesson there that we not let our policies get ahead of our innovation.

Mr. O'Loughlin, I want to ask you. In light of this rule, in light of the rule that we are discussing here today and many others from EPA, where do you see investments in the power sector going?

*Mr. O'Loughlin. Yes, well, it is a difficult answer for baseload generation. Obviously, the government is incenting more wind and solar, and I think we will see more of that, and we -- which is fine.

But the investment -- you know, I would like to expand a little bit on why I am so confident that we are going to see a lot of closures of coal plants, and probably some basic natural gas, and it is the state of carbon capture systems, which are -- have been demonstrated to be able to capture carbon at some larger scale, but they have never been demonstrated according to the requirements in this EPA proposed rule. They have never captured a full output of a unit of the size and scope of the units that we operate. It has never been required to operate on a continuous basis at a 90 percent capture rate, and they just simply have not been demonstrated to even be able to do that, let alone to do it at a reasonable cost.

So I am quite confident that many operators of coal plants are not going to be able to just throw money away on this -- what I will call a science experiment -- that this might work on a full-scale --

*Mr. Carter. Understood.

*Mr. O'Loughlin. -- large, baseload-generating unit.

*Mr. Carter. Thank you.

Mr. Snitchler, let me ask you. How is it simply proposing this rule, simply proposing it and subjecting the industry to further regulatory uncertainty, affect planning and investment? How does a company do that?

*Mr. Snitchler. The degree of uncertainty that is raised chills investment, quite simply.

If you look at the --

*Mr. Carter. Sort of like if the President says we are not going to need fossil fuel in the next 10 years?

*Mr. Snitchler. Well, if you are looking at making a 20 or 30-year investment in infrastructure to a power plant, you are not going to make a 20-year or 30-year investment on a 10-year time horizon. So you elect not to make that investment.

The challenge becomes, as we look at this energy expansion, as I noted before, with electrification, increased load, you are going to need more resources, not less. And as the resource mix changes, it is not a one-for-one replacement. If you add 10,000 megawatts of wind or solar, you still need to have 1,000 megawatts or more of natural-gas-fired resources in order to back them up when they don't operate. And so they work symbiotically, and they are required to work together.

*Mr. Carter. Let's talk about pipelines for a second, and that is important to me because we just got a letter, the Georgia delegation just got a letter from the Georgia Public Service Commission to the entire delegation telling us how a lack of pipelines is threatening our ability to be competitive. Do you think that is true?

*Mr. Snitchler. I think the need for infrastructure is clear. If we are going to need to see an expansion of the natural gas system, even if it operates less frequently and at a lower capacity factor, it is going to need to be able to have access to the resources. And right now there is not sufficient access to those resources. And that creates a

problem, because if you can't -- if it is not there, it doesn't matter if you build a plant or not.

*Mr. Carter. Is it a financial problem or a liability problem or both?

*Mr. Snitchler. It is an all-of-the-above problem.

*Mr. Carter. Okay. All right, Mr. Chairman, I appreciate it.

Thank you both. Thank all of you for being here. This is extremely important.

And thank you, Mr. Chairman. I will yield back.

*Mr. Johnson. [Presiding] The gentleman yields back. The chair now recognizes the gentlelady, Ms. Schakowsky, for five minutes.

*Ms. Schakowsky. Thank you, Mr. Chairman. Under the proposed rule, EPA estimates that the new standard would actually have net climate, health, and -- climate and health benefits to the tune of about $85 billion.

Specifically, the new standards would prevent more than 1,000 premature deaths, 300,000 asthma attacks, 38,000 school absences, 66,000 losses in jobs that we would be able to save.

So, Mr. Duffy, I wanted to ask you, can you go into more detail about the -- about how the rule would actually result in some cost savings, especially when it comes to health care?

*Mr. Duffy. Sure. You know, so as Ben Franklin said, an ounce of prevention is worth a pound of cure, and that certainly is the case with the Clean Air Act. These health benefits, EPA estimates, will outweigh the compliance costs seven to one. So I think that is important here. And as you mentioned, between 2024 and 2042, the range of health benefits associated with this rule is 64 billion to 85 billion.

So I think, you know, we need to be conscious of what -- the purpose of this Act here, which is to protect public health.

*Ms. Schakowsky. Thank you. And also, Mr. Duffy, I wanted to ask you, did the clean energy provisions that are included in the bills that we have passed -- we have talked about the Inflation Reduction Act, et cetera -- and the EPA rule increase costs to American consumers?

I think that is sort of a bottom line that people are

asking. And what is you're your view? I think we ought to, you know, set the record straight.

*Mr. Duffy. Yes, let's do that. So per the Princeton University's REPEAT Project, enacting the Inflation Reduction Act would lower annual U.S. energy expenditures by at least 4 percent in 2030. That is a savings of nearly $50 billion per household per year for businesses, households, industry. That translates into hundreds of dollars in annual energy savings costs for U.S. households.

*Ms. Schakowsky. Thank you. So in your testimony you state that fossil fuel power plants are operating at lower capacity, and that what we are seeing now is that renewable generation is actually accounting for greater energy production.

*Mr. Duffy. Yes, that is right. I mean, that is the trends and, you know, the power sector trends that EPA is keying these rulemakings to. They want to make sure that they are supporting an ongoing transition that is happening already.

So, as you mentioned, you know, fossil plants are running less to support an increasingly renewable grid;

baseload power plants are retiring; pollution control costs are coming down. These are things that are happening in reality. And it is EPA's job to look at what is happening in the world and determine the best systems of emission reduction for carbon pollution.

*Ms. Schakowsky. So we are hearing a lot about -- a lot of pessimism, I think, about the possibility of the kind of innovation that we need to have in order to achieve both our goals of power generation and also health care. Can you comment on that?

*Mr. Duffy. Absolutely. I am similarly struck. I think, you know, the Clean Air Act has driven, you know, American innovation for decades.

Once a regulation is set, industry generally over-complies, has costs come down lower than even anticipated, and then we don't have the air pollution and the public health detriments that are associated with their pollution.

*Ms. Schakowsky. So you think that we can achieve the goal to -- we don't have to make a choice between clean air and energy?

*Mr. Duffy. No, I don't think so. And that is how the

Clean Air Act is designed: it provides those factors, it gives EPA the job of looking at what are the pollution controls that are out there, which ones are adequately demonstrated, which ones are cost reasonable, consider energy. So all of those things are the job of EPA, and they have set about doing that here, and I think it is -- they did it fairly successfully.

*Ms. Schakowsky. Thank you.

And I yield back.

*Mr. Johnson. The gentlelady yields back. The chair now recognizes Mr. Palmer for five minutes.

*Mr. Palmer. Just a couple of points here. I would like to quote the former chairman of this committee, John Dingell, who said that he was present when we -- meaning Congress -- wrote the Clean Air Act, and he thought it was clear enough that not even the Supreme Court was stupid enough to determine that the EPA had the authority to regulate greenhouse gases. I think I agree with Congressman Dingell, Chairman Dingell.

I just want to point out a couple of things. One, I keep hearing people talk about this existential threat that

climate change is to the country. And I don't know where they get that information, because even the Intergovernmental Panel on Climate Change findings indicate that there has been no connection to human activity to increase the frequency or the intensity of hurricanes, or droughts, or any of that. So I just want to -- I just wish people would stick to the science.

But there has been a lot of discussion about the health impacts. And there was an article a couple of weeks ago in The Economist where they had done a study, and they determined that 68,000 people died as a result of higher energy costs in Europe, 68,000. Is that a problem, Mr. Duffy?

*Mr. Duffy. Absolutely.

*Mr. Palmer. Well, why would you inflict that on American people?

*Mr. Duffy. I think that is a false choice.

*Mr. Palmer. No, it isn't a false choice, because it is the conversion of European hydrocarbon energy to renewables that precipitated this. It is the problem in the UK, an enormous problem in the UK. Residential household energy use

in the UK has gone down 10 percent not because they have become more efficient, but because they can't afford it. That 68,000 is more than the estimated number of people who died from COVID at 59,700.

And I think it is a huge problem, Mr. Nasi, that we continue to make these moves that have -- could have and are having enormously devastating consequences for people, particularly people who are living in energy poverty already.

*Mr. Nasi. Yes, sir. I mean, I think on page 18 of my testimony I conclude with a statement of you really don't even have to debate climate change to know that the Clean Air Act directs this agency, this EPA, to do a materiality analysis.

I mean, we can zero out our entire fossil fleet and we make a 0.7 percent difference in global CO2 concentrations. That is not a debate about climate science. That is assuming all linkages that IPCC would assume. That is just math. And so when you balance that against the actual exposure of -- to life and treasure that are associated with outages, it is a big problem.

In Texas I was without power a week. We killed between

250 and 700 people. It is an embarrassment. It is a cautionary tale for the entire world to follow. We accelerated too fast, too far. And this rule would do more of the same.

*Mr. Palmer. Well, not only would it do that, not only would it endanger the lives of American people, it makes -- it becomes a national security issue, as well, because we cannot have a power grid that is 100 percent renewable without being almost 100 percent reliant on China to provide the resources that we need, many of -- much of which was built with slave labor, but that is a whole different point. I guess that is just considered collateral damage by some folks who are supporting renewables.

But wouldn't that not only be a problem for our economy, but also for our national security?

*Mr. Nasi. Yes, I mean, it is a big geopolitical issue. I mean, I think the sad truth is, for those that would actually want to see CCS deployed, which I actually have historically been a supporter of, the picture is global. And the fact that the United States is defunding fossil projects, even if they are CCS-equipped, is a problem.

We need to turn -- everybody can agree that we need to help bring people out of energy poverty. That will have material health benefits to human flourishing. And nothing we do domestically is going to change that reality, and so it is just a misallocation of capital. We should be focusing on the bigger picture.

*Mr. Palmer. What is interesting is that, as India and China have gone to fossil fuel coal predominantly to build out their energy infrastructure, the life expectancies in those countries have gone up dramatically --

*Mr. Nasi. Right.

*Mr. Palmer. -- over the last 25 years, yet there are still 2.4 billion people who don't have access to reliable energy. They are cooking their food indoors using wood, and biomass, cow dung, other stuff. I think the WHO estimates about 500,000 have died as a result of that. What would the impact be if we could provide them with, say, natural gas as a means of providing energy, and particularly as a means of cooking their food?

*Mr. Nasi. I mean, I spoke to the United Nations a few months ago, and I simply stated climate deprivation is not a

moral climate -- I am sorry, energy deprivation is not a moral climate policy. We should be empowering them to build gas and bring themselves out of energy poverty.

*Mr. Palmer. Mr. Chairman, I think what he just said should be taken note of, that the policies that are being pushed are immoral, and the dangers that they inflict on people.

One quick question, Mr. Duffy, you mentioned that flue gas scrubbers -- the first one was built in the 1970s. What company was that? You mentioned the only vendor in 1970. Do you know what company that was?

*Mr. Duffy. I apologize, I don't know what the company's name was off the top of my head.

*Mr. Palmer. Well, I worked for the company that built them.

*Mr. Johnson. Thank you, Mr. Duffy. The gentleman's time has expired. The chair now recognizes Mr. Sarbanes for five minutes.

*Mr. Sarbanes. Thanks very much, Mr. Chairman. Thank you to the panel.

I can't think of a greater moral imperative than to

successfully make this transition to renewable sources of energy as quickly as we can, but also practically, if we are going to address climate change and address the health effects that we see from reliance on fossil fuels for sourcing electricity and other power.

The EPA's proposed power plant rule, which, obviously, we are talking about today, is part of a very sensible, ongoing effort by the Biden-Harris Administration to ensure that reliable energy does not come at the expense of public health. That is the idea here. And the rule would set very reasonable pollution limits on power plants protecting the health and well-being of Americans across the country. In particular, I will just mention the low-income often -- and communities of color that have often borne the brunt of such pollution, again, if we want to tie it back to a moral imperative underlying this.

The rule is not an over-reach. It is a sound, common-sense, practical step to take. It is exactly what the EPA should be doing.

I want to touch on reliability, which is a topic, obviously, that we have been talking about quite a bit here

today. I represent central Maryland, which is firmly within the PJM grid. Earlier this year PJM forecasted that its grid would see roughly 40 gigawatts of retirements, retirements I will note that it explicitly did not tie to the rule that we are discussing today. It has also had, as of the time of that report, 290 gigawatts of capacity trying to connect to PJM's grid.

Mr. Duffy, we have heard some fearmongering clearly about retirements today, but could you talk a little bit about how the grid operators actually have quite a big lever to get more power onto their grid quickly by reforming their interconnection policies?

*Mr. Duffy. So fortunately or unfortunately, I am not a FERC attorney, but I can -- you know, I -- as I am not prepared to speak on kind of reforming the interconnection policies. But what I can share is that the proposal is going to allow grid operators, plant owners, and states significant lead time in order to, you know, deal with these sorts of issues so that they can -- the flexibilities can accommodate the dynamics in their grid.

EPA has also committed to near constant communication

with DoE and FERC throughout this process. I am also happy to talk about kind of the reliability features that are in this rule --

*Mr. Sarbanes. Right.

*Mr. Duffy. -- to help support the rule.

*Mr. Sarbanes. I appreciate that.

Mr. Chairman, without objection, I would like to enter into the record a report prepared by Wilson Energy Economics critiquing the PJM report.

*Mr. Johnson. Without objection, so ordered.

[The information follows:]

**********COMMITTEE INSERT**********

*Mr. Sarbanes. Thanks very much.

My Republican colleagues are concerned, clearly, about energy reliability in these discussions about EPA potentially regulating pollution from power plants. But I think they may be actively -- or maybe it is unwittingly -- ignoring the significant reliability shortcomings of fossil fuels.

So Mr. Duffy, maybe take a shot at that. Can you describe the reliability concerns associated with fossil fuels -- because we keep hearing about it on the other side of the ledger -- and why we should remember that fossil fuels are not 100 percent reliable?

*Mr. Duffy. Sure. I mean, especially with aging coal plants, they -- you know, as they reach their remaining useful life, there is more time that they have to -- they break down and need to be fixed. You know, we have had coal piles being frozen before. So it is not a -- there is not a silver bullet here. And the best way to keep fossil on the grid at baseload is with this virtually free carbon pollution technology.

*Mr. Sarbanes. I appreciate that. I mean, the goal here, obviously, is to strike a balance as we move as quickly

and intentionally as we can towards a new portfolio when it comes to how we power our society and, frankly, how we lead globally here. And we have got more to do in that respect.

So I want to thank you for explaining how we don't have to choose between reasonable pollution regulation, which will lead to healthier communities on the one hand, and reliable electricity, which, from what I can discern, EPA's rule will actually enhance over time.

With that, Mr. Chairman, I yield back. Thank you.

*Mr. Johnson. The gentleman yields back. The chair now recognizes the gentleman from Texas, Mr. Crenshaw, for five minutes.

*Mr. Crenshaw. Thank you, Mr. Chairman.

We are here today to discuss yet another horribly unrealistic rule proposed by the EPA. This rule would require that we reduce CO2 emissions from power plants to such an extent that most coal and many natural gas plants will likely be forced offline by the end of the decade. So we are in a country where our energy demand will increase by at least 30 percent over the next couple of decades. This EPA wants to reduce our energy generation, which is just

genius.

And I heard earlier that power plants are the biggest emitter of carbon dioxide in America, and so we have to, you know, save Americans from them. Yet they are also the biggest emitter of electricity. Yes, electricity. And I don't know how that doesn't matter to this Administration or the entire Democrat Party. Why does no one seem to have an answer for how we might replace that power generation, replace that electricity? Why won't anyone from this Administration or the other side of the aisle acknowledge how physically impossible it is to replace baseload energy with renewables?

I would love answers, answers, for instance, how we are going to come up with a land mass the size of South Dakota to put the amount of solar and wind farms necessary to replace such generation, or the thousands of miles of additional power lines, or the additional steel required, the copper, the cobalt, all of the critical minerals. Where is that going to come from? There is just some whimsical assumptions that it will all work out because Greta Thunberg says it will.

Now, if the goal is to protect Americans, maybe protecting their ability to heat their homes or cool their homes in the summer might be important. You know, not a single American is actually harmed by CO2 as a pollutant, and yet that has been the claim by my colleagues in this hearing as we all breathe out copious amounts of C02. It is not the pollutant giving anyone asthma. Can we at least stick to the science if we are going to have this discussion?

And if the claim is that additional CO2 warms the planet over time, then we might consider the fact that all -- if the U.S. completely abolished all CO2 emissions, then it would have a negligible effect on temperature and climate. And that is not according to me, that is according to all relevant climate modeling. A carbon-free America by 2050 would reduce CO2 concentration by a mere 2.2 percent, and a negligible effect on the climate.

So once again, we find ourselves in a really simple policy discussion about costs versus benefits. This EPA seems content to impose massive costs on Americans without any clear benefits to speak of. I don't think the mission, the original one, of the EPA was supposed to be to reverse

human flourishing, but it certainly seems that that is the goal now. They want to remove power generation from an already stressed electrical grid.

And for what benefit? None. Just some hand-waving and sloganeering about, you know, saving the earth and protecting people and our children. But catchy slogans and angry teenagers from Sweden are not a good excuse to upend the American way of life and threaten the reliability of the power grid.

Mr. Nasi, you mentioned that over 55,000 megawatts of existing coal is already scheduled for retirement by 2032. And because of this proposed rule, we have got another potential 155,000 megawatts at risk of retirement. I just have a question. Is there any real chance that this loss of generation gets replaced by reliable energy, or even intermittent renewable energy?

*Mr. Nasi. Well, I mean, even if theoretically we could fill that gap with natural gas generation, as you have heard multiple witnesses testify, this rule just put a chilling effect.

I mean, I have clients that are trying to build new gas.

This rule freezes everybody in place, not just because of the general uncertainty, but as of May 23rd, you know, last month, any plant built after that date is subject to things that don't exist today. And who is going to invest and finance that project, right? And so it is a problem that we are not going to solve.

And to the point of EPA modeling what coal plants are -- it is not EPA's job to say whether a coal plant is going to retire. It is actually, under the Clean Air Act, the state's job. And EPA is running right through that stop sign, and modeling a rule predicting something that is contrary to the data. And actually, the Clean Air Act contemplated that and told them, no, you are going to actually have to ask the state's opinion, and they have not.

*Mr. Crenshaw. Mr. O'Loughlin, could you build upon that notion of potential investment in reliable baseload energy because of this rule?

*Mr. O'Loughlin. Yes. The rule -- I mean, there has been this choice between reasonable environmental regulation and reliable electricity. I agree we don't have to make that choice. But I would say this is not a reasonable

environmental regulation. It is going to force unproven technologies onto plants, and operators like ourselves that have to answer to consumers are not going to invest in things that they can't reliably depend on to meet their needs and create further stranded costs above what has already been created by the -- by this rule.

So it is going to cause us to not invest in our current facilities, and it has sort of shut off natural gas as an option, because it has got the same problem: unproven technologies to try to replace our coal fleet.

*Mr. Crenshaw. Thank you, and I yield back.

*Mr. Johnson. The gentleman yields back. The chair now recognizes the gentlelady from New York, Ms. Clarke, for five minutes.

*Ms. Clarke. Thank you, Mr. Chairman, and I thank our Ranking Member Tonko. I thank our panelists for being here to testify for us today.

And while I am glad that this subcommittee is considering the importance of power plant emissions to ensure our constituents have clean air to breathe, I reject the premise of the hearing that we cannot set our nation on a

path to decarbonize the power sector without having reliable and low-cost energy -- electricity.

The State of New York is a clear counter-example to the false Republican narrative. Our state passed the Climate Leadership and Community Protection Act of 2019, and is now well on its way to achieving 70 percent renewable energy by 2030 without significant reliability concerns. If Republicans were serious about their concerns with reliability, they would commit to working with Democrats to modernize our nation's transmission infrastructure, which would immediately improve reliability and resiliency against extreme weather events and lower energy costs.

My first question is to Mr. Duffy.

In your testimony you called the EPA's current proposal a reasonable approach in line with the power sector's trends, but note that it should be strengthened. I agree with the assessment. I was disappointed to see the proposal lack action toward peaker power plants, which in New York represent more than 50 fossil fuel power plants. Many of these have been operating since the 1970s or earlier, and have little or no pollution control equipment to reduce

emissions, and are located almost exclusively in environmentally overburdened communities of color.

In what ways can this rule be strengthened, especially with regard to the nation's dirtiest power plants and in ways to protect the most vulnerable communities from overlapping sources of pollution?

*Mr. Duffy. Sure. Thank you for that question. So there are two things that -- you know, it is early days in reviewing this big proposal, but there are two things that come to mind as far as strengthening it.

One is, as you mentioned, the coverage of the existing gas plants. So EPA has proposed to cover those that are bigger than 300 megawatts and that are operating more than 50 percent of the time. That covers just 7 percent of the existing natural gas fleet, less than 30 percent of their CO2 emissions. EPA has asked for comment on down to 150 megawatts and 40 percent capacity factors. That would move us up to 44 percent of all units covering almost 80 percent of emissions. So there is a really big swing that can happen there, and we have been looking at that.

The second is on timelines. It makes a lot of sense to

have longer timelines for big pollution control technology, construction like CCS, but for things like fuels and efficiencies. We are looking at whether that can be done on a shorter timeframe.

*Ms. Clarke. Thank you. It is important that when policy prioritizes polluters over public health, it is our most vulnerable community members -- seniors, pregnant women, children -- who are hurt the most. Further handcuffing our economy to fossil fuels does nothing but trap our frontline communities in unhealthy environments, as communities of color are often the ones bearing a disproportionate share of the impacts from pollution and climate change.

I mentioned earlier that New York has led the country in setting emissions reductions goals and making actionable plans to meet those goals. For example, New York's Peaker Rule is expected to retire over 1,600 megawatts of fossil fuel peaker power plants by 2025, setting the state on a path towards 70 percent renewable energy by 2030, and saving countless lives caused by environmental pollution.

However, I know not every one of my colleagues is blessed to represent a state that has taken significant steps

toward climate pollution reductions. Mr. Duffy, EPA's proposed rule included necessary flexibility to account for the different resources and meet states where they are. What flexibilities are available to states to comply with these standards, and does that flexibility account for the need for grid reliability and resiliency?

*Mr. Duffy. Yes. So the way the Clean Air Act works, EPA sets emission guidelines for existing sources. The states then write their own plans. Generally, they have to have those -- the standards be equivalent to what EPA has proposed. They can go stronger. They can also consider the remaining useful life and other factors of these plants and have less stringent standards.

EPA is also taking a lot of comments on how -- whether or not trading and averaging and different types of compliance programs could be equivalent with EPA's emission guidelines. So there is a lot of flexibility for the states to engage with local communities, with the power plant owners, and design a plan that works for them.

*Ms. Clarke. Very well. Thank you.

I remain committed to ensuring my constituents have

clean air to breathe, and that we act with the urgency the climate crisis demands.

With that, Mr. Chairman, I yield back.

*Mr. Johnson. The gentlelady yields back. The chair now recognizes the gentleman from Pennsylvania, our vice chair of the Environment, Manufacturing, and Critical Materials Subcommittee, Dr. John Joyce.

*Mr. Joyce. First of all, I want to thank you, Chairman Johnson, for holding today's important hearing.

Over the past few years we have heard the Biden Administration proudly discuss the so-called wonders of renewable energy. And unfortunately, the rush to adopt green technology will have dramatic consequences on the reliability of the electric grid. This year the regional transmission organization PJM released a report on the state of the grid and its load capacity. There were significant decreases in energy resources for the third year in a row, especially in coal. This continued decline of energy has led PJM to project that its reserve margin will decrease from 23 percent currently to a maximum of 15 percent, or perhaps even as low as 5 percent by 2030.

Through my conversations with Pennsylvania utility companies, I know how close we came last Christmas Eve to rolling blackouts as the temperatures dropped to below zero degrees Fahrenheit. I am deeply concerned that escalating EPA regulations will further push baseload power generation off the grid and close the critical power plants that are desperately needed for the energy that my constituents rely on summer, winter, fall, and spring.

One example in my home state is the closure of Homer City Generation facility as the largest coal power plant in the state. Losing its generating capacity will move my constituents one step closer to the rolling brownouts that Texas and California have experienced. It could not be clearer that the regulatory uncertainty created by the EPA is a large factor driving investment away from plants like these.

Our nation has led the world in emissions reduction, and we can continue to do that through American innovation and American ingenuity. But we cannot afford to let -- government policies written with a misunderstanding of real world will put Americans at risk.

My first question is for you, Mr. O'Loughlin. I am concerned about how deployable some of the new power generation technology is in the short term. Has a power plant with carbon capture and storage or a power plant that is hydrogen co-fired to date been adequately demonstrated for 24/7 power generation and connected to the grid? Does that exist right now?

*Mr. O'Loughlin. It does not. We don't have any examples of those in the United States today. And as I said, the CCS projects that have been demonstrated to date have been at a much lesser reliability and at a lower quantity of flue gas that they have been able to treat.

And I think there has been some disagreement about how reasonable this is and what the effect on reliability is. EPA has worked on this rule for 18 months. We now have 60 days to digest it and respond to it. And I guess I would suggest that EPA provide an adequate time for an independent review of the reliability impacts of this rule, because I think there is a lot to it and I think that it is likely to have a very significant negative impact on reliability at coal plants and at natural gas plants.

*Mr. Joyce. I share your concerns about that negative potential impact.

Mr. Nasi, utilities have to make decisions in the next few years about the future of their generation fleets, and there is simply not enough time to prove and deploy the technology that EPA expects. For example, if a coal plant does not plan to retire, it must be running with carbon capture and storage at 90 percent by 2030. Similar decisions will be required for existing natural gas generations, as they are mandated to add carbon capture or hydrogen in similar timeframes.

Including the time needed for state regulations to be implemented, how much time will utilities have to decide the fate of their existing fleets? Is it 10 years? Is it five years? Is it two years? What can we expect?

*Mr. Nasi. Well, thank you, Doctor. And on page 11 of my testimony I put together a graphic, because that is really the heart and soul of the reliability problem is that by the time the states get their two -- years and they will use every bit of that, because they will need it -- we will basically have three years to build this stuff.

And every day at power plants -- and I am at their boards all the time -- they are making capital decisions about can I afford to keep on putting money into a plant, and they always evaluate how much life do I have. And if I have got a 30-year remaining useful life that just got cut down to 10, I am not going to make a capital investment. That is what accelerates the retirements, is when you force people to amortize it over a shorter period of time.

*Mr. Joyce. Mr. Snitchler, without a clear path for replacement of natural gas generation, what are the options for operators? Will baseload nuclear be available to replace the 140 gigawatts of coal or the 40 to 60 percent of the coal fleet within 3 years?

*Mr. Snitchler. Well, given the experience of the nuclear fleet now, there is only one nuclear unit currently under construction in the United States, and that is in Georgia. So I don't think we are going to see a rapid expansion of nuclear resources that are capable of filling that gap. And unless there is a technology breakthrough that we are hoping for -- but you can't plan your grid around hope -- then we are not going to find ourselves in a spot where we

have sufficient resources, should those retirements occur.

And so the technologies that are evolving and may work -- small modular reactors, and carbon capture, and hydrogen co-firing -- all are great on the drawing board, but they are not commercially available today. And if we want to meet those aggressive timelines, you have to have technology that can be deployable now.

*Mr. Joyce. I think that you concluded with a great take-home message. We cannot build that just on hope.

Thank you, Mr. Chairman, and I yield.

*Mr. Johnson. The gentleman yields back. The chair now recognizes the gentleman from California, Mr. Ruiz, for five minutes.

*Mr. Ruiz. Thank you, Mr. Chairman.

My home state of California has made serious efforts to move away from an addiction or dependance on fossil fuels as we look towards the future. The Inflation Reduction Act and the CHIPS and Science Act have made much-needed investments in domestic battery manufacturing and lithium recovery. This funding is essential to advancing renewable energy here at home.

A smooth transition -- smooth transition -- is needed to remove our grids from the dirty climate-changing energy of the past and catapult us into the future of a new, reliable and clean energy grid. This includes powering our homes and businesses with solar, wind, and battery storage, and all of the above.

However, we cannot move forward at the expense of vulnerable or frontline communities. We cannot invest in production without enforcement of the Clean Air Act standard for healthy air quality. I believe we can advance our grid while keeping our air quality safe to breathe.

The American Lung Association has given all three of the counties in my district a failing grade for air particle pollution, which has serious impacts on the health of my constituents. And as you know, I am an emergency medicine physician and public health expert, and that is very important to me. That is why I am particularly passionate about supporting the EPA's congressionally-granted authority to protect the public's health and the environment, including through pollution standards like the one we are discussing today.

And as a physician, I have seen firsthand the connection between a person's health and the environment where they live, and the very real effect of environmental injustices. Communities that face the biggest burdens are often times marginalized, impoverished communities of color, and they have 10 years less life expectancy who live in high-polluted, poor air quality communities than in other places that don't have the same pollution in their air. So it has real-life health impacts in the communities.

Mr. Duffy, how would the EPA's proposed rule reduce pollution from power plants?

*Mr. Duffy. Sure. So this rule will significantly reduce pollution associated with especially the baseload plants, but will also control those that are running less often.

You know, this is -- also, this is part of a whole suite of power sector rules. Some are more focused on hazardous air pollutants and local criteria pollutants. This, of course, is focused on CO2. It will have co-benefits associated with that. And as you mentioned, the impacts of climate change are falling most heavily on those overburdened

communities already.

The other thing EPA is doing in this rulemaking is to ensure active community engagement when these state plans are written such that, you know, the concerns of local communities can be brought to bear when power plants are -- and states are considering how to move forward.

*Mr. Ruiz. Well, according to the American Lung Association's 2023 report card, my congressional district ranks as one of the worst for air pollution in the country. From a large volume of transportation, warehouse development, and air particulate matter from saline mineral dust in the Salton Sea region, the communities in my district suffer from a high rate of asthma and other respiratory health complications.

Can you elaborate more on the engagement with local community partners?

*Mr. Duffy. Yes, yes. So EPA has in its proposal, as well as a complementary rule, which is -- it is called implementing -- how to implement these sort of 111D rulemakings -- has really elevated and made it clear that, you know, shallow community engagement is no longer

sufficient for meeting the meaningful engagement requirements of the Clean Air Act. And so they will need to demonstrate in their plans that they have reached out to the communities that are most impacted, and that they have gotten sufficient input about concerns associated with the technologies, concerns associated with health, et cetera, such that the plans are reflective of those concerns.

*Mr. Ruiz. One of the biggest concerns are the cumulative impact of polluting projects, industries that come in. And taking an individual and assessing the increment of pollution that they add over time, although the individual emission can meet certain criteria to allow them to pursue, over time you are just adding to a conglomerate of dirty air, which has significant impact.

So where are we with assessing the cumulative impacts?

*Mr. Duffy. Right. I mean, I think that is why it is so important that Administrator Regan came in and said, you know, not only for communities, but also for companies we are going to set the rules of the road early with a lot of lead time, and we are going to, you know, make sure that our fossil fleet is operating cleanly. We are going to do that

by focusing on hazardous air pollutants, on the criteria of PM, ozone pollutants, and we are going to focus on climate pollution such that these can be comprehensive solutions that communities can engage with, power companies can plan, the grids can plan, the states can plan.

*Mr. Ruiz. As part of meaningful consultation, they bring community -- and I have worked on this, especially during -- with some of the tribes that often experience check-the-box -- we sent out a message and now we -- you know, now, because they haven't responded, we have done our job.

*Mr. Duffy. Right.

*Mr. Ruiz. And it is a problem that we are dealing in in Energy, in this committee, with wanting to allow cable companies to do the same for tribes to enter their land, to build, you know, on their land without their permission if they don't respond within 45 days.

*Mr. Duffy. Right.

*Mr. Ruiz. But part of the meaningful consultation means to have conversations about mitigation efforts in case something goes bad.

*Mr. Duffy. Right.

*Mr. Ruiz. Is that part of the necessity? So in case something goes bad, that the -- those that pollute the area, the water -- the air, in this case, can -- there is some kind of accountability, some kind of recompense to the local communities?

*Mr. Duffy. Right. So in here EPA has enforcement authority, obviously, if they do not meet their standards. And if a plant has committed to retirement or to doing a CCS project, there are increments of progress to make sure that they are on a path to achieving those pollution reductions.

*Mr. Johnson. Okay --

*Mr. Ruiz. Thank you.

*Mr. Johnson. Thank you. The gentleman yields back. The chair now recognizes the gentleman from Georgia, Mr. Allen, for five minutes.

*Mr. Allen. Thank you, Chairman Johnson, and -- for holding this important hearing today. And I know we are all learning a lot, and as we discussed the Biden Administration's proposed rule that would severely impact the reliability of our power grid and would shut down American

energy.

You know, this was going on under the Obama Administration when I first was elected to Congress. My -- all of my EMCs had spent millions of dollars putting in these scrubbers to meet that Administration's rule. And, of course, now here we are. And so, you know, it is no doubt since President Biden's first days in office, he has launched a war on fossil fuel.

And it occurred to me sitting in this hearing, you know, most of my district is rural. My air quality is excellent. In fact, I need carbon to grow my trees and my crops. And it seems like, to me, that the big problem is in these big, congested cities. They are the air quality problem. Why do people live there? I don't understand that. They can come to my rural America and have excellent quality of living -- you know, the costs are much lower -- and grow their own food.

But anyway, the recent proposed rule by the Environmental Protection Agency, the Clean Power Plan 2.0, is one of this Administration's latest attempts to end the use of natural gas in our nation. We have heard today how

detrimental this would be to the reliability of our grid.

Mr. O'Loughlin, in your testimony you referenced the retire-or-else strategy of EPA compliance, where you can avoid excessive compliance costs, if compliance costs is even possible, by simply retiring units earlier than their planned service dates. That is a serious issue of reliability.

Last month I asked the EPA Administrator Regan about whether manufacturers, utilities, or others pay attention to potential future regulatory costs and compliance costs when making long-term decisions to maintain or expand operations. The more EPA signals and outlines what it plans for regulations, owners of facilities take that into account. And he agreed they did.

We know from experience that some of EPA's rules will never be implemented, but that is not the problem. The problem is EPA appears to be sending as many signals as possible that future costs are going to increase. And with that, owners and investors will decide to shut down some power generation permanently. That is why I am so glad that we have unit 3 in Georgia in my district running at 100 percent, the first nuclear power facility built. In fact, I

tell my friends from California they are going to have to come to Georgia to charge their electric cars.

You know, that is the entire -- that is the retire-or-else strategy. Administrator Regan refused to say that that was the case, but from the evidence of all the compliance requirements across all the rules that the EPA has presented, utilities and power producers, do you think that is what is going on, Mr. Nasi, Mr. Snitchler? Would you both like to share your thoughts on this?

*Mr. Nasi. Yes, I mean, I will start with I do a lot of work in rural America. Rural electric cooperatives are trying to serve their populations, and they are having to make these difficult decisions. And as Mr. O'Loughlin has done a great job of articulating, you can't sit around that board table and make multi-million, multi-hundred-million-dollar decisions to keep a facility going if you have no idea whether you are going to live out its useful life. Otherwise, you have to accelerate that expenditure onto the ratepayers.

So I think it is a very intentional effort, frankly, by the Administration --

*Mr. Allen. Yes.

*Mr. Nasi. -- to create that kind of uncertainty.

*Mr. Allen. To punish rural America, yes.

Mr. Snitchler?

*Mr. Snitchler. I think one of the challenges that you bump into is also that not every resource is the same in that utilities have a different business model than independent power producers do. And we don't have captive customers on which we can rely to recover those costs over any period of time.

And so when a rule has additional costs or expenses that are going to be incurred on the part of the shareholders or the investors, then business decisions have to be made about whether you are going to continue to operate that, whether you are going to continue to make investments to prolong its life, or you make the business decision to say it is more cost effective to retire it.

*Mr. Allen. I mean, is this a responsible use of EPA's Clean Air Act authorities, Mr. Snitchler?

*Mr. Snitchler. I won't opine as to whether it is an appropriate or reasonable use. We find ourselves in the

position of having to comply with whatever the rules are. And the challenge I think we find with this rule is that, unlike the last Clean Power Plan proposal under the Obama Administration, there isn't a coal fleet that can retire and a natural gas fleet that will be able to support the system. If this rule is implemented and it has a negative effect on natural gas resources, we don't have sufficient wind, solar, and nuclear to power the country.

*Mr. Allen. Thank you. Thank you so much for your time and your expertise.

I yield back.

*Mr. Balderson. [Presiding] Thank you, Mr. Allen. Next up is Mr. Peters from California.

*Mr. Peters. Thank you, Mr. Chairman. I guess I have been around here a while now. When I first came in the argument the industry was making was for clean coal, and the environmentalists were very skeptical of carbon capture. Today the Administration is asking for clean coal and the environmentalists like carbon capture. And in fact, carbon capture and sequestration is a clean energy technology that is supported by Republicans and Democrats and now a diverse

group of industries.

In 2020 I was proud to coauthor the USE IT Act with my Republican colleague from West Virginia, California and West Virginia working together -- Dave McKinley. That passed in the spending bill. In 2021 the bipartisan Infrastructure Investment and Jobs Act provided $12 billion in new investments for CCS, and the Inflation Reduction Act made the strongest investment in CCS to date by increasing the existing CCS tax credit to $85 per ton.

As I said, environmentalists had been very skeptical of this, and now we are trying to offer it, and it is -- now it is getting resistance.

So despite major technological advancements and broad support for CCS, my colleagues apparently are choosing to undermine the technology today. But to be very clear, CCS will be a cost-effective approach to complying with the proposed EPA power plant standards, and the proposed rule is a reasonable, flexible approach to reducing climate pollution while maintaining an affordable and reliable electric grid.

Beyond the specifics of the rule, I would share my concern about ensuring that our power system is reliable. I

do believe we have major challenges ahead of us, particularly with increasingly severe weather events.

I would just offer that one of the best ways to improve grid reliability is inter-regional electric transmission, which can improve reliability by making more power resources available to grid operators across more geographic locations so if extreme weather hits one state, a robust system of inter-regional transmission helps ensure that the power stays on and the costs stay low. And that transmission doesn't discriminate among energy sources. The imported power could come from coal, gas, nuclear, hydro, solar, wind, whatever.

The research is clear that inter-regional transmission is essential to maintaining an affordable, reliable power system, and we are terrible at building it today. We are bad at it. According to the Americans for a Clean Energy Grid, North America has built just seven gigawatts of inter-regional transmission, and less than half of that in the United States. Since 2014, 7. South America has built 22; Europe, 44; and China, 260.

And that is largely a permitting and siting issue. For example, the Department of the Interior recently approved the

TransWest transmission line, which will carry power from Wyoming to California, to begin construction. The permitting took 15 years. So I invite my colleagues on the other side to work with us to advance bipartisan transmission policies for liability, and for better cost for consumers, and for a stable grid.

So back to this rule. The Intergovernmental Panel on Climate Change found that carbon capture and sequestration, or CCS, will be an essential technology to reach our climate goals by mid-century. Mr. Duffy, can you elaborate on the role that CCS will play in a decarbonized energy system?

*Mr. Duffy. Sure. So this is more broadly. The, you know, leading climate experts, economists, energy systems experts say that carbon capture and sequestration is an essential tool needed to cut carbon pollution and address climate change. The International Energy Agency has reached the exact same conclusion, calling it impossible to meet our goals without CCS.

*Mr. Peters. Do you agree with EPA's determination that CCS should be considered a best system of emission reductions under their proposed rule?

*Mr. Duffy. I do. As I have said, you know, it is a technology-forcing, forward-looking statute, and there is sufficient evidence that the technology is available to be deployed.

*Mr. Peters. I don't begrudge or -- in any way -- the industry's skepticism or their statement of a difficulty of complying. But I just want you to touch on the research defending CCS as a cost-effective emissions control technology. Can you comment on that for me?

*Mr. Duffy. Sure, sure. So DoE and NETL have recently done -- released studies on the costs of CCS. Those are the costs that EPA uses in this rulemaking. Their cost estimate for 90 percent CCS, including transport and storage, and considering 45Q is $11 a ton for existing gas plants. You are up $22 a ton for existing coal plants and up $15 a ton for new gas plants.

Now, that is the low end and assumes a high capacity factor, but EPA undertook a conservative approach, still found it well within the line of comparable pollution controls like scrubbers.

*Mr. Peters. And I would just conclude by saying again

to my colleagues, I am happy to talk about reliability, and I do think we face real challenges. I just want that conversation to include transmission as a focus.

And with that, Mr. Chairman, I yield back.

*Mr. Balderson. Thank you, Mr. Peters. Next is me, next in line.

Welcome, the two Ohio boys. This is like old times, isn't it?

Thank you all for being here, not only the Ohio ones. But my first question is for Mr. O'Loughlin, and I would like to follow up on a point that Mr. Carter raised earlier.

Regardless of future actions or issues that may arise with litigation down the road, how does the EPA's latest carbon proposal impact the planning and investments for your members in Ohio today and the near future?

*Mr. O'Loughlin. Thank you, Congressman. It clearly creates a stranded cost risk for us today and also going into the future. It also creates a reliability risk, as the timeframe that has been laid out is not something that we can meet. And I think we have looked at other studies. We have been watching carbon capture technology for some time. It is

at least 7 to 10 years to put a system into place in a commercial basis if it would work, which is unclear to us at this time. And the rule requires it by 2030, and there is just no way we can make that.

So we are not able to invest in something that can't be on time, and we don't know what the cost will be because, ultimately, we are accountable to our consumers for recovery of that cost, and that is just not a wise use of their funds. And it is going to have a reliability impact, because it is going to force -- if it is enacted as proposed, it is going to force the retirement of several units like ours that right now provide the backbone of a reliable electric system.

*Mr. Balderson. Okay. Thank you. Continuing, Mr. O'Loughlin, as you know, the PJM report that came out a few months ago shows that 40 gigawatts of existing generation in the region are at risk of retirement by 2030, which you somewhat just explained there. Do you think renewables can make up for more retirements that will be forced because of this policy?

*Mr. O'Loughlin. Well, I don't and, more importantly, I think PJM does not. And I also think NERC and pretty much

anybody else that has looked at it has realized that we are not going to be able to site and build that much -- interconnect that much in that timeframe, and also that it doesn't provide the same reliability services that the existing baseload fleet provides and -- because of its intermittent nature.

And so I think, again, I would say it would be a great idea for EPA to allow some independent analysis of the reliability impacts so that you can hear differing views on it, but why not take a little bit of time and let the independent authorities like PJM, like NERC go ahead and study it and tell us what they think? Because that prediction they made was even prior to this rule being issued. So -- and I think it is hard to see that it wouldn't have a further negative impact on reliability.

*Mr. Balderson. Speaking for Ohio, in terms of potential rate increases, blackouts, or general reliability concerns, is that all part of it, too?

*Mr. O'Loughlin. It sure is. You know, so I was here a couple of months ago. Last Christmas Eve we were very close to having rolling blackouts. We had mandatory conservation

requests. And we have retired 5,000 megawatts within PJM just since December. And so we are at a tipping point on reliability today in Ohio, and we have retired -- we used to have 21 coal-fired power plants in 2009 operating in Ohio. Today we have four. We have lost about 15,000 megawatts of capacity. About half of that has been replaced with other sources. And we continue to see this having a further negative effect.

*Mr. Balderson. Thank you.

Mr. Snitchler, as you know, I recently introduced the Grid Reliability and Resiliency Improvement Act, which would require NERC, in consultation with FERC, the Department of Energy, and RTOs and ISOs to issue a report every two years addressing long-term reliability concerns with the electric grid.

The PJM report that we have discussed came out months before the EPA's tailpipe emissions proposal and this Clean Power Plan 2.0. So the EPA is actively increasing demand while forcing retirements and taking resources offline.

Do you think it would be a good policy for the agencies responsible for ensuring grid reliability and the operators

of the bulk power system report back to us on potential issues and threatened grid reliability?

*Mr. Snitchler. It would seem to me that having the people who are most closely aligned and responsible for reliability ought to be the ones who are advising Members of Congress about what the situation is on the ground. And so we would strongly support that type of information being provided by dispassionate third parties that allow you to make wise policy choices instead of having aspirational goals get ahead of operational realities.

*Mr. Balderson. I will follow up with that. And in the same vein, we know the EPA is issuing these proposals without providing detailed information on how they will impact reliability. That is the concern I raised with Administrator Regan a few weeks ago before the before this subcommittee. Do you think it would make sense for NERC to provide an independent assessment before EPA rules affecting the power sector are finalized and go into effect?

*Mr. Snitchler. I think it would be helpful to have all of the information. NERC has been providing updates for years and warnings for at least the last four or five years

about reliability concerns that it sees. So their involvement and engagement in rulemaking to at least have an eyes-wide-open approach seems like that would be an informed way for rulemakings to proceed.

*Mr. Balderson. Okay. Thank you all very much. I yield back my time and I yield now to the gentlelady from California, Ms. Barragan.

*Ms. Barragan. Thank you, Mr. Chairman.

The EPA's new carbon pollution standards for power plants is important for the U.S. efforts to fight the climate crisis and to reduce air pollution in communities of color. Ninety percent of the top fifty polluters are power plants that burn coal or gas. Many are in low-income communities and communities of color.

Mr. Duffy, how will the EPA propose carbon pollution standards benefit environmental justice communities?

*Mr. Duffy. Sure. So this is part of a whole suite of EPA actions focusing on local pollutants, hazardous pollutants. And this, of course, is focused on CO2, which has broad implications, but of course environmental justice communities are -- have a -- are shouldering a heavier burden

of the impacts.

This rule also, you know, has co-benefits that -- particulate matter and other pollutants that will impact public health, also requires meaningful engagement during the state planning process.

*Ms. Barragan. Well, thank you. I can tell you that in my congressional district doctors' offices and the clinics have asthma inhalers, like, stocked up in boxes because they are expecting more children there to come in who have developed asthma because of the air pollution and the impact there.

Mr. Duffy, why is it important that existing gas plants were included in the proposed rule?

*Mr. Duffy. Yes, thank you for this question. It is really important.

First is because the Clean Air Act requires it. EPA set standards for new gas plants in 2015. That sets a -- that triggers a responsibility to set standards for the existing gas fleet.

Second, in 2022 the gas fleet emitted 661 million metric tons of CO2. That is 43 percent of total sector CO2

emissions. The emissions from the gas fleet have increased by 65 percent since 2010.

And third, not covering the existing gas fleet is kind of robbing Peter to pay Paul. You end up just leaking all of the emissions from, you know, from coal and the other sources that -- sectors that are regulated, and the existing gas fleet will just run more. And that is unacceptable when there is a pollution control that is cost reasonable and available.

*Ms. Barragan. Thank you. One of the concerns that I have is that only the largest gas plants that run the most frequently are covered.

*Mr. Duffy. Yes.

*Ms. Barragan. However, smaller gas plants that mainly run during the hottest summer months can cause unhealthy air in frontline communities. How important is it for our climate and environmental justice efforts for the EPA to strengthen the rule to cover more gas power plants?

*Mr. Duffy. Very important. And we are looking at that, and will likely be advocating for expanded coverage. Right now, EPA is proposing to cover seven percent of the

natural gas units. They are requesting comment on taking a -- - on covering a larger portion, and that would end up covering 80 percent of emissions if it was down to what -- the lowest thing that they are taking comment on, which is, I think, 100 megawatts and 40 percent capacity factor.

*Ms. Barragan. Great, thank you. Mr. Duffy, there has also been support from the White House for a more ambitious timeline of 2035 for coal plants to curb emissions by 90 percent or retire, rather than year 2040. It is a faster timeline feasible, and should this rule be strengthened to include it?

*Mr. Duffy. Yes, I -- well, I am trying to get the timelines right. I think if you -- for coal, if you retire by 2040 you need to start -- you need to install -- if you retire after 2040, the compliance period is 2030. For gas it is out to 2035. So with gas, with the gas fleet, yes.

I think there are places where these big, kind of carbon capture, hydrogen pollution control technologies will need time to build out, to construct, to get permitted, et cetera. But the other pollution standards that are associated with efficiencies and fuels, those can be done on a shorter

timeline.

*Ms. Barragan. And Mr. Duffy, is there anything else that you haven't been asked today, or information that you think should be shared with the public?

*Mr. Duffy. No, I think, you know, the agency is doing exactly what the Supreme Court told it to do. It is basing reasonable standards for the biggest polluters on traditional inside-the-fence approaches that are going to cause these power plants to operate more cleanly and protect public health.

*Ms. Barragan. Well, thank you. Thank you for your work. You know, I am a big advocate for environmental justice communities to make sure that we all have access to clean air and to be able to breathe clean air. We have seen the health impacts. I have heard from constituents and people across the country who just want to breathe clean air and who are seeing the impacts to climate and these emissions. So thank you.

With that, I yield back.

*Mr. Balderson. Thank you. I now turn it over to the gentleman from Texas, Mr. Pfluger.

*Mr. Pfluger. Thank you, Mr. Chairman, and I thank the witnesses for being here.

This is a national security issue. We are literally facing decisions and a pacing of the decisions that will lead us to a grid that not only is unreliable, but it will make the winter storms and the other events that we have seen recently, honestly, look like a junior varsity exercise when you have a lack of dispatchable and readily available energy.

I will start by saying that in the last 10 years a billion people have been lifted out of poverty worldwide, and that has happened because we have affordable, reliable energy that is able to get to places like sub-Saharan Africa, the Indian subcontinent, and other places in the world that have never had energy before. So the fact that we are literally facing rule after rule after rule from unelected bureaucrats who are not cooperating, communicating, or consulting with industry, with communities, with Congress is unbelievable.

Our current baseload, annual baseload, demands about four trillion kilowatt hours per year. And so my question -- I will start with Mr. Nasi.

I really enjoyed your testimony, and all of you. Does

the EPA or the Department of Energy have a plan for providing baseload power when you look at what they are trying to do with this latest rule?

*Mr. Nasi. Well, I mean, first and foremost, it is EPA's statutory obligation to evaluate those impacts, but not to do so in a silo. And that is one of the fundamental things that I think you have heard many of us say, is that this thing needs to be rebooted with real consultation, not just with NERC, FERC, but also with the regional transmission organizations and, ultimately, those who have the sovereign power over the grids: the states. It is the exclusion of the states that is the biggest problem to me, as a practitioner, because we are the ones who actually are on the ground keeping the grid alive, as you know. We both experienced Winter Storm Uri.

So it is a problem, and so they need to start over. And frankly, before they do a rule they should evaluate what is possible, not try to rationalize how we might get out of it after they have already cooked the rule.

*Mr. Pfluger. Do you think that they have a plan?

*Mr. Nasi. They --

*Mr. Pfluger. And have they done the math?

*Mr. Nasi. They have models. And I have already said their models explicitly contradict the data and the actual real-world expectations of power plant operators. And it is not the first time.

We try to work with the EPA to improve their models. I think there is a lot of well-intentioned people at EPA, but the fact is that this rule has a model that doesn't measure up to reality.

*Mr. Pfluger. Mr. O'Loughlin -- thank you for that. Mr. O'Loughlin, do you think that the EPA has done the math on what is going to be required, supply-wise, to meet demand?

*Mr. O'Loughlin. Well, they have done some modeling, and I would just suggest that they take the time and go ahead and let the independent reliability experts, the ISOs like PJM, NERC go ahead and do an independent reliability assessment, and let's just see what an independent view of that looks like.

*Mr. Pfluger. A couple of weeks ago we had the Secretary of Energy before this committee, the full committee, and I asked her what the demand would grow to if

the 2032 EV mandate took place. And I quote, it would double.

Do we have the ability to service a doubling of electricity demand with this EPA rule, Mr. O'Loughlin?

*Mr. O'Loughlin. Yes, we are strained today. We don't -- this is not going to enable the baseload capacity that we are going to need to meet greater demand.

And oh, by the way, you know, carbon capture requires about 25 percent of the output of a power plant to operate. Hydrogen is electrolysis, green -- is a very electric-intensive activity, so those would be further demands on the electric system that we would see placed through this rule.

*Mr. Pfluger. Why are companies shutting down their carbon capture plants, carbon capture, you know, features of production plants right now?

*Mr. O'Loughlin. Yes, well, I am not intimately familiar, but I do understand that the two that have been operating in North America are -- largely have been providing for enhanced oil recovery as part of their economic stream, which is unclear that this rule would even allow for that, which we haven't really talked much about, but it also

requires storage of carbon dioxide, which is something that is definitely unproven at the scale that is being requested here.

*Mr. Pfluger. And I think that is the reason.

And Mr. Chairman, I would like to submit for the record a letter from the Texas General Land Office to the EPA highlighting Dr. Buckingham's extreme concern with the EPA's implementation of this Clean Power Plan 2.0.

*Mr. Johnson. [Presiding] Without objection, so ordered.

[The information follows:]

**********COMMITTEE INSERT**********

*Mr. Pfluger. You know, the -- I just spoke with the CEO, one of your colleagues, Mr. O'Loughlin, just a few minutes ago outside. And I think the answer to this question of why carbon capture is not working is because it is not financially sustainable. It doesn't work. Without the funds and the subsidies, it doesn't work. In fact, the only carbon pollution that I think is dangerous at this point in time is that which fills the halls of Congress with the hot air that comes out, and doesn't actually look at the financial and economic impacts to our country.

So I appreciate everyone's testimony today. We have to do the math. And if Secretary Granholm is right, and energy demand is going to double, then this is a terrible plan that we would be -- we would not suit our constituents well by not pushing back on it.

With that, Mr. Chairman, I yield back.

*Mr. Johnson. The gentleman yields back. The chair now recognizes the gentleman from Idaho, Mr. Fulcher, for five minutes.

*Mr. Fulcher. Thank you, Mr. Chairman. And to the panel, thank you for your flexibility. We, as you probably

know, we have got dueling committees today. And so what I ask may be a rerun, and so for that I will ask for forgiveness in advance.

But, Mr. O'Loughlin, I just caught the tail end of your comments on this last go-around here. And given this Clean Power Plan, can electric generating units realistically and economically achieve these -- this Biden Administration goal and the timeline, given this new set of rules?

*Mr. O'Loughlin. Yes, well, my understanding of the timeline is the answer is no to that on the timeline. I think it is unclear and undemonstrated whether carbon capture will be able to provide the level that is being requested. But what we have today has not been demonstrated.

And so it is very difficult for small companies like ours and others to invest in projects that are unclear whether they will work and that are unclear whether they can meet the timelines that are required. And it is unclear whether they can meet the standards that are required, even if they do work. So it makes it something that we can't in good faith spend our member consumers' money on.

*Mr. Fulcher. Just to follow up that, do you know if --

how many coal-fired plants, how many natural-gas-fired plants will be forced to retire as a function --

*Mr. O'Loughlin. Yes --

*Mr. Fulcher. -- of this?

*Mr. O'Loughlin. I don't know the answer to that. I know EPA has modeled some things, but I would expect it would be nearly all the coal-fired power plants would have to retire in this country if this rule is implemented. There are a few that have already begun working on carbon capture projects that might have a chance of at least trying to put those in service. But most of the industry can't possibly meet this timeline for coal plants.

Natural gas has a little bit longer, so it is a little less clear to me what they -- whether they will be able to do it. But I think the bigger question is whether they will be willing to invest the money in this unproven technology.

*Mr. Fulcher. Thank you for that.

Mr. Nasi, I am going to direct this to you. I know you have got some legal background, but if there is someone else on the panel that wants to take a crack at it, I am perfectly fine with that, too. Permitting seems to be such a

significant issue. I can tell you in my state, whether it be power plants or any kind of a project, you name it, the permitting always is an issue.

Do you think, given the -- what you understand about this rule, this new set of rules, will electric companies be able to build and obtain the permits for CCS hydrogen infrastructure that is required, moving forward?

*Mr. Nasi. Yes, I mean, as a practitioner in the space, there is no possibility that we will be able to permit the scale of pipeline infrastructure necessary to actually transport CO2 to storage facilities across the entire fleet, or even a significant component of it.

And, you know, the congressman from California raised the point about permitting, and how it takes 15 years to do a transmission line. Welcome to pipeline construction. We know they are not exactly non-controversial. Rural America has -- I think, correctly -- got rights to actually stand up against condemnation when it doesn't make sense.

And so it -- projects are hard and they take a long time. We don't mandate technology requirements based on the hope that all that is going to work out and we are going to

do it three times faster than we ever have. That is just not the way the Clean Air Act works.

*Mr. Fulcher. Yes, thank you for that. I have got a minute left.

Mr. Duffy, Mr. Snitchler, if either of you would like to comment on that, you are certainly welcome in the minute I have got left.

*Mr. Duffy. I would just say, I mean, you will get no argument from me that permitting, you know, needs to be expedited, but it needs to be done in an environmentally conscious way.

But as far as, you know, class six permits and things like that, we certainly need to ensure that the infrastructure that will support this transition is able to be built out.

*Mr. Fulcher. Okay.

*Mr. Snitchler. I think it is clear that there are a lot of knock-on effects to this proposed rule that would require significant amounts of investment: permitting, siting, construction, labor, all of the materials that will be required that I don't think are properly accounted for in

the timeline that has been established.

*Mr. Fulcher. Thank you for that. Thank you to the panel.

Mr. Chairman, I yield back.

*Mr. Johnson. Would the gentleman yield?

*Mr. Fulcher. Yes, I will yield.

*Mr. Johnson. I thank the gentleman for yielding. I want to follow up on a question that I asked and I, if I could, just get a quick yes-or-no answer from you folks.

Do you see the inability to heat our homes in freezing winter temperatures, the inability to cool our homes in the heat of the summer in rural Appalachia, and the inability to cook our food because we don't have electricity because of brownouts or blackouts, do you see that as a public health problem, Mr. O'Loughlin?

*Mr. O'Loughlin. I do, and I would say that the lower-income portion of the people that we serve are the most negatively affected by that.

*Mr. Johnson. Okay. Mr. Snitchler?

*Mr. Snitchler. I would agree that that is a public health problem.

*Mr. Johnson. Mr. Duffy?

*Mr. Duffy. Yes.

*Mr. Johnson. Okay, thank you.

*Mr. Nasi. Yes.

*Mr. Johnson. Mr. Nasi? Okay, thank you.

I yield back, and with that --

*Mr. Fulcher. I --

*Mr. Johnson. -- I now recognize the gentlelady from Iowa, Dr. Miller-Meeks.

*Mrs. Miller-Meeks. Thank you, Mr. Chair, and I thank all of our witnesses for being here.

First, let me state -- because I do this at every hearing we have on Energy and Commerce -- that Iowa is a state where over 50 percent of its energy is from renewables. We are now almost up to 60 percent of our electricity is from wind, and we are an exporter of energy. Despite that, last year there was concern that we were going to have brownouts and rolling blackouts in Iowa from a lack of energy.

And so as I think about this entire process, and I watched what unveiled in Europe this past winter and their energy crisis in Europe, which was already imposed upon very

high electricity prices, and then when I think about the EPA's recently proposed greenhouse gas emissions standards for coal and natural-gas-fired power plants, I have immediate concerns about our ability to ensure electric reliability and meet increased energy demand in the United States, which -- we know demand is going up. At both COP26 and COP27 they readily admitted demand is going up.

And I also think about the consequences of power shortages. Of course it varies by region, but there are several days, if not months of the year that heating and cooling American's homes is not a luxury, but a necessity. In fact, a 2012 study showed that the installation of air conditioning in American homes is the reason why the chances of dying on an extremely hot day fell 80 percent over the past half century.

In a previous hearing at the Energy Subcommittee I spoke about the lives lost globally each year from heat and cold. Lancet and Wall Street Journal articles in 2021 indicated exposure to hot or cold temperatures is associated with over 5 million premature deaths globally each year. Heat death is responsible for about 1 percent of global fatalities,

600,000, but cold kills 8 times as many people, 4.5 million annually.

A 2019 study from the National Bureau of Economic Research estimates that, by driving down gas prices, the fracking revolution saved more than 11,000 American lives annually since 2010. Natural gas, targeted by the EPA's proposed rule, provided 40 percent of the electricity nationally in 2022. And as we have already heard, Secretary Granholm estimated that the demand for electricity would double with the emission standards yielding to electric vehicles.

If the U.S. does not have the energy to make up what the EPA proposes to take offline with this rule, it will cost lives, not just harm the economy. It is not pie in the sky.

It is always puzzling to me as a doctor that -- Mr. Duffy, do you think our air is cleaner than it was 15 years ago?

*Mr. Duffy. Yes.

*Mrs. Miller-Meeks. So our air is vastly cleaner than it was 15 years ago, but yet my colleagues on the other side of the aisle want to continually allude to increasing asthma

rates, and it has puzzled me. We are saving lives because of air conditioning and heating because we have affordable, reliable electricity, but yet we have cleaner air and asthma is going up. Maybe we did the wrong thing in the EPA.

Mr. O'Loughlin, the North American Electric Reliability Corporation, NERC, and RTOs like PJM have warned that energy availability and electric reliability in the United States are already at risk as of today. EPA's proposed ruling would place further restrictions on power plants that would force early closures of key baseload energy facilities.

Looking to the future, McKinsey's estimated that electricity demand is expected to triple by 2050. How will the United States be able to meet the significant increase in demand if EPA's regulations are finalized?

*Mr. O'Loughlin. Well, that is a great question. I wish I had a great answer for you, because I am not really sure how we will be able to meet increased demand with diminished electric supply.

*Mrs. Miller-Meeks. Does anyone know what the carbon emissions are from the mining of lithium, cobalt, rare earth elements that go into a solar panel, or the steel for

manufacturing for wind turbines, or the petroleum that goes into wind turbines for their -- or the disposal of those said units when their life expectancy is expired? Do we know the carbon emissions? Mr. Duffy, do you know the carbon emissions?

*Mr. Duffy. I know that there is there is no silver bullet, and that all of these --

*Mrs. Miller-Meeks. So you have taken that into account at the EPA?

*Mr. Duffy. EPA's job is to look at these power plants and determine the best system of pollution control for those power plants.

*Mrs. Miller-Meeks. So you don't care about the pollution control of other sources of energy?

*Mr. Duffy. We certainly do. But what we are talking about today is the rule at issue here.

*Mrs. Miller-Meeks. Thank you. And Mr. Snitchler, how will the closure of natural gas production affect our carbon emissions?

*Mr. Snitchler. Natural gas has led to the largest reduction in emissions in U.S. history. Since 2005

restructured regions around the country have had emissions dropped by north of 35 percent. So we are actually going in the wrong direction if we try to eliminate natural gas, which has been the largest driver of reduced emissions.

*Mrs. Miller-Meeks. Thank you very much.

Mr. Chair, I yield back my time.

*Mr. Johnson. The gentlelady yields back. The chair now recognizes the gentleman from California, Mr. Obernolte, for five minutes.

*Mr. Obernolte. Well, thank you very much, Mr. Chairman. Thank you to our witnesses. This is a very important hearing on a very important topic.

Mr. O'Loughlin, thanks for your testimony. I would like to kind of narrow down exactly what we mean when we talk about the fact that electricity prices would increase, should this rule be implemented. Can you tell us what the -- your average current customer pays for a kilowatt hour of electricity, and how much that would go up should this rule become law?

*Mr. O'Loughlin. Yes. Our average price today in Ohio for electricity in a rural cooperative is between $0.13 and

$0.14 a kilowatt hour, which is pretty close to the national average. And most of that, about two-thirds of that cost is made up of the cost of production of generating that electricity.

I wish I could tell you how much our costs would increase if we had to implement this rule, but unfortunately, I am unable to estimate that because I am not really sure what we are going to do to replace our electricity and what the market conditions for electricity will likely be if we have a shortage, other than I know it will be considerably higher than it is today.

We would replace some with some renewables at a somewhat higher cost, and we would be forced to close our plants and have stranded assets which we would need to continue to recover for the next 10 or 12 years from our member consumers. And then we would be purchasing electricity to make up the difference in a constrained market, which I expect would be significantly higher than today's market prices.

*Mr. Obernolte. So, I mean, it stands to reason by a substantial increase we are not talking about a cent or two

per kilowatt hour.

*Mr. O'Loughlin. Yes.

*Mr. Obernolte. We are talking about something more substantial.

*Mr. O'Loughlin. I would expect it to be much more substantial than --

*Mr. Obernolte. Like doubling?

*Mr. O'Loughlin. Like -- yes, I would be speculating at that point, but it would be easy to see it going up 50 percent or more, yes.

*Mr. Obernolte. Thank you very much.

Mr. Duffy, it -- I was very interested in your testimony. And by the way, thank you for being here. It is not easy to be the opposite -- the opposition witness, I know.

[Laughter.]

*Mr. Duffy. I appreciate that.

*Mr. Obernolte. You used a couple of terms multiple times. You used the words "affordable'' and "cost reasonable.''

*Mr. Duffy. Mm-hmm.

*Mr. Obernolte. So is a 50 percent increase in the cost of energy, is that affordable and cost reasonable?

*Mr. Duffy. I don't know about that. But I do know what EPA did estimate as the electricity price increases. The Inflation Reduction Act reduces electricity prices four percent. There is a 2 percent increase in retail price in 2030, which goes down to a quarter of a percentage increase by 2035, and .08 percent increase in 2040 associated with EPA's modeling for this rule.

*Mr. Obernolte. I am sorry, you lost me there. The EPA believes that their rule would decrease the cost of electricity?

*Mr. Duffy. No, this is a two percent increase. I was saying the Inflation Reduction Act, in and of itself --

*Mr. Obernolte. Sure, sure. We are talking about this proposed rule, you know, in isolation.

*Mr. Duffy. Yes. So in isolation, a 2 percent increase in retail price, 2030; a less than a quarter percent increase in 2035; and .08 percent in 2040. The benefits of this rule outweigh the costs seven to one.

*Mr. Obernolte. Okay. Mr. O'Loughlin, who is the

expert, because he runs a co-op that does energy generation, just testified that it is going to increase costs 50 percent for his customers. Do you -- is that wrong?

*Mr. Duffy. I don't have the background information to know if that is wrong or right. All I can go by is what EPA has modeled here.

*Mr. Obernolte. Okay. Well, I mean --

*Mr. Duffy. I am sure he is being forthright, but I don't know the --

*Mr. Obernolte. There is --

*Mr. Duffy. -- background.

*Mr. Obernolte. I am just saying that there is a huge disparity between the EPA saying, you know, a 2 percent cost increase and system operators saying a 50 percent cost increase.

Okay, well, you know, let me just, in the time I have got, illustrate something that is very poignant for the people that I represent. I represent a lot of folks that are on a fixed income, they are retired. They struggle to pay their bills. My home town -- I wish, Mr. O'Loughlin, that I lived in your service area, because my local electric

provider just submitted a rate case to the California Public Utility Commission asking for base electric rates to be increased over $0.40 a kilowatt hour.

Every time those rates go up, more and more of the folks that I represent get driven into poverty. There was a study that just occurred a couple of months ago that said that over a third of Americans have had to choose between paying an energy bill and paying for other household goods in the last year. You know, that should be meaningful to everybody.

So we are all protectors of our environment. We want to be good stewards of our planet. You know, we have to balance the requirement to do that with also the requirement to provide basic necessities to the people that live here. And it is going to be a balance. It can't be all of one or the other.

And my problem with this proposed rule, an increase of 50 percent does not seem affordable or cost reasonable to me. And so I really think it needs to be rethought and re-examined. But I want to thank you very much for your testimony.

Mr. Chairman, I yield back.

*Mr. Johnson. The gentleman yields back. And seeing there are no further members asking -- wishing to ask questions, I would like to thank, once again, all of our witnesses from -- for being here today.

I ask unanimous consent to insert in the record the documents included on the staff hearing documents list.

Without objection, that will be the order.

[The information follows:]

**********COMMITTEE INSERT**********

*Mr. Johnson. Pursuant to committee rules, I will remind members that they have 10 business days to submit additional questions for the record, and I ask that witnesses submit their response within 10 business days upon receipt of the questions.

Without objection, the subcommittee is adjourned.

[Whereupon, at 12:59 p.m., the subcommittee was adjourned.]