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POWERED UP: STATE UTILITY REGULATORS ON CHALLENGES TO RELIABLE, AFFORDABLE ELECTRICITY

WEDNESDAY, FEBRUARY 14, 2024

House of Representatives,

Subcommittee on Energy, Climate, and Grid Security,

Committee on Energy and Commerce,

Washington, D.C.

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

Present: Representatives Duncan, Curtis, Burgess, Latta, Guthrie, Griffith, Bucshon, Walberg, Palmer, Lesko, Pence, Armstrong, Weber, Balderson, Pfluger, Rodgers (ex officio), Carter, Allen; DeGette, Peters, Fletcher, Matsui,

Tonko, Veasey, Kuster, Schrier, Castor, Sarbanes, Cardenas, Blunt Rochester, and Pallone (ex officio).

Staff present: Kate Arey, Digital Director; Sarah Burke, Deputy Staff Director; David Burns, Professional Staff Member; Nick Crocker, Director of Coalitions; Sydney Greene, Director of Operations; Nate Hodson, Staff Director; Tara Hupman, Chief Counsel; Daniel Kelly, Press Assistant; Sean Kelly, Press Secretary; Peter Kielty, General Counsel; Emily King, Member Services Director; Mary Martin, Chief Counsel; Kaitlyn Peterson, Clerk; Karli Plucker, Director of Operations; Peter Spencer, Senior Professional Staff Member; Deyona Burton, Minority Intern; Waverly Gordon, Minority Deputy Staff Director and General Counsel; Tiffany Guarascio, Minority Staff Director; Brian Hall, Minority Energy Fellow; Kristopher Pittard, Minority Professional Staff Member; Kylea Rogers, Minority Policy Analyst; and Tuley Wright, Minority Staff Director, Energy, Climate, and Grid Security.

*Mr. Duncan. Subcommittee on Energy, Climate, and Grid Security will now come to order. The Chair will recognize himself for five minutes for an opening statement, and before we start the clock for my opening statement, I just want to say this.

So sad that our Chair Rodgers is announcing her retirement, and will be leaving along with me at the end of this Congress, and I would like to recognize her if she'd like to make a statement.

*Mrs. Rodgers. Thank you. Thank you, thank you, everyone. Boy, I'm just so grateful. My heart is just full of gratitude. That's the overwhelming thought right now, and to all of you, to my colleagues, to the staff, being the chairman of the House Energy and Commerce Committee really is the ultimate in Congress, and I've been here a while and I've served in a lot of other roles, and serving with all of you this year has just been the best.

We've worked on a lot of issues, and you know what? I'm going to keep this short, because we have a whole other year ahead of us, right? And we're going to finish strong, and we're going to __ we're going to get some more bills and

legislation important to the American people on the President's desk. So, thank you everyone very much. This has just been wonderful to be chair for this Congress. Thank you.

*Mr. Duncan. Thank you for your service. We do have a whole year lined up ahead of us, and we've got a lot of work to do. So, we'll go ahead and get started.

I want to thank you all for being here today and welcome the Energy, Climate, and Grid Security Subcommittee hearing entitled Powered Up: State Utility Regulators on Challenges to Reliable, Affordable Electricity.

This hearing continues the Committee's focus on affordable and reliable electricity. During this Congress, we've worked to understand what drives the growing reliability crisis in America. Already we have heard from FERC and grid operators about the very real threats facing reliability.

Today, we'll hear from state public utility commissioners, utility regulators that answer to ratepayers in their states. State commissions and utilities or integrated resource plans __ use integrated resource plans to

look at both the cost and benefits of the entire electricity portfolio over an extended period of time.

Commissions use these plans to ensure there's enough electricity and that rates are fair and affordable. However, changes to electric sector over the past 20 years have presented new challenges to this mission.

Many states have introduced retail choice and rely more on retail transmission organizations, RTOs, and independent system operators, or ISOs, in capacity markets. This has made it difficult for utility commissions to exercise their responsibility for ensuring affordability and reliability to protect the rate payers.

Threats to electric grid reliability are growing due to environmental regulations, policies from state legislatures and agencies, bans on fossil fuel generation, and market distortions.

These factors are contributing to premature retirement for most of our reliable and dispatchable resources. Because of the increasingly interconnected nature of the grid, policy decisions that affect grid reliability have a much wider impact than ever before.

Some may say that more renewables and transmission can solve the problem of an increasingly unreliable grid. However, this plan increases costs and complexity, and may even intensify certain risks in states reliant on borrowing power from others.

The full system cost of renewables are higher because of the need for extensive backup power and redundant transmission lines. Systems must be overbuilt to ensure there is power when the sun is down, and when the wind isn't blowing.

Building more transmission also raises utility costs for American ratepayers, even if those ratepayers may not directly benefit from the added transmission. Despite this, several states and regions carry on with their ideological objectives under a seemingly false sense of security that their neighbors can continue to save them.

Look at states like California, and regions like New England, which have some of the most ambitious environmental goals, but they rely upon electricity imports from their neighbors as part of their planning.

Over the last two years, the California ISO imported

about 15 percent of its total supply. New England imported about 15 percent of all of its electricity last year. Where the retail electricity rate is the highest __ where are the retail electricity rates the highest? California and New England.

Even with all the warnings, the Biden Administration continues its rush to a green agenda with regulations like the EPA's clean power plan 2.0, which threatens to regulate reliable generation out of existence. American ratepayers pay for the fallout from these retirements and the state utility commissions must justify the cost.

The North American Electric Reliability Corporation monitors grid reliability and develops standards. They continue to warn us that over two_thirds of the country is running into a shortage of generation capacity, which will have dire consequences on grid reliability. When an electric generator plans to retire, and a study shows that the retirement would violated NAERC reliability criteria, many states choose to ignore this guidance in favor of their radical environmental policies that increase the likelihood for blackouts.

For decades, people know that when the lights went out, the state commissions and utilities were responsible. Because of the changes in the electricity landscape, it's now unclear who is responsible. However, it is clear who is blamed: the state utility commissions are blamed.

We must listen to the state utility experts about the reliability challenges they're facing. Congress must learn to do and must learn what it must do to prevent further retirement of reliable resources, and to keep electricity affordable.

Today, we'll continue this process, and I welcome the witnesses. I will now recognize Ranking Member Diana DeGette for five minutes.

*Ms. DeGette. Thank you so much, Mr. Chairman, and I want to welcome all of the witnesses, but in particular I want to welcome my constituent Keith Hay, who is from Denver, Colorado, my district, and Keith is the senior director of policy at the Colorado Energy Office where he's worked since 2019.

Before he worked there, he worked at the Colorado PUC from 2010 to 2019, including advisor to the commissioners,

and he's the senior director of policy. He supervises staff working across several functional areas. And so we're happy, Keith, that you're here today to give us your wisdom. And with that, I will start my opening statement.

The PUCs that all of you are a part of play a critical role across the nation. Your work every day is responsible for making sure that electricity is available, and it also helps you regulate the electric utilities that deliver reliable electricity to American homes and businesses.

So moving forward, one of the biggest factors impacting that reliability is going to be the climate crisis, and our grid's resilience in the face of that reality. And we need to be clear about the stakes.

As many of our colleagues here have heard me say repeatedly, the climate crisis is existential, and we've seen this. Extreme weather is already hitting states across the nation in the form of strong storms, longer wildfire seasons, massive flooding, colder temperatures throughout the window, and on and on.

A key component of the response to the climate crisis is going to be the transition to cleaner energy sources. And

so, the policies that these agencies that all of our witnesses represent are vital for setting the pace of clean energy deployment, and these decisions to encourage or block particular sources of electricity have a direct impact on the day to day life of Americans in the short term, and all of our futures in the longer term.

Knowing the harm on regulated pollution from energy production has caused in so many communities, and the way it fuels the climate crisis has inspired Democrats to consistently prioritize the transition to cleaner energy, but without sacrificing reliability.

The bipartisan infrastructure law, which we enacted in 2021, has accelerated the deployment of utilities, scaled renewable energy, and energy storage. It also provided a historic $10.5 billion for grid reliability, resiliency, and flexibility projects.

And the Biden Administration has implemented common sense carbon pollution standards for fossil fuel power plants. This action will reduce dangerous air pollution, fight the climate crisis, and protect Americans' health in communities across the country.

In the meantime, the Department of Energy announced $3.5 billion for funding projects like power line hardening, battery micro_grids, and wildfire resistance, which is really important in states like Colorado.

Now, I expect some of my colleagues in this hearing to use their time to try to insinuate that transitioning to cleaner energy also means less reliable electricity. That's simply not the case. Here is the reality: our current fossil fuel infrastructure has already proven itself incapable of withstanding extreme weather events __ see Texas and other places.

But my home state of Colorado is proving that transitioning to cleaner forms of energy does not have to mean that you have to compromise on reliability. Colorado has been moving quickly in the direction of renewable energy, supplying just under 40 percent of our electricity in 2022.

In 2010, by way of contrast, 68 percent of our electricity in Colorado came from coal. In 2022, coal supplied just 36 percent of our electricity, and gas 26 percent. In my state, one of the utilities has received approval from the PUC to build a new transmission network

that will connect wind and solar resources. This new wind and solar power in Colorado will help the state achieve its carbon_free grid by 2040.

The Colorado Electric Transmission Authority is studying the potential need for additional transmission in Colorado, which may include electric storage to harness all the new wind and solar __ the energy wind and solar will create, thereby increasing resilience and reliability.

So, if states like Colorado are transitioning to more reliable, cleaner energy sources, they are also investing in measures that will increase resilience. We know the two things are conjoined.

So, I'll close with this. All of you folks sitting here today bear massive responsibility. A lot is being asked of you, and is expected of you, and so I want to thank you in advance for everything you are doing. I'm confident given the continuation of federal investments, the realities of the changing climate, and the needs of the American people, that we can all work together to have a smooth transition to cleaner energy that does not sacrifice reliability. I yield back.

*Mr. Duncan. The Chair will now recognize the Chair of the full committee, Chair Rodgers for five minutes for an opening statement.

*Mrs. Rodgers. Good morning. We cannot say this enough. Energy is foundational to everything we do, and affordable, reliable electricity is the cornerstone of this foundation. It's what keeps the lights on, heats our homes, and powers our hospitals and businesses.

Access to electricity over the past century has raised our standard of living, driven technological innovation, and improved the health and wellbeing of all Americans. We need to continue protecting and building on that legacy.

Sadly, President Biden's rush to green environmental policies and regulatory restrictions are driving up costs and jeopardizing this legacy and our grid reliability. We've seen baseload and firm generation sources driven out or shuttered by radical policies across the country. These sources are being replaced by less reliable, more expensive, weather dependent generation, and everyday Americans are paying the price.

In some places, people are paying nearly double the

nation_wide average for residential electricity prices. In places like California, this has become such a problem that the state is increasingly having to rely on hydropower from my home state of Washington in order to balance its grid when inconsistent resources like wind and solar can't produce enough energy to meet demand.

In Texas, an overreliance on these weather dependent resources has limited the state's ability to get power to people's homes during periods of severe weather. Last winter, several southern state utilities were unable to get the power resources they needed from neighboring states during a severe cold event, resulting in widespread blackouts during the holidays.

The North American Electric Reliability Corporation continues to warn that two_thirds of the nation is at elevated risk of rationing and forced blackouts during periods when people need the power the most.

These real risks and impacts were confirmed by FERC commissioners before this committee last summer, and we heard the same warnings from grid operators during the hearing last fall.

Their warnings were clear: while renewable energy from sources like wind or solar absolutely play a role in America's overall energy mix, they cannot replace reliable, baseload sources, and accelerating the retirement of baseload sources without adequate replacements will only increase the risks of these life threatening blackouts and continue driving up costs.

Today, it is important to hear an important perspective that is too often overlooked by this administration. We'll hear firsthand from state utility regulators about the challenges they are facing to get affordable, reliable electricity to people.

State public utility commissions have long been held responsible for ensuring reliable delivery of power at affordable rates. They reviewed the generation resource planning to be sure that power will be available.

They reviewed decisions to build electric transmission to determine whether it is necessary, and they approve or disapprove of rate increases that can come with building electric infrastructure. More and more, utility commissions are confronting policies from their own state legislatures to

retire baseload generation with no long term strategy to replace it. I've seen this in my own state of Washington.

Commissions are also having to contend with the Biden Administration's top_down rush to green policies that seek to force more premature retirements, driving up costs and putting more people at risk. We have a lot of questions today regarding how these policies are threatening the reliability of our grid, which is so foundational to our economy and our way of life.

Rather than a radical energy transition, we must expand our energy resource through an all_of_the_above strategy. That's the best way to bring down costs for Americans who are currently paying more while getting less when it comes to electricity.

And energy expansion will ensure families won't have to worry about rationing energy in the summer or winter months, or having to make tough choices about whether to pay the electric bill or buy groceries for their family. I'd like to thank each of our witnesses for being with us here today. I look forward to your testimony, and we have lots of questions. Thank you. I yield back.

*Mr. Duncan. The gentlelady yields back. I now recognize the ranking member of the full committee, Mr. Pallone, for five minutes.

*Mr. Pallone. Thank you, Mr. Chairman. I'm not going to repeat what I said about Chair Cathy Rodgers downstairs, because I think most of you heard it already, but I have to say again that I'm not happy about her leaving, but I also know I can't do much about it.

I just __ maybe I can just say, Cathy, that you're kind of the perfect example of what most people don't realize, which is that as a colleague you can disagree on policy, but at the same time really like the person who is your colleague, and understand the level of integrity that they have around here. So once again, I just __ we're going to work together to get things done the rest of the year. I'll leave it at that.

So, I know that today we're ensuring that Americans have the power to light and heat their homes, and that's a top responsibility of this subcommittee. Overtime the way that we ensure electric grid reliability has changed dramatically, and we know that for most of the last century we relied on

monopoly utilities that were responsible for every step of the electricity delivery chain from generation to transmission to distribution.

But that all began to change 25 years ago when the FERC issued Order 888, which brought competition to electricity markets across the nation, and the new power markets have promoted competition that has lowered wholesale energy prices and reduced greenhouse gas emissions, all while ensuring reliability.

And I strongly believe that we can build an affordable and reliable grid that is powered by clean energy. After all, we can't continue to rely on polluting fossil fuel plants that are worsening the climate crisis. Instead, we must reduce greenhouse gas emissions from power plants while also reducing emissions of particulate matter, sulfur dioxide, and other pollutants.

And we know that these pollutants have devastating health impacts on the communities in which these emitting power plants reside. We simply can't allow these plants to continue emitting unabated when real technologies exist that offer a cost effective solution. And these new technologies

are going to be critical as we continue the clean energy transition, particularly considering the reliability challenges of our fossil fuel infrastructure.

In late 2022, Winter Storm Elliot brought dangerous winter conditions to large parts of the country. Over 6 million customers experienced power outages during the storm, outages that were largely caused by freezing at natural gas fired power plants, and the inability of pipelines to deliver gas to power plants in freezing conditions.

After conducting a review of the outages that occurred in the Carolinas and Tennessee, FERC Chair Willie Phillips emphasized that Congress must fill the regulatory gaps that exist for gas reliability.

In the wake of the northeast blackouts in 2003, Congress amended the Federal Power Act to create mandatory reliability standards for electricity, however, we know even though many electric systems base their reliability on the operation of the gas production, transmission, and generation, there is no mandatory reliability requirements for the gas system. So if we care about reliability, we can't allow this double standard to continue.

Any system is only as reliable as its most unreliable component, and if the gas infrastructure that the power system relies upon is unreliable, then that has serious consequences for electric reliability.

So last Congress, Democrats delivered on electric reliability with a bipartisan infrastructure law that included $25 billion to support grid reliability. Of course, not one Republican on this committee supported that bill, but just this year, President Biden's Department of Energy has announced over $7 billion in grants, incentive payments, and capacity contracts to strengthen the grid.

This level of investment in our nation's electric infrastructure has not been seen since the days of rural electrification as part of the New Deal, and these investments will greatly enhance electric reliability throughout the nation.

Democrats also invested in energy efficiency with nearly $5.5 billion in the bipartisan infrastructure law, and 9 billion in the Inflation Reduction Act. And I'm sure all witnesses today know the cheapest megawatt is the one that you never have to use, and energy efficiency programs

represent a huge potential source of reliability, especially as electrification rates increase due to consumer preferences.

So finally, resilience and reliability upgrades to the grid can be transformative and cost effective. These upgrades can be everything from grid enhancing technologies to the linking together of previously separated grids, and I believe any comprehensive discussion of reliability must include consideration of these elements, and frankly I find it disappointing that so far, the Republican majority has been unwilling to engage in that conversation. But with that, Mr. Chairman, I yield back the balance of my time.

*Mr. Duncan. The gentleman yields back. We will now conclude the members' opening statements, and the chair would like to remind members pursuant to the committee rules, all members' opening statements may be part __ made part of the record. I wish everyone a happy Valentine's Day, and a happy Ash Wednesday, and I thank all the witnesses for being here today in taking time to testify before the subcommittee.

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

There are lights in front of you, pretty self_explanatory __ green, yellow, and red. When it gets to yellow, start wrapping up. Red, your time is expired, and we'll try to stay on time.

We do have four witnesses today, and I'll introduce them. Mrs. Tricia Pridemore, commissioner with the Georgia Public Service Commission, Mr. Jim Huston __ you pronounce that, "Houston,''?

*Mr. Huston. Huston.

*Mr. Duncan. Huston, thank you. Chairman of the Indiana Utility Regulatory Commission. Mr. Keith Hay, senior director of policy with Colorado Energy Office; and Mr. Nick Myers, commissioner with the Arizona Corporation Commission. Thank you all for being here.

I'll now recognize Mrs. Pridemore for five minutes.

STATEMENT OF TRICIA PRIDEMORE, COMMISSIONER, GEORGIA PUBLIC SERVICE COMMISSION; JIM HUSTON, CHAIRMAN, INDIANA UTILITY REGULATORY COMMISSION; KEITH HAY, SENIOR DIRECTOR OF POLICY, COLORADO ENERGY OFFICE; AND NICK MYERS, COMMISSIONER, ARIZONA CORPORATION COMMISSION

STATEMENT OF TRICIA PRIDEMORE

*Ms. Pridemore. Thank you. Thank you, Mr. Duncan. Thank you for the invitation to speak with you today. I appreciate the kindness extended by Chairman Jeff Duncan and the other members of the Subcommittee on Energy, Climate, and Grid Security. I'd also like to thank Energy and Commerce Committee Chair Cathy McMorris Rodgers for her leadership.

My name is Tricia Pridemore, and I'm a commissioner at the Georgia Public Service Commission, elected statewide to create and maintain a safe, reliable, affordable utility system in one of the fastest growing states in the nation.

Electricity generation and transmission are paramount to Georgia. We operate in a shared operations and transmission format with one major investor in utility, 41 electric

co_ops, 49 municipal electric providers. This shared system provides a great economy of sale and cost savings to customers.

Much of our electric generation is mutually owned. Our transmission is interconnected without costly redundancy across companies, and our region is directly interconnected to five neighboring regions. We are not an island. Instead, we've made use of every ratepayer dollar to provide a more reliable system.

In 2024, Georgia is at a critical juncture in transitioning to more clean energy sources while experiencing historical increases in load growth. As the number one state for business for ten consecutive years in a row, coupled with technology progression and electrification, more demands from data centers, and new manufacturing growth from overseas, Georgia is in need of more power than ever before.

Our market structure makes us more energy secure than other regions. We have the authority to instruct utilities to construct generation and build new transmission. The state of Georgia holds a compact with a vertically integrated utility, and they must generate what our state consumes.

This is a similar agreement other southeastern states hold with their electric utilities.

Our Georgia system gives me, as a regulator, all the transparency without unnecessary bureaucracy. We do not rely upon short_term gimmicks or taxpayer underwriting of generation, or transmission projects. Georgia's systems still has rates roughly ten percent below the national average.

Today we take a highly diversified approach to generation. Nuclear and hydro provide baseload, which operates 24/7 365. Solar is a part_time energy source, providing electricity when the sun is shining with some battery backup. Natural gas and coal provide Georgia with dispatchable energy, with all generation operating under both the summer and winter reserve margin.

Georgia has become the number four state in the nation for solar all without a renewable portfolio standard. Georgia's electric generating portfolio has never been cleaner, nor more accessible to customers. However, EPA 111 proposed rule puts all this thoughtful strategy and implementation at great risk.

Utilities have a legal obligation to serve, and I have authority under the Constitution of Georgia to oversee a healthy electric utility system. But EPA 111 puts the utility, the customer, and the state regulator in an impossible position.

Penalizing utilities for operating generation facilities this EPA doesn't like opens a Pandora's Box for third_parties to sue utilities. The EPA is __ the EPA is seizing control from states. Control over systems that state agencies and officials spend their deep expertise, research capabilities analyzing and planning for healthy systems.

Consider this from the utility's point of view. With a legal obligation to serve, utilities must choose between using generation assets this EPA doesn't like, and being sued by environmentalists and paying fines to the federal government.

And this choice is being made at a critical pinch period when solar is failing, and demand is surging. The alternative is for utilities to not generate electricity, force blackouts, and thus open themselves up for other legal actions.

Now consider this from the customer's point of view. Please note that currently seven to eight percent of Georgia's customer's bills are to pay for forced EPA compliance today. If a utility chooses to uphold their legal obligation to serve, generate in the ways this EPA doesn't like, customers are left to pay the fines and any resulting costs from legal actions.

If the utility chooses not to use the dispatchable generation asset this EPA doesn't like __ by the way, assets the customer has already paid for in rates __ blackouts occur, and the utility is yet again subject to legal action. That same customer is on the hook for legal action. They're suffering through a blackout, and they're out blackout related costs, such as spoiled food in the refrigerators. Potentially, their life is at risk because they have home health equipment dependent upon electricity, such as dialysis or oxygen machines.

Customers are getting hurt by these regulations, and getting stuck with the bill. Reality_based relief valves are not long term reliability solutions either, because the customer has already been charged for these assets.

Regulators in utilities know their systems better than federal agencies, and any proposed implementation of relief valves.

I thank you for your time. I thank you for your attention. There is much to be done. Thank you for your willingness to listen and consider your state regulator's perspective.

[The prepared statement of Ms. Pridemore follows:]

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

*Mr. Duncan. Thank you, Mrs. Pridemore, and I'll now go to Mr. Huston for an opening statement.

STATEMENT OF JIM HUSTON

*Mr. Huston. Can you hear me okay? Good morning, Chair Rodgers, Ranking Member Pallone, Chairman Duncan, Ranking Member DeGette, and members of the committee. I'd like to do a special shout out to Congressman Pence and Congressman Bucshon from the great state of Indiana. Thank you for their privilege to appear before you this morning and provide Indiana's landscape, and how the Indiana Commission is responding to challenges presented by policy decisions as part of the energy transition, and the provision of safe, reliable service at just and reasonable rates.

Like other states, Indiana has experienced its own energy transition over the past 20 years. Traditionally, coal serves as a significant energy source in Indiana. Until the early 2000s, coal accounted for 90 to 95 percent of Indiana's generation, but today makes up around 45 percent of our fuel mix. Natural gas, nuclear, wind, and other fuels account for the rest.

As Indiana is one of the leading states in our energy transition, we are the second biggest wind state east of the

Mississippi River, and the seventh fastest growing solar state in the nation. This transition from coal can largely be attributed to various environmental regulations, including coal combustion residuals, PM Ozone, nitrous oxide, sulfur dioxide, and ELG regulations.

For decades, Indiana rate payers enjoyed some of the lowest electric rates in the country. Part of this was due to Indiana's access to affordable coal. However, as continued environmental regulations were introduced on coal facilities, utilities made the necessary investments to keep them operating.

These costs of investments impacted Indiana's price ranking, which went from being in the top five in the country of affordable rates to now in the 2020 __ 29th in the country.

With the changing generation mix and corresponding rise of customer rates, Indiana enacted a framework for the Indiana Commission to consider when making electric rate making decisions, commonly referred to in Indiana as the five pillars, which are reliability, affordability, resiliency, stability, and environmental sustainability.

Indiana also passed a law that our electric utilities must have suitable generation secured, and do not rely too much on the wholesale market, limiting capacity auction purchases to 15 percent of their needs.

While the management of the electric grid requires teamwork, Indiana wants to ensure utilities are doing their part to be self_sufficient. On customer choice, Indiana protected customers by allowing them to choose natural gas.

The Indiana Commission also submitted joint comments with our agency partners, IDEM, and the OUCC, the consumer counselor's office, regarding the EPA's proposed rulemaking setting new standards for greenhouse gas emissions for electric generating units.

Our concerns included a focus on the proposed rule's unrealistic timing, particularly in the context of the utility's state sanctioned and regulator reviewed integrated resource plans. It is not obvious that the proposed environmental benefits outweigh the other pillar considerations that state regulators must consider to ensure safe, reliable service at affordable rates.

Regarding reliability, and in the spirit of cooperative

federalism, we issued a general administrative order a couple years ago encouraging MISO and PJM's input into generation petitions before the commission, and we provide them with comments as well.

For example, Indiana believed stakeholders must find ways to streamline the interconnection queue processes while promoting market signals for capacity, dispatchable characteristics in ancillary services, and scarcity pricing. Indiana supports the adoption of these RTO efforts and support grid reliability and resiliency.

Ultimately, this all highlights that energy policies should rely on state commission's management of 20 year planning horizons. Effective policy and regulation should allow us to be nimble, flexible, and adaptive on emerging energy issues that impact our state.

Thank you for the opportunity to testify today, and thank you for your service to this country. I'll be happy to answer any questions you may have.

[The prepared statement of Mr. Huston follows:]

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

*Mr. Duncan. Thank you, Mr. Huston.

Mr. Hay is recognized for five minutes.

STATEMENT OF KEITH HAY

*Mr. Hay. Good morning, Chair Duncan, Ranking Member DeGette, and members of the committee. I'm Keith Hay, the senior director of policy at the Colorado Energy Office, and again, I want to thank you for the opportunity to share the story of how we are working to provide reliable, affordable, low carbon electricity for all Coloradans, and how federal action can further support a low carbon reliable grid.

Representative DeGette shared this story already of the start of Colorado's deep decarbonization of our electrical grid. In part, that transition has been enabled by a dramatic decline in the cost of wind, solar, and batteries, the increasing skill and experience of our utilities in effectively integrating renewables, and a supportive policy environment.

Pursuant to statutory planning requirements, Colorado's utilities are projected to reduce greenhouse gas pollution by 84 to 87 percent by 2030. Our last coal plant in the state will retire by the end of 2030. We've managed this transition while keeping electric rates in the state below

the national average in large part by partnering with our utilities and focusing on the three pillars of affordability, reliability, and pollution reductions.

As we look past 2030, the energy office is preparing to release a study that evaluates pathways to deeper decarbonization of Colorado's electric grid. The results in both our business as usual and our zero carbon scenarios are instructive.

Our modeling shows that under the business as usual approach, which is the lowest cost scenario that meets a 2040 load growth of 40 percent, the Colorado grid can achieve a roughly 94 percent reduction in greenhouse gas pollution. It does this by adding significant amounts of wind, solar, and batteries, while retaining a gas generation fleet that is approximately the size of today's.

Over time, however, the levels of dispatch of the gas units declines dramatically, but they continue to play an important role in system reliability. By 2032, only one unit approaches a 20 percent capacity factor, and by 2040, gas units supply just two percent of Colorado's electricity.

The decline in the use of gas in our modeling is driven

by the cost of gas compared to the lower cost of renewable energy and storage. The study also finds that across all of the scenarios, most of Colorado's electricity comes reliably from wind, solar, and storage, between 70 and a hundred percent.

Energy efficiency plays a key role in helping to meet those emissions reduction targets, supplying roughly nine percent of the state's energy needs in 2040. As a result of all of this, Colorado will need to triple its wind capacity and quintuple its solar capacity between now and 2040.

The study also shows that the lowest cost pathway to full decarbonization includes flexible, firm, and dispatchable resources with combustion turbines powered by clean hydrogen, among the lowest cost resources as a result of the incentives under the Inflation Reduction Act.

New forms of geothermal electricity also play an important role. What's key here today is that our analysis illustrates no negative impacts on the reliability of Colorado's electric grid from EPA's proposed clean power regulations. Instead, it shows that the technologies proposed in the EPA rules, including carbon capture and

especially clean hydrogen, will be important to achieving a lower cost pathway to deep decarbonization.

While it isn't a result of the study, the analysis strongly indicates that expanded transmission capacity both in state and interregional, which will enable reaching regions of high renewable potential, and allowing access to energy from across diverse geographic areas, will be important to reliably meeting Colorado's electric needs.

Colorado's clean energy transition highlights not only the opportunity for states to improve reliability and resilience by shifting to lower cost renewables, it also illustrates the important role for the federal government in supporting states with this transition, including permitting reform.

Colorado is __ as I said, will need to triple its wind and quintuple its solar. To enable this, we are working on streamlining state and local sighting processes for renewable energy transmission. We believe similar action at the federal level will be important.

Colorado would support federal action to grant a categorical exclusion for geothermal. We support the Big

Wires Act, which will enable the expansion of transmission that's necessary for clean energy development, and we would support continued investment in building efficiency through rebates, tax credits, and support for advanced building codes.

I thank you for the opportunity to testify here today, and I look forward to your questions.

[The prepared statement of Mr. Hay follows:]

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

*Mr. Duncan. Thank you, Mr. Myers __ Mr. Hay.

Mr. Myers, you're recognized for five minutes.

STATEMENT OF NICK MYERS

*Mr. Myers. Thank you, and good morning Chairman Duncan, Ranking Member DeGette, and members of the subcommittee. As with Mrs. Pridemore, I too am a statewide elected commissioner at the Arizona Corporation Commission. We are a bit unique in that only about 13 states actually elect their commissioners.

The ACC is also __ the ACC and its responsibilities are also Constitutionally established. In Arizona, we have a truly diverse topography and climate. While most people think of us as a desert, the reality is that Northern Arizona also has 7_8,000 feet of elevation, lush green forests, multiple seasons, and regular snow. This makes a one size fits all approach to regulation almost impossible if we are being true to our Constitutional obligations to ensure utilities provide reliable and affordable service.

While I cannot speak on behalf of the Commission, and the views I express are my own, I can tell you that it appears the current make_up of the Commission generally tends to favor an all_of_the_above approach to electricity

generation.

We have approved almost 2,000 megawatts of solar plus battery connections in the last year, while at the same time approving hundreds of megawatts of thermal generation. Many of the challenges we face moving forward with regard to reliable generation center around early forced retirement of coal plants without adequate replacement.

Personally, it pains me to have to approve accelerated cost recovery for early shutdown of coal plants, while at the same time authorizing recovery on new purchased power agreements, and then because the utilities are ultimately responsible for keeping the lights on, we also have to approve the building of reliable dispatchable generation in the form of natural gas.

If you're keeping count, that means our rate payers are paying three times for the same energy generation that could be had by simply keeping our existing generation online until natural retirement, or even better, beyond that.

Some of the problems we face are overly burdensome regulations in the form of early forced retirement of reliable generation, roadblock after roadblock with regards

to transmission construction, and interference with vegetation management.

A perfect example is the SunZia Project that promises to bring wind energy from New Mexico through Arizona to California. The project began 16 years ago, and is still not through all the red tape and lawsuits.

Another example is renewable energy mandates, which forced our utilities to invest in premature technology at long term contracts, and now cost our ratepayers more than four times what the energy being delivered is worth on the competitive market, and will get worse over the next 15 to 20 years as the price of solar continues to drop.

Other problems are delayed development and commercialization of new technologies, such as small modular reactors, micro_nuclear, and hydrogen, which are simply in their infancy.

Finally, we lack the infrastructure to supply natural gas. We do not have the throughput in our state to allocate much more capacity to turbines that are needed to complement the intermittent renewable resources we are adding.

However, we do have options. While they won't appear

overnight or even in the next decade, we are moving fast and furious on two new thousand_megawatt pumped hydro basins. We are actively engaging in discussions to use salt caverns that are prime for natural gas storage and possibly hydrogen storage.

This type of storage has the ability to provide buffering for the entire west coast and parts of Mexico. We are also working with Kinder Morgan to help their endeavor of getting more and larger pipelines built going from Texas all the way to California. While this is not a perfect solution, large pipelines allow for line packing that also act as a buffer.

Additionally, we've been very active in day ahead markets. We're looking at both EDAM and Markets Plus. It appears we have less interest in EDAM for many of the reasons you heard back in September of last year regarding the governance issues. However, I have personally been very active in the Markets Plus tariff development, specifically with regards to resource adequacy and greenhouse gas.

A day ahead market has shown that in almost all simulations, with or without the inclusion of Washington and

California, results in a savings for our utility customers. A day ahead market is being viewed as a possible stepping stone to a full_fledged RTO. It will also help us determine appropriate transmission.

While Arizona has many transmission lines in development, it is important to work with our neighbors to determine what is best in regards to long term transmission that is suitable for our region.

Thank you again for allowing me to testify today, and I look forward to answering all of your questions.

[The prepared statement of Mr. Myers follows:]

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

*Mr. Duncan. Thank you, Mr. Myers. I'll thank all of the witnesses for your testimony.

We will now move into the question and answer portion of the hearing, and I'll recognize myself, then I'll recognize the ranking member, and we'll go back and forth that way on each side until we've exhausted all the members. So, I'll begin by recognizing myself for five minutes for questions.

Commissioner Pridemore, nuclear energy is one of the most reliable sources of energy, and also one of the most impactful ways to reduce emissions. Can you talk about how the vertically integrated model in your state supports integrated resource planning and how this was instrumental in building the new reactors at VOGTLE?

*Ms. Pridemore. Yes, sir. Thank you for the question. Plant VOGTLE, once unit four is fully actualized, will become the largest electricity generating plant in the nation. There are currently four nuclear reactors there. We'll be just under 4,600 megawatts of power.

Just this morning, unit four received initial critically, which means it is splitting atoms. Next step is to connect it to the grid. We get an enormous amount of long

term benefit from 24/7 carbon free power at VOGTLE, as well as our two nuclear units at Plant Hatch.

It allows us to provide baseload energy that we can marry with renewables, we can marry with natural gas generation to be able to help us manage our extraordinary load growth.

We also have the great benefit from a transmission standpoint where we put nuclear, we build less transmission, and there's a cost consideration for that for customers. It's immeasurable when you look at the 20 year planning process that we go through in Georgia. We have a comprehensive integrated resource plan that examines how we generate, and then how we transmit. When you consider VOGTLE and it's 60 to 80 year lifespan, it will be generating electricity long after I'm gone.

*Mr. Duncan. Yeah. Thank you for that. Georgia is not part of an RTO or an ISO, and has some of the most affordable and reliable electricity. Do you think this model better supports reliability and long term affordability, and can you explain why?

*Ms. Pridemore. Yes, sir. I appreciate my colleagues

that are in states that are part of an RTO or an ISO. In Georgia, we're not. Our integrated system allows us to be able to get the economies of scale to work with the 41 co_ops as well as the 49 municipals so that we have a system that all works together.

We're not building competitive transmission lines, or even competitive generation. When you consider the integrated approach that we've taken, it's allowed us to get the economies of scale. It also allows us to serve a large load base.

I'm very proud of the fact that our market structure has stood the test of time. It allows us to not only generate what is needed in the state, but also to inter_connect with the five neighboring regions to help them when they need assistance.

*Mr. Duncan. Thank you for that. Mr. Huston, proposals from the EPA that aim to force coal and gas to adopt compliance technologies or retire all together would have dire impacts to reliability and affordability. You mentioned that in Indiana.

That's why my bill, the Grid Act, will require FERC

state impacts to reliability from a proposed agency action like EPA's clean power plan 2.0. The Grid Act would ensure that federal agencies cannot finalize regulations that will harm reliability before the agency responds to FERC's assessment __ reassessment. How could the Grid Act help promote reliability and protect against generation retirement?

*Mr. Huston. Well, the way I understand it, it makes sense to have the economic regulator have a window into what the environmental regulator is doing simply from the standpoint of accountability. It's all the federal government, and getting that kind of exposure from both perspectives I think makes sense for ratepayers.

As Tricia just mentioned, in integrated resource planning, the utilities have either engaged in a 20 year horizon look at the way the future will unfold, and then developed a preferred portfolio from which then they may seek certificates of need or public convenience for new generation to replace retiring generation.

The way that the EPA is doing things at this moment in time, and this is the reason why we express reservations

about the greenhouse gas rule was because it turns that on its side.

It both causes environmental compliance problems, it causes the 20 year integrity of the planning process significant problems, and if it winds up having generation assets that are already in the ground to make additional investments that ratepayers have to pay, it's a triple whammy.

And so, I think that the concept, while I am not an elected official, I am appointed by the governor, so I'll have a disclaimer on the policy embraced, the suggestions that you make sound common sense to me.

*Mr. Duncan. Thank you so much. Mr. Myers, real quickly, can you talk about how premature retirement of baseload resources increases total costs and makes the system less reliable?

*Mr. Myers. Sorry. Yes, as I mentioned in my opening statements, our ratepayers are paying three times for the same generation and retiring reliable generation for unreliable __ you know, in favor of unreliable generation is just bad.

I mean, it's common sense. You have to have a backup plan. So, you have to __ you have to __ you have to create more dispatchable generation that sits there idle, you know, so that you can use it whenever the sun goes down, or whenever the wind doesn't blow. We don’t have a whole lot of wind in Arizona, but you have to have that generation available to come online when that happens.

*Mr. Duncan. Yeah, that solar starts at zero every day and ends at zero.

*Mr. Myers. Yeah, exactly.

*Mr. Duncan. Yeah. I will now recognize the ranking member for five minutes.

*Ms. DeGette. Thank you so much, Mr. Chairman. We're going to be hearing an undercurrent in this hearing today of the myth that you have to __ if you're going to move to renewable energy that you're going to have to sacrifice resiliency and reliability.

And so, Mr. Hay, I want to ask you just very briefly, have we __ have you and your study found that to be true? And how can we maintain the utmost in reliability and resiliency while still transitioning to these various

ambitious goals that our state is doing?

*Mr. Hay. Thank you, Representative DeGette. No. In fact, quite the opposite. The study that we conducted actually required all of our scenarios to model two NAERC reliability standards, and what we found is that across the board, all of the scenarios actually met those reliability standards.

*Ms. DeGette. How do they do that? I mean, the __ you know, the Chairman just said, well, the sun goes down at night, and Mr. Myers just said, well, we don't have a lot of wind in Arizona. So, especially when you're looking nationwide at different states with different sources, how do you do that?

*Mr. Hay. Representative, I would agree with my colleagues on the panel, actually. The planning is the key, and Colorado, like these other states, has a robust resource planning process where our regulated utilities come before our commission and demonstrate how they are going to both decarbonize and keep rates affordable.

And it's through that process, and today, wind and solar actually in Colorado are less expensive than our coal units.

Our commission in a prior decision found that retiring two of our older coal units, Commanche One and Two in Pueblo, could result in as much as $2_400 million savings to customers as a result of retiring those units and replacing them with lower cost renewables.

*Ms. DeGette. But I'm going to assume that you wouldn't be telling Mrs. Pridemore or Mr. Huston or Mr. Myers that the exact mix that we're using in Colorado would work in their states?

*Mr. Hay. Absolutely not, and in fact that's why we modeled all the scenarios that we did. One was wind, solar, and batteries only. One involved small modular reactors. One was just, what is the most cost effective basket of resources?

And even __ and in that scenario, it was actually clean hydrogen, as I said in my opening remarks, as a result of the tax credits. So, there are multiple pathways to help decarbonize the grid. And so, I would encourage my colleagues to look at those opportunities and pathways.

*Ms. DeGette. And just so you know, at least from the Democratic side of the aisle, we're not talking __ Mr. Myers,

you'll be happy to know this. We're not talking about a national one_size_fits_all where we're mandating what people need to do to get to zero carbon emissions by 2040 or whatever the date is.

What we're __ what we're trying to do is incentivize folks to come up with their own plans like Colorado has. And so, Mr. Hay, I know you've been involved for a long time in this field. Do you talk to your colleagues from other states, and are other states developing these types of plans, and what kind of advice can you give to them?

*Mr. Hay. Well, thank you, Representative, and I would agree, Colorado doesn't actually force particular resources on any one utility. We really have an outcome focused policy framework in the state of Colorado where we've partnered with their utilities to give them different opportunities.

I do talk to my colleagues across the country, and some of them are planning for decarbonizing their grids and new generation to meet electrification of transportation and buildings. Some are not, but I would encourage all of them to really look at the possibility of shifting to lower cost renewables as a way to ensure long term affordability to

customers.

*Ms. DeGette. Great. And one last thing. You raised something that is really critical as we move towards decarbonization, and that is permitting reform, because we have to be able to get the transmission that we need, and we also have to be able to locate these sources.

Perhaps __ well, I only have a little bit of time left, so let me just make a commercial announcement for my colleague, Mr. Peters, because Mr. Peters is honchoing a bipartisan effort towards permitting reform. Mr. Chairman, I think it'd be great if we could work on legislation that we could try to pass this Congress, because that's going to really enable us to get to a carbon free future, but also grid reliability and resiliency, and with that, Mr. Chairman, I yield back.

*Mr. Duncan. The gentlelady yields back. I'll now go to Mr. Latta for five minutes.

*Mr. Latta. Well, thanks, Mr. Chairman, and thanks for holding today's hearing. Thanks chair witnesses for being with us today. I know the members on this committee have heard me say this, but Northern Ohio, we make about

everything from steel to glass to engine blocks to autos, tires, you name it, we make it. We consume a lot of energy to do that.

My district alone has 86,000 manufacturing jobs. When I go back to 2014, I think of the polar vortex that we had, you know, it was pretty, pretty close that people were concerned across the state that we were going to go into blackouts and brown outs, but we had none. Every power station was up and generating at that time. And today, though, we've got a situation where I'm not sure we could do that, because we've seen these power generation stations going offline.

So, I've got a lot of questions in my last four minutes or so. I'd like to ask as many as I possibly can, and Commissioner Pridemore, first question. Do we need more power, or less power?

*Ms. Pridemore. More power, sir.

*Mr. Latta. Thank you, and then when you were talking about your demands in energy, and especially __ and this is coming up frequently now __ from the data centers. Are we going to need more power or less power when we have these __ more of the data centers coming online?

*Ms. Pridemore. More power. Much more.

*Mr. Latta. Because I've seen statistics that we're talking about probably doubling that, what we're going to have to have right now. And then also you mentioned in your testimony about some solar __ on the solar side, and I'm __ we're a firm believer in all_of_the_above energy policy, and having everything in the mix out there. But I'm just kind of curious. In your testimony, you're talking about battery back up on __ how much power do you have in back up from the batteries?

*Ms. Pridemore. In Georgia, we have a prescribed 80 megawatts of battery storage. We have more that's before us right now for reviewing a case. But sir, our challenge with batteries has been supply chain issues, accessibility of the batteries have been a big issue for us.

Not to mention the cost. Some of these newer technologies, such as my friend here mentioned, hydrogen, they are very young, and with that comes an extraordinary cost that comes with that, and as costs __

*Mr. Latta. Could I __ could I just ask on that, the __ you know, when you're talking about the __ pardon me for

interrupting __ the timeline on that though, if we're on those batteries. How much time would that be? Is it 10 hours? 12 hours? How many hours do you think that would be for the power needs?

*Ms. Pridemore. That depends upon the overall storage of the battery itself, and how __ what the capacity of it is. You could see five hours, you could see 24 hours. It depends upon __

*Mr. Latta. Okay.

*Ms. Pridemore. __ the actual battery.

*Mr. Latta. Thank you. Chairman Huston, if I could also ask you, do we need more power or less power?

*Mr. Huston. More.

*Mr. Latta. And you know, you mentioned in your testimony that your __ the state was in the top five affordable, and now you're 29th in 2022. What about business development?

Do they look at that when they come into the state? Are businesses remaining in the state, especially on the manufacturing side? Because my district butts up to your state on my western side, and you know, the question is, are

you seeing a change out there with manufacturers looking at the state when you're looking at your power?

*Mr. Huston. Well, not to impugn the state of Ohio as our next door neighbor.

*Mr. Latta. Be careful.

*Mr. Huston. We are __ we are the highest manufacturing employee population by percent of population in the country, and like Ohio have enormous steel production in Northwest Indiana __

*Mr. Latta. Right.

*Mr. Huston. __ but we have steel production elsewhere in the state, tremendous auto production, manufacturing and melting metals and moving metals requires a tremendous amount of energy.

And from an economic development standpoint, that is important to have grid stability along with reliability and resiliency to maintain a manufacturing base. You are moving a ladle with 40 tons of molten metal. You do not want that energy supply interrupted. It's the same kind of thing that would happen with chip manufacturers.

*Mr. Latta. Right.

*Mr. Huston. They need significant amounts of energy that is uninterrupted, and so that's where grid stability or quality __ some people call it quality.

*Mr. Latta. And sorry to interrupt you, let me ask this question real quick. You need to be real quick on this one. PJM. When you're trying to __ when you're meeting with PJM, are they telling you that you need more power or less power right now?

*Mr. Huston. More.

*Mr. Latta. Thank you. Commissioner Myers, I've only got about 33 seconds, but also I'd like to ask the same question. Do we need more power or less power?

*Mr. Myers. Definitely more.

*Mr. Latta. And again, you also mentioned about your data centers and large industrial manufacturing account for 75 percent of your energy growth in the state. Are you going to need more power or less power because of that?

*Mr. Myers. Oh, we're going to need much more power.

*Mr. Latta. Okay, and my last 15 seconds, can you tell me how __ real briefly, how is this issue with permitting? Is it good? Bad? Indifferent?

*Mr. Myers. I think I covered that in the opening statement. 16 years for a transmission line just for permitting is ridiculous.

*Mr. Latta. And just real quick, whether you're looking at 16 years of that, how much more costs went into that project because of that 16 years?

*Mr. Myers. That's to be determined, but a lot.

*Mr. Latta. Okay. Thank you very much, Mr. Chairman. My time has expired, and I yield back.

*Mr. Duncan. The gentleman yields back. I'll now go to Mr. Peters for five minutes.

*Mr. Peters. Thank you, Mr. Chairman. Thanks to the witnesses. I would just say, Mr. Myers, it is ridiculous. It's inexcusable, and I'd love to work with you and everyone here.

That's an interregional transmission line which is something I want to talk about today. I agree with my Republican colleagues on one thing we need to get serious about the resource adequacy problem facing this country. We are facing, as you've recognized, unprecedented growth and corresponding energy demand from EVs, AI, data centers,

manufacturing, and as well as natural population growth in both urban and rural areas.

So if we're interested in talking about a long term strategy to maintain energy affordability and reliability while we reduce emissions, the committee needs finally to talk about transmission in the grid and our generation mix, and what combination of approaches work best, and Mr. Hay, I congratulate you on the work you've done in Colorado.

Multiple analyses recently from MIT and Columbia have shown that the Big Wires Act, which I and Senator Hickenlooper introduced, would save customers hundreds of millions of dollars while keeping the lights on during natural disasters and other challenges. These cost and reliability benefits are driven by the ability of high demand regions to use energy from other regions that don't need it at that time. So, that means communities across the country using inexpensive Iowa wind, Arizona solar, and whatever else excess generation that folks are willing to buy and sell.

I also want to emphasize that electrons and the transmission lines that carry them are resource neutral. All types of generation, whether fossil or renewable, need

transmission to connect to the grid and deliver energy to customers.

So, a lot of you have said __ and I think this is understandable __ that you want to have enough in_state generation to serve your load without relying on other regions for your energy needs, but right now while we have winter storms and other grid straining events, the lights just keep going out, and study after study keeps saying that if we had just a little more transmission capacity, we could have kept the lights on while saving money for their customers and in some cases even saving lives.

Mr. Huston, I understand that Indiana is a member of two regional reliability entities, MISO and PJM. I was happy to see the organization of PJM states and the additional MISO states call for a redoubling of efforts to coordinate interregional transmission planning. Did you see that letter?

*Mr. Huston. Yeah.

*Mr. Peters. Do you agree that more inter_regional transmission would better protect your customers from blackouts stemming from extreme weather or physical tax and

otherwise support the five pillars that you __ that guide Indiana's policy?

*Mr. Huston. I think inter_regional planning makes a lot of sense.

*Mr. Peters. Yeah. Mrs. Pridemore, I understand we need to build more generation to meet energy demand, but in the medium to long term with the growth that Georgia is seeing, congratulations, are you going to be able to have a hundred percent of your energy demand all the time met only by in_state generation? Because you had five connections to other regions.

*Ms. Pridemore. Yes, Mr. Peters. We connect to five other regions, but the compact that the state of Georgia holds with our vertically integrated utility, is that we generate what we consume inside the state of Georgia.

You mentioned blackouts and forced outages earlier. You can look at the last three winter storm incidents, and the number of blackouts and outages that we had were so minimal, they __ just those caused by downed trees and localized events.

*Mr. Peters. Do you not believe we'll need to __

*Ms. Pridemore. We're not having those __

*Mr. Peters. __ do you not believe we'll need to invest in transmission generation storage to meet demand?

*Ms. Pridemore. We already do.

*Mr. Peters. You called for permitting reform for pipelines in your testimony, but not for transmission. Are you satisfied with the federal transmission planning process?

*Ms. Pridemore. Yes. I'm satisfied with the way that Georgia does it.

*Mr. Peters. Federal?

*Ms. Pridemore. I would definitely __ I am satisfied with the conditions by which that Georgia manages its transmission.

*Mr. Peters. Mr. Myers, you're obviously not satisfied with what's happened with your line __ this SunZia transmission line? Can you tell me how long it's taken for that line to be built, and what happens if you are unable to build it?

*Mr. Myers. Well, I think it's been about 16 years since it was initially proposed, and it is __ what happens is we don't get a path from New Mexico over to Arizona to

transmit a majority of its wind power, but it will be a DC line that transmits power across state lines there. What happens there is probably not too much for Arizona because a lot of that power is going to California; it's destined for California. But it is a transmission line, you know, between states that we will not be able to use.

*Mr. Peters. So, it's frustrating you as an Arizonan though, right?

*Mr. Myers. It is, because we've had multiple commissions that have gone through __ happen to go through this approval process over and over again because things keep changing, and keeps coming back before us because of federal laws changing, whatever the case may be, lawsuits, tribal lawsuit is one that's the latest.

*Mr. Peters. Well, I would say that for me, if you look at what's the conclusions of MIT, Big Wires would reduce electricity costs, help keep the lights on for millions of families, prevent tens of millions of metric tons of fuel emissions, I am hoping we can pursue it as well as permitting reform, and do more inter_regional transmission. Mr. Chairman, I yield back.

*Mr. Duncan. The gentleman yields back. I'll now go to the chair of the full committee, Chair Rodgers, for five minutes.

*Mrs. Rodgers. My home state of Washington is blessed with abundant, clean, affordable, reliable, dispatchable hydropower. And yet today, we have secret deals by the Biden Administration that aim to breach some of the dams that are in my district, which is only going to further limit this abundant source of clean energy.

Commissioner Myers, your testimony mentions that as more utilities turn to the market for electricity, there's less available for everyone else to meet their needs. And you also talk about the loss of reliable resources like coal, and the limited supply of natural gas in Arizona.

From your perspective as a public utility commission, how important is dispatchable generation to meeting growing electricity demand, adapting to changing demand patterns, and would you agree that we need more, not less dispatchable and reliable generation like what comes from the Four Lower Snake River dams?

*Mr. Myers. One hundred percent, and I will add that

Arizona does rely a lot on hydro power, and some of it comes from the Pacific Northwest, you know, wheeled down through California, of course, with that stipulation.

*Mrs. Rodgers. Yeah, and sometimes California tries to snatch it from us in __

*Mr. Myers. Exactly.

*Mrs. Rodgers. __ in that process anyway. Moving on, how can state utility commissioners work to protect existing infrastructure to make sure there's enough dispatchable and reliable generation?

*Mr. Myers. How can we protect?

*Mrs. Rodgers. Yeah.

*Mr. Myers. Well, we're doing it right now. We're coming to you saying we cannot have these rules that take away hydro power. We need to ease up on EPA restrictions. That's how we protect our energy grid, is to make sure that our reliable energy does not go away without adequate replacement.

*Mrs. Rodgers. Thank you. Commissioners Pridemore and Mr. Huston and Mr. Myers, assuring fair and affordable rates and reliable services is central to your jobs as state public

utility commissioners. As state legislators and federal policies press to increase intermittent renewable resources over more reliable baseload sources, what are the impacts that you're seeing on this for your responsibilities and authorities, and who ultimately pays for these policies? Mrs. Pridemore?

*Ms. Pridemore. Thank you, ma'am. I'd like to first start with who pays for it. Americans pay for it. Customers pay for it. This especially hurts low to moderate income folks, people that are on a fixed income, especially senior citizens.

You consider that this overall cost of redundant generation and additional transmission that's being built to supply low cost solar arrays in lower areas, and be able to move that power back to, you know, major power producing centers.

That's extraordinarily expensive, and considering it at a time when Americans are hit with inflation, we're just __ it's too much. We're asking too much right now. We are getting to cleaner sources. I think sometimes we spend a lot of time just fighting about the speed by which we get there.

*Mrs. Rodgers. Thank you. Mr. Huston?

*Mr. Huston. Well, I echo what Commissioner Pridemore has said. It's the ratepayers that ultimately pay, and I would add to it that in every field hearing that we do when there's a rate case before us, the overwhelming message is exactly what she just said about low and moderate income families.

They are the ones that are most hit by any basic utility increase. They're living on fixed incomes. They don't have the ability to deviate from those fixed incomes with discretionary income the way that maybe people who are more well off.

*Mrs. Rodgers. Thank you.

*Mr. Huston. And so, we are very, very sensitive about what Washington does, and how it may impact those rate payers.

*Mrs. Rodgers. Thank you. Mr. Myers, I'm actually going to ask you another question. The electric system in the west is becoming more interconnected. What happens in Washington State or California may affect Arizona's ability to supply reliable and affordable power. Can you briefly

explain the governance issues with California, the CAISO, its grid operator, and how they harm rate payers in western states like Arizona or Washington State, and should western states rely on California to govern the grid?

*Mr. Myers. My personal opinion, we cannot. There is not a big appetite for allowing California to run the RTO or even the day ahead market. California has supremacy clauses in their legislation, or primacy, so everything they do has to be centered around California. If we have a problem, they will make a change only if it benefits California, and that is a huge problem for us.

We also do not believe in their governance structure, that they can regulate power. I mean, just look at how much of a bang up job they've done keeping their own lights on. You know, we __ there aren't too many states that are happy to hand over control of their power grid to that.

*Mrs. Rodgers. Okay. Thank you. My time has expired. I'll yield back.

*Mr. Duncan. The gentlelady yields back. I now recognize the ranking member of the full committee, Mr. Pallone, for five minutes.

*Mr. Pallone. Thank you, Mr. Chairman. Mr. Hay, I want to address a discrepancy we've heard today between Colorado's view on the EPA rules and the views from some of the other states represented here.

So first, I wanted to touch on the EPA's proposed power plan emissions rule. In your testimony, you state that the head of Colorado's energy office, I guess Mr. Toor, provided comments to the EPA that said that even absent the rule, Colorado foresees its utilities will be in compliance with the proposed standards.

So for a state like Colorado that's already well on its way to meeting its own energy goals, can you talk about some of the benefits that Colorado expects to see from the proposed EPA rule?

*Mr. Hay. Thank you, Representative Pallone. You know, I think that perhaps one of the biggest things that will benefit Colorado, as I said in my comments this morning, is more support for things like clean hydrogen and carbon capture, which again, in our modeling, are the kinds of resources that are going to help us get further down that path to decarbonization.

And so for us, that technology support and driver in the EPA rule, which you know, as that comes into effect, it will help reduce the costs of those technologies, is really a big benefit to the state, we anticipate.

*Mr. Pallone. And then I wanted to touch on your statement that Colorado is well on its way to meeting clean energy targets without the EPA's rule. Can you talk about the results of the modeling you mentioned, and how they show that even a business as usual situation sees a massive decrease in emissions all due to the cheaper costs of renewables relative to natural gas?

*Mr. Hay. Thank you, Representative. And you know, the first step in that process has really been getting all of our utilities to get to at least an 80 percent emissions reduction by 2030, and they are all on track to meet that requirement.

They'll get to about an 86 percent renewable as they meet that pollution reduction requirement. So, that study is really taking that next step from that high 80 percent range, looking out towards potentially full decarbonization.

And so, what we did in the modeling, again, is we looked

at different scenarios and different pathways, but that business as usual case is really fascinating because __ and we didn't anticipate the result.

What we got back from the modeling was that if we simply take what we're doing today, and allow our existing gas fleet to transition to newer technologies for gas, bringing on __ put off some older plants, bring on some newer plants, that that process gets us to about a 97 percent emissions reduction in state, and an overall emissions reduction of around 94 percent. So really, the system that we have can help get us forward to meet those pollution reduction requirements.

*Mr. Pallone. All right. Then briefly, I wanted to highlight a part of your testimony where you mentioned that Colorado is requiring its utilities to consider participating in regional electricity markets, and what are the benefits that utilities and the residences of your state might be able to see if Colorado utilities were to participate in these markets?

*Mr. Hay. Thank you, and yes, we do have a statutory requirement that all of what is called under Colorado law are

transmission utilities have to be participants in an organized wholesale market by 2030 unless there are findings that it's not in the public interest.

We've been participants in and helped conduct a number of studies, one partnership with our public utilities commission, one in partnership with four other western states, all of the studies have suggested that there are hundreds of millions of dollars in financial benefits to customers from being able to share power across different parts of the western interconnect. Those studies looked at different footprints.

And so, really it starts with that financial benefit to customers, but secondarily it gives us the ability to access more renewable energy across the west, and to share Colorado's renewable energy with states that need it.

*Mr. Pallone. All right, then lastly I wanted to ask about the grid resiliency funding that Colorado received from the bipartisan infrastructure law. By my count, Colorado utilities have received just over $225 million. Can you talk about the importance of these awards to aid the work that Colorado utilities are doing to mitigate the impact of

wildfires, and enhance reliability?

*Mr. Hay. I can, and thank you again for the question. You know, as Representative DeGette suggested, wild fires are an important part of what is happening in Colorado. It's one of the leading things that we are seeing as a significant impact from the climate crisis.

And so, it's really important that our utilities be able to make investments really in three different areas. First of all, understand what is the potential for wildfires, and some of the funding will help them do things like advanced soil monitoring and vegetation management. But also being able to respond more quickly on their system as wildfires are happening.

So, are they monitoring the grid, and then are they able to actually move the electricity off that area of the grid onto another part so that we don't see outages? And then the third piece of that is actually being able to put the grid back up into place as quickly as possible.

Colorado is a mountainous, rugged, rural state outside of the front range. And so, the federal support for our utilities has been really key, and I'd like to highlight just

one piece of that with Holy Cross Energy and their work with some of our rural electric cooperatives. Those are often very small utilities that serve very small areas.

*Mr. Pallone. All right. Thank you so much. Thank you, Mr. Chairman.

*Mr. Duncan. The gentleman's time has expired. We'll now go to Mr. Guthrie for five minutes.

*Mr. Guthrie. Thank you, Mr. Chair. Thank you for the recognition, and thank you everybody being __ for being here. You know, I __ the goal of all of us is making sure that our constituents have sustainable, reliable, and importantly affordable access to energy.

Energy can completely change the dynamic of people's lives, and that's why we got to make sure that it's there. It can't just be dismissed how important it is for people to function.

And so, for the EPA's clean power plan 2.0, it doubles down on the Biden Administration's rush to green by requiring coal and gas generators to convert to hydrogen, reduce their operations, or even force premature retirement of those assets.

While the EPA does offer the use of technologies like hydrogen co_firing and carbon capture compliant strategies, these technologies are not commercially viable. So Commissioner Pridemore, could you talk about what measures your state, your utility operators, and power providers would have to do to comply with this rule?

And are you able to comply with the timeline of the rules, and what would they have to do to comply, and can they comply within the timeline, and what will this do to the cost to your rate payers?

*Ms. Pridemore. Thank you for the question, Mr. Guthrie. The utilities in the state of Georgia would be put between a rock and a hard place, trying to determine whether or not they're going to serve customers at times when they are pinched for power. It's this dispatchable energy that is so necessary to ensuring that we can provide continuous service.

There's going to be a cost consideration of course to it, but then there's a long term consideration to the reliability of the renewable resources. I recognize that hydrogen and battery energy storage systems, as we call BESS,

are fine technologies, but they're very young. They're very new. They have not been tested.

There's been a great deal of research, but at the end of the day, the lights are on right now because the lights are on, not because of research. And so, it's imperative for us to consider not just the cost implications of these decisions, but also the long term viability of the technologies explored.

*Mr. Guthrie. Thank you. And Chairman Huston, your home state is very near mine, or there's a mile wide river between most of __ most of us, so we have very much the same needs, and you __ and growing energy needs. What type of generation do you expect to be built in your state over the next few years, and why? And can you talk about the risks and tradeoffs to customers for each type of the generations you will consider?

*Mr. Huston. Well, sure. The 20 year planning process for integrated resource plans gives us a window into what the utilities are looking at, and they model all resources. In fact, the general assembly passed a statute to include SMRs as a clean energy resource, but that's still a very nascent

technology, and something that would not be costed out at a very significant level at this point. They model coal energy, they model gas, they model nuclear.

They model everything, including variations, refueling of existing power facilities, and as I stated, what we have done at the commission is tried to maximize their look at optionality and flexibility, because the future is not known. We don't want science fiction type of aspirations to be part of it, we want facts.

We want some technologies that are proven and that can sustain, hopefully, a 20 year horizon, and not have their depreciation schedules collapsed into even shorter period of time, causing exploding rates. That's a long winded answer for all_of_the_above is what we try to encourage in ways that provide dispatchable, reliable, resilient, sustainable electricity for __ into the future that meets our power needs and also is affordable. It's a very difficult challenge.

*Mr. Guthrie. Well, thank you, and you talk about these aspirationals, and we need to set goals, and we need to move forward, but when you put things into rules and so forth that are not __ just not obtainable __ for example, we've just

spent billions of dollars I guess on the infrastructure bill or the Inflation Reduction Act on batteries __ car batteries to say that all cars have to be electric by __ excuse me, two_thirds of cars produced have to be electric by 2032 when anybody in the car industry says that's just not doable, but people here took the money, so they didn't really say that, but now we see that the battery complex that has been built in my district is going to be about half what it was supposed to be when they first took the money, and because it's __ you're just asking people to do things that are not possible.

So Commissioner Pridemore, in your __ in your state, is your state widely affected by decisions of other states, and when they pursue unachievable environmental goals?

*Ms. Pridemore. No.

*Mr. Guthrie. No? You're not affected by that at all? So, the __ so, you can do things that make your market structure more secure?

*Ms. Pridemore. We are affected by the actions of the federal government and the actions of the state of Georgia.

*Mr. Guthrie. So, not the other states around you. Thank you. Thank you for that answer.

*Ms. Pridemore. Thank you.

*Mr. Guthrie. Appreciate it. I yield back.

*Mr. Duncan. The gentleman yields back. I will now go to Mrs. Fletcher for five minutes.

*Mrs. Fletcher. Thank you, Mr. Chairman, and thanks to all of our witnesses for being here today. This is a really important hearing. I don't think I have to tell anybody here, or explain to anybody here that Texans know the importance of grid reliability all too well, and we have our own set of challenges in Texas from the devastating impacts of the winter storm a couple of years ago, to record demand. We had peak demand this summer that set new records. The reliability of our grid is critically important, and people in my district and across our state are worried about it.

Peak demand in ERCOT has now risen to __ I think it's risen by 5,000 megawatt hours for each of the last three years, and the rise in the demand that we've seen over the last few years, plus the expected increase in demand going forward, especially as we see a lot of new things happening, it's just one of the greatest challenges, I think, for operators everywhere in terms of ensuring reliability.

So, in the last Congress, as Mr. Guthrie just mentioned, we did pass historic legislation that helps drive investment in all kinds of energy technologies, and I'm very much an all_of_the_above energy person, and I think we need to be doing all of these things in the Inflation Reduction Act, in the Chips In Science Act.

We are investing in things that will lead to the development of new technologies that can add to the energy mix, and we're seeing these developments. Massive investment in new semiconductor manufacturing, in industrial manufacturing, batteries and battery storage, other energy components, and for the projects that are incentivized by these bills to succeed, we have to be able to power them, and I think one thing that I would like to focus on with the time that we have is what I see as the single greatest impediment to bringing a new generation online, and that is the permitting process.

We've heard a little bit about it already this morning from Mr. Myers, and at least my notes say that the average time that projects spend in the queue is a little bit less than that, but has risen from 2.1 years to 3.7 years just

between 2010 and 2021, so over that decade.

So Mr. Hay, in your testimony you stated that your modeling shows a need for significant expansion of supply to meet an anticipated 40 percent increase in demand by 2040. Under the current permitting structure, do you think that you will be able, or that we will be able to deploy the needed generation, given the permitting situation?

*Mr. Hay. Thank you, Representative Fletcher, and actually that's one of the things this year in the Colorado General Assembly legislative session that we are taking on is reform to state level permitting and siting.

We want to make it easier for developers to come forward with good projects, and simpler for our counties which have decision making authority in Colorado to actually vet and approve those projects.

We think a similar streamlined process at the federal level would be really important to help make sure that the pace and scale of development of wind and solar and other clean energy technologies is where we need it to be if we're going to come forward and really do a deep decarbonization of an electrical grid.

*Mrs. Fletcher. Thanks. I think that's an excellent point, and I would love to hear from everybody on the panel if you are experiencing this, if you think there are things that we should be looking at at the federal level, permitting reform ideas that Congress should be looking at, whether modeled on what you're doing in the states or elsewhere, but that would be helpful for all of us. Mrs. Pridemore, you have something to say?

*Ms. Pridemore. Yes, ma'am. I would like to see meaningful pipeline permitting reform. Access to natural gas is essential for my state's growth, essential for commercial industrial customers, as well as residential customers who choose it for home heating. We continue to use gas as a dispatchable energy source on the electric side, but access to gas is essential for us. We'd love to see more.

*Mrs. Fletcher. Great. Mr. Huston? And actually my next question was for you too, so maybe I can put them together. If you can talk about that, and also answer this question since I only have 54 seconds. You talked about the issues that the Indiana Utility Regulatory Commission faced for approving a carbon storage study in your testimony, and

the difficulties in deploying new gas generation near transmission lines and adjacent carbon storage locations.

So, apart from granting primacy applications, how could EPA improve the process around CCS and class six permitting and class six wells to make it easier for state utility regulatory commissions to develop these plans and projects? So, you got kind of both in one question.

*Mr. Huston. Well, let me start with off the first question. Indiana is in the intersection of a lot of gas pipelines. We are blessed. We've got gas coming from Texas, we've got gas coming from Louisiana. We've got gas that's coming from Utica. We've got gas __ the Rocky Mountains Express Gas Pipeline which now flows in a different direction.

So, access to gas is not as acute of a problem for either home use or for electric generation as it is elsewhere in the country. With respect to carbon capture and sequestration, is that what you're asking about?

*Mrs. Fletcher. Yes.

*Mr. Huston. We had one utility, Edwards __ Duke energy, EdwardsPort, which is the newest coal facility in the

__ one of the newest in the country __ went operational in 2013 __ actually makes gas and burns gas at the same time. They did a carbon capture and sequestration study associated with that that came up with a prohibitive number. But I don't know enough to be able to say exactly what would be needed except for flexibility.

*Mrs. Fletcher. Okay.

*Mr. Huston. Different __

*Mrs. Fletcher. Well, I've gone over my time, so __

*Mr. Huston. __ have different needs.

*Mrs. Fletcher. __ if you want to __ if you have anything else to say, I'd love to submit it for the record, and I'll get those questions circulated to you all, and I'll yield back, Mr. Chairman.

*Mr. Huston. Thank you.

*Mrs. Fletcher. Thank you so much.

*Mr. Duncan. The gentlelady yields back. I'll now go to Mr. Walberg for five minutes.

*Mr. Walberg. Thank you, Mr. Chairman, and thanks to the panel for being here. Our governor, Governor Whitmer recently signed into law a sweeping climate package for our

state, really overriding local control and all of the other things, and my farmers and business people are extremely frustrated.

It will accelerate retirements of baseload generation in favor of renewables with less capacity, seemingly ignoring concerns over reliability. The state government's goals somehow include more __ both moving to one hundred percent clean electricity, while also adding the demand of millions more EVs on our grid.

Chairman Huston, NAERC identified MISO as one of the few regions at risk for resource shortfalls. Demand for power is going up while generation is going down. You've all indicated, we need more generation. How should states build in more flexibility for the electricity demand of the future?

*Mr. Huston. I think working together is one of the biggest ways to do that. There's a reason why we engage with MISO directly now through that general administrative order that I mentioned, soliciting input. Those guys are in charge of the grid from Manitoba to the Gulf of Mexico.

*Mr. Walberg. Mm_hmm.

*Mr. Huston. We're included in that, and we have states

with different perspectives and different environmental goals, but they need to move electrons around, and we need to understand as state commissioners exactly what is needed from them to do their job properly as well.

We're not as independent as what Tricia was talking about in Georgia. We are interconnected and do rely on that connectivity. That's the reason why we support dispatchable characteristics being priced in the ancillary services. That's the reason why we look at scarcity pricing for delivering electrons when they are absolutely most needed.

People talk about gas peaker plants and other kinds of peaking facilities as if they're not used because their utilization may only be ten percent of the time, but it is precisely at that point in time when you need __

*Mr. Walberg. Need it.

*Mr. Huston. __ it the most that you must have them. So, an all_of_the_above energy plan that includes the resources, that has positive characteristics on fuel side, which is where renewables are, but dispatchable and spinning on the reliable side is necessary to make sure that the grid does not go down.

To your NAERC observation, we want to make sure that we're a working partner in Indiana in doing what we need to do, just as Georgia is doing, and doing things ourselves, and not over relying on the wholesale market, but also where the wholesale market is capturing a pricing mechanism to deliver dispatchable electrons.

*Mr. Walberg. Appreciate that. Having Michigan power in my district, it's important. We've held hearings on this topic with FERC and the ISOs and the RTOs, and now the public utility commissions.

With all these regulators, I think there's a false sense of security, with everyone leaning on somebody else. So, to the whole panel __ and briefly and succinct __ when the lights go out, who really is at fault? My constituents want to know where the buck actually stops. Mrs. Pridemore?

*Ms. Pridemore. I am.

*Mr. Hay. Number one, our utilities have an obligation to serve their communities, so __

*Mr. Huston. Number one, our utilities have an obligation to serve their customers. And so they are ultimately responsible, but I will say we bring them before

us twice a year on winter reliability and summer reliability to make sure that they've got the power needed and the resources needed to deliver peak load, plus a reserve margin on an ongoing basis.

*Mr. Walberg. I sure like Mrs. Pridemore's answer. Mr. Hay? Where does the buck stop?

*Mr. Hay. I thank you, Representative. As I think everyone knows, I am not a regulator in the state of Colorado, but I will say that for our investor end utilities, our commission ultimately is responsible for ensuring that the systems are reliable.

*Mr. Walberg. Okay. Mr. Myers?

*Mr. Myers. I am.

*Mr. Walberg. Okay. Bookends, I like it. We're now moving clean into the mix along with affordability and reliability, and that's okay, but that was generally environmental. But now we're moving in. So the question I have, Mr. Huston, how do we __ how do we make sure that we incorporate clean without damaging the other two?

*Mr. Huston. Well, it's the obligation to serve customers. They have __ the utilities have a responsibility

to deliver it, and we as regulators enforce that responsibility.

So, we take it very seriously. That's the reason why we do engagement on an ongoing basis. It's the reason why our legislature has embedded five pillars, three of which could be characterized as reliability. Sustainability, stability, resiliency, reliability. It all works together.

*Mr. Walberg. I certainly see my time has expired, but I certainly appreciate, Mrs. Pridemore, when you mentioned that it seems to be working. We're moving in that direction anyway, and without the government mandating, mandating, mandating. I yield back.

*Mr. Duncan. The gentleman's time has expired, and I'll go to Ms. Matsui for five minutes.

*Ms. Matsui. Thank you very much, Mr. Chairman, and I want to thank all the witnesses for being here today. I think we all agree that keeping the lights on is really a huge priority, and climate change is really making that job harder though, with more frequent and more intense extreme weather.

Last week, Sacramento was battered by another

atmospheric weather that brought heavy rain and wind gusts over 65 miles per hour, which really downed a lot of trees in our city of trees. These storms knocked out power for thousands of my constituents, and I really want to thank our local utility SMUD who really acted quickly, and for the incredible work they did to quickly restore power across the region.

Moving forward, climate change will increase the likelihood of severe weather __ more severe weather, which has consequences for the grid. Mr. Hay, how important is it for utilities and states to consider the weather impacts of climate change in planning for the future?

*Mr. Hay. I thank you, Representative, and I would say it's absolutely essential in two ways. First of all, in Colorado, we're already seeing the impacts of changing weather as a result of climate.

Our winters are no longer as cold as they used to be. Our summer days are warmer, and really importantly, our summer evenings are no longer as cool as they used to be. That's driving changes in utility load. Second is those extreme weather events, whether it's Winter Storm Uri a

couple of years ago, or summer heat domes.

So, our public utilities commission is actually requiring our utilities as part of their resource planning process to essentially stress test each of the different models that they're running to make sure that our system is reliable, even under extreme weather.

*Ms. Matsui. Okay. So, if a state utility ignored the impacts of climate change and continued to operate as they have in the past, is that likely to make the grid more reliable or less reliable?

*Mr. Hay. Representative, I would say less reliable.

*Ms. Matsui. Uh_huh.

*Mr. Hay. The future is not going to be like the past. Our utilities need to be planning __

*Ms. Matsui. Sure.

*Mr. Hay. __ for different weather __

*Ms. Matsui. Okay.

*Mr. Hay. __ than they've had 30 years ago.

*Ms. Matsui. That's good. Climate change is an emergency, and we have to act like it is. That's why I call on EPA to finalize a strong rule limiting climate pollution

from coal and gas plants. A strong national carbon pollution rule is necessary for the transition to a clean energy economy. Mr. Hay, is a proposed EPA rule feasible, and can you explain how you expect utilities in the west to meet the proposed rule?

*Mr. Hay. As my comments reflect, Representative, in Colorado, we don't think that rule will actually have much of an impact in our state, because we're already ahead. I think Colorado can actually provide a roadmap for a lot of western states in looking at how they can achieve decarbonization while ensuring reliability and affordability.

So, I would point to the model in Colorado where we set an emissions reduction target, and left it technology neutral for how to get there. I think that's largely what the EPA rule does.

*Ms. Matsui. Mm_hmm.

*Mr. Hay. And so, if they want to look at a state level, look to Colorado __

*Ms. Matsui. Well, I'm also looking at my utility too, because our utilities, SMUD has set an ambitious goal to be zero carbon by 2030. We can achieve that goal while

continuing to deliver reliable and affordable electricity. But innovation sometimes requires that we rethink how we have approached problems in the past.

One solution is to use demand response assets like smart thermostats, or managing __ or managed charging of electric vehicles. Mr. Hay, can you explain how demand response can make the grid more reliable while also saving rate payers money?

*Mr. Hay. Thank you. As Mr. Huston suggested earlier, there's a moment in time where utilities need a resource.

*Ms. Matsui. Mm_hmm.

*Mr. Hay. And in some states, that's going to be a gas peaker plant. In some states, it's going to be demand response, and to earlier comments, you know, that unit of energy you don't have to create is going to be your cheapest, lowest carbon unit of energy available. That's the __ that's what demand response provides, that opportunity when a utility needs it not to have to generate, but to rely on their customers to reduce energy consumption, and usually be compensated for that.

*Ms. Matsui. Okay. In Sacramento, SMUD is working to

pilot virtual power plant technology. Electric vehicles are particularly important for a virtual power plant because they both use and store significant amounts of energy at different times. Mr. Hay, can you explain how electric vehicles can be used to reduce demand on the grid and provide energy to the grid without inconveniencing rate payers?

*Mr. Hay. This is something that we're actually working on closely with one of our largest regulated utilities in the state, Xcel Energy. Where it really comes down to managed charging programs, and that as you build those programs, ensuring that customers have an opportunity as part of that program to basically tell the utility when to charge, when not to discharge, and how much of that battery has to be there, and the customer then gets compensated for it. So, it's making sure that there's flexibility through the utility, but also decision making rests with the customer.

*Ms. Matsui. Okay. Well, thank you very much. I yield back.

*Mr. Duncan. The gentlelady yields back. I'll now go to Mr. Palmer for five minutes.

*Mr. Palmer. Thank you, Mr. Chairman. One of my main

concerns is about __ obviously about grid reliability, and I was looking at a report from the mid_continent independent service operator and their concerns despite importing I want to say 3,000 megawatts __ still concerns about being able to adequately meet demand. Mr. Huston, do you have those concerns?

*Mr. Huston. Well as a matter of practice, RTOs exchange electrons every day. Sometimes it's in more acute situations than others. During one of the most recent winter storms, the 6,000 or six gigawatts of electricity would be exchanged to support the needs of another RTO. But overall, as consumption and load grows, we need to make sure that we have the proper resources in place and fulfill our responsibility that the grid itself is reliable. And yeah, I do have concerns, and that's the reason why we're soliciting direct input from the RTOs on how they manage their job in moving those electrons throughout the footprint.

*Mr. Palmer. Yeah, but what MISO is really concerned about is the fact that we shut down so much of the hydrocarbon base power generation, and we're not replacing the capacity at a fast enough rates.

It reminds me of what some of my colleagues are advocating for in taking down the dams in Washington State, 70 percent of the power in the state of Washington comes from hydro, but when I asked them what they were going to replace it with, they couldn't give me an answer.

*Mr. Huston. Mm_hmm.

*Mr. Palmer. It's like they think magically we'll just replace it with something, and you can't build anything in this country. We had a discussion about __

*Mr. Huston. There's at least a three year __ or, a three year __ at the bare minimum of getting through a queue process to getting something in the ground, you're right.

*Mr. Palmer. Yeah, and permitting and then lawsuits and everything else. Sounds like they'll be cooking over wood if they get rid of their dams, but the other issue __ and Chairman Duncan brought it up __ is moving to nuclear. And I know Georgia power has built VOGTEL. I visited the VOGTEL facility, but I'm a major proponent of small modular reactors.

I really think that's the future of clean power, and it's also __ one of the huge advantages is that you can

recycle spent fuel. I asked the director of our National Nuclear Laboratory how long we could operate just using spent fuel and he said over a hundred years. Is that __ has that got to be part of the mix?

I'd just like your response, Mrs. Pridemore, because you've gone through what you've gone through with trying to get VOGTEL operational, but I really think the smaller modular units are really the future.

*Ms. Pridemore. Thank you, sir, for the question. ASMRs show bright promise, but it's getting the first five to ten built, and that is an area where we have been asked today as state regulators ways that the federal government could assist. That is certainly a way that the federal government could assist. I can attest to __

*Mr. Palmer. On the permitting, just being able to get them started?

*Ms. Pridemore. Permitting, finances.

*Mr. Palmer. Mm_hmm.

*Ms. Pridemore. Just building the first five to ten SMRs, you'll get economies of scale from that. You'll have a workforce, and the learning and the knowledge that comes from

that construction.

I'll give you a great example. Plant VOGTEL Unit three, to get it to hot functional testing, we were able to take nine months out of the schedule in this __ in the fourth unit, just from the knowledge and the understanding that came through doing it the first time.

*Mr. Palmer. Mm_hmm.

*Ms. Pridemore. And so that is an area where the federal government could certainly assist in the growth and development of SMRs.

*Mr. Palmer. Okay, and one of my major concerns here is how grid reliability is a national security issue, and we keep talking about going to renewables and EVs, and you know, a reliance on batteries.

I just __ Mr. Chairman, I didn't bring this to the committee's attention earlier, but if you look at battery manufacturing capacity by country, China controls 69 percent of it. The US is ten percent, and does that tell people, we don't make batteries. We assemble batteries from parts that we import from China and other countries.

So, my concern here is as we continue to shut down

hydrocarbon based power production, and try to move more to renewables, that we're creating a national security issue for ourselves, not only just on our grid reliability. I mean, North American Electric Reliability Corporation said the single biggest threat is changing the resource mix. How would you respond to that, Mr. Huston?

*Mr. Huston. Well, as I tried to mention in previous comments, having an all_of_the_above, which would include coal, which includes gas, which includes nuclear, which includes renewables, gives us diversification of the portfolio, and a strength and a resiliency.

The commodities, along with coal and gas, fluctuate in their pricing. Sometimes they trace each other, but if there is a problem with one, it wouldn't be necessarily with another, and that's where diversification comes in. So, the idea and thought of having more nuclear, small, modular, coal, gas, solar, wind all working together probably strengthens us as a country.

*Mr. Palmer. Thank you. Mr. Chairman, just for clarification purposes, that figure that is cited on battery capacity, that's for 2027.

*Mr. Duncan. Wow. Well, I thank the gentleman and his time has expired. I will now go to Mr. Tonko for five minutes.

*Mr. Tonko. Thank you, Mr. Chair. No one here is suggesting that decarbonizing the grid will be easy. We need to utilize every tool possible to ensure our electricity system remains reliable, affordable, and clean, which I believe is both possible and necessary.

Based on Mr. Hay's testimony, it sounds like Colorado is a great model for this, proving that states can make tremendous progress in decarbonizing their generation mixes, but also proving that states need robust, long term plans.

Success will require pursuing many strategies, improving permitting and siting of new renewables, building energy storage, expanding interregional transmission infrastructure, and improving the performance of our existing infrastructure.

But one strategy that is often overlooked in these discussions is energy efficiency. According to the International Energy Agency, efficiency could be responsible for 40 percent of the greenhouse gas emissions reductions needed by 2040. So, Mr. Hay, is energy efficiency an

important strategy for achievement of Colorado's clean energy goals?

*Mr. Hay. Thank you, Representative. It's an absolutely essential part of what we've been doing, and going forward as our studies suggest, it can meet anywhere up to nine percent of our energy needs.

So, as we see energy use increasing, we can bend that curve a little bit with energy efficiency, but a really important component of that that doesn't get talked about sometimes is what it can mean for customers in helping them manage and reduce their energy bills. It really is an affordability component as well.

*Mr. Tonko. Thank you. Can you say a little bit more about how reducing energy demand improves overall system reliability?

*Mr. Hay. And that's going to be an interesting challenge going forward, as we see more cars coming onto our electrical grid, as we see more homes coming onto our electrical grid, but really making sure that the utilities are able to balance and manage that system where we're seeing more consistent use of electricity over the hours of a day

and hours of a year.

That growth and that flattening out actually results in a downward pressure on rates to customers. We've already seen that in Colorado from one of our electric vehicle planning proceedings for our largest utility.

*Mr. Tonko. Thank you. We've heard today that many states are projecting a resurgence in industrial electricity demand, in large part I believe due to manufacturing incentives that are enacted during the Biden Administration. So, Mr. Hay, how can demand response programs help integrate these large energy users without compromising reliability?

*Mr. Hay. Thank you, Representative. And if I may, I would highlight actually a slightly different story in Colorado in answering your question. We have a steel mill that is powered by one of the largest solar facilities in the United States, and it's helping to produce green steel. But to your question, demand response is an essential component, especially for large industrial customers.

We in Colorado do it in a way that gives the flexibility to the customer and the utility to work together to help manage that load, and I think that's an important part of

that. We're not telling producers and manufacturers you can't have power when you need it. It's really making sure you have a program that works for both of them.

*Mr. Tonko. Thank you, and Mr. Hay, your testimony also mentioned building energy codes. What are the benefits of adopting these latest codes?

*Mr. Hay. This is something we've done a lot of work on in the Colorado energy office, and again, it really has multiple layers of benefits. From an energy and a climate perspective, we're not needing energy in that building, so we're avoiding having to build new power plants, and customers aren't having to pay for those power plants.

For customers, it means that they have lower energy costs overall, and frequently more comfortable homes, and to our earlier conversation about sort of the flattening of the grid, again, there's a benefit to all of the other customers. So, advanced energy codes are really important there, but I think one of the big pieces of it is you start with a building that needs less energy, and going forward that carries in time. And so, you're really avoiding energy and carbon emissions over the long term of a building.

*Mr. Tonko. Thank you. The Inflation Reduction Act included significant tax credits and rebates, some of which will actually be administered by state energy offices.

*Mr. Hay. Mm_hmm.

*Mr. Tonko. To support efficiency, how is the Colorado energy office working to inform residents of these new opportunities?

*Mr. Hay. Yeah, we __ thank you, Representative. We actually have a building decarbonization team in our office that is working with local jurisdictions to help get the word out through local building officials, through our network of contractors. We're also producing a website to help customers understand all the rebates and incentives that they are eligible for. I would say that we're using multiple channels to try and get the word out that there really are opportunities.

*Mr. Tonko. Thank you so much, and finally, I know a lot has been said about costs imposed by EPA standards, so I would like to remind everyone that downwind states like New York feel the effects of unregulated pollution upwind, and with that, sir, I'll yield back.

*Mr. Duncan. The gentleman yields back. I'll now go to Mr. Bucshon for five minutes.

*Mr. Bucshon. Thank you, Mr. Chairman, and I apologize, I have another hearing upstairs __ are we upstairs? Yeah, we're upstairs __ downstairs. Mr. Huston, your testimony illustrates the effectiveness of an all of the above energy strategy, and I fully believe in that. We should pursue all of these things.

Energy policy doesn't need to be a zero sum game. We can utilize renewable sources of energy like solar and wind, as well as traditional sources of energy like coal and natural gas.

The truth is we need a mix of these energy sources for the foreseeable future to balance each other. The wind isn't always blowing and the sun doesn't always shine. Data from the Energy Information Agency shows that coal and nuclear power nearly doubled on the national grid during the 2021 winter storm when needed most while weather dependent sources like wind and solar were unreliable during the entirety of the weather event. In fairness though, there were also challenges from poorly winterized natural gas sources, and

that needed to be corrected.

In a hearing in this committee just last year, Frederick Bressler, senior VP of market services at PJM Interconnection identified the rate of retirement of fossil fuel resources largely due to state and federal policies as outpacing construction of new renewable sources.

We know that dispatchable resources such as coal and natural gas provide the grid with stability for maintaining capacity during peak demand, reserve margin, frequency regulation, voltage control, buffering against variable energy sources, and the list goes on.

Mr. Huston, your testimony echoed this concern highlighting the rising expense passed onto the rate payers. Given the rapid changes occurring within the US grid, including the retirement of dispatchable resources such as coal and gas, exacerbated by federal regulations and policies, a point often reiterated in testimonies within this room, do you believe these transformations are enhancing the grid's resilience, or are we getting ahead of ourselves and making the grid more vulnerable?

*Mr. Huston. Well, as the adoption of renewables

increases, it increases the need for us to have resources available to make up for when they're not available. And so, that's the reason why our energy __ or, our utilities are required to do integrated resource planning that anticipates in a probabilistic way how the future may unfold. With additional renewables, whether it's wind, solar, and fulfilling their obligation to serve customers simultaneously, one of the messages that we got loud and clear from our general assembly is to not compromise on service reliability.

So, that's the reason why they passed five pillars, including reliability, resiliency, and stability all under that umbrella to make sure that as we approach the future, that at least as Hoosiers that we're doing it in a way that meets the needs of the future for a reliable system.

*Mr. Bucshon. And I would agree with that. Does the vulnerability caused by generation uncertainty lead to any cybersecurity concerns?

*Mr. Huston. Well, there's been some discussion about potentially demand response and aggregation in some ways, and we have invited the FBI and Homeland Security both at the

state and national levels to brief us on cybersecurity threats on multiple occasions, including having our investor_owned utilities appear before us.

And I think one of the concerns that's expressed is not only criminal conduct, which through ransomware and all those kinds of things, but state actors that may be involved, and how down chain manufacturers who supply energy products are protected. Cybersecurity is incredibly important to grid reliability, and that's the reason why we pursue that modality in our __ in our commission.

*Mr. Bucshon. Yeah, I mean, that's definitely on the radar here in Washington. You know, critical infrastructure, for example, which includes the energy sector, needs to be __ needs to be protected from cybersecurity.

I have a few seconds left, so how does state commissions manage divergent state approaches to energy policy with your neighbors? Maybe we'll see what Mr. Myers has to say about that, because states are different, right?

*Mr. Myers. States are different, and you know, we have a lot of transmission interconnects with the states that neighbor us, and that's part of our integrated resource

planning. That's pretty much how we manage it, is through the IRP process.

*Mr. Bucshon. Okay, fair enough. Mr. Hay, quickly?

*Mr. Hay. We partner, you know, with some of our states, but we maintain a regular dialogue across the western states.

*Mr. Bucshon. Yeah, fair enough. I'm out of time, unfortunately. I yield back.

*Mr. Duncan. The gentleman's time has expired. I'll now go to Ms. Castor for five minutes.

*Ms. Castor. Thank you, Mr. Chairman. Mr. Hay, my colleagues in oil and gas companies would have us believe that the only way to achieve grid reliability is with dirty fossil fuels. I think that's dangerous, and it's costly. In fact, a new scientific analysis finds that gas plants are particularly vulnerable to extreme weather events, like heat waves and cold snaps, which are growing in severity and frequency amid the heating climate.

Cold weather presents particular challenges. We saw the harsh conditions from the winter storm in 2021, again in 2022, where gas plant failures occurred at disproportionate

rates relative to clean energy sources.

In one case, over 240 people in Texas perished. It left families without power in freezing temperatures, and bills skyrocketed. What are the grid vulnerabilities associated with gas plants and highlight how clean energy sources like wind, solar, and batteries help support reliability and resilience?

*Mr. Hay. Thank you, Representative. You know, in Colorado during Winter Storm Uri, our wind largely, you know, stayed up and operational when the wind was blowing, because we had appropriately weatherized and winterized plants. The same was true of our gas infrastructure in Colorado.

We didn't experience the same problems that other states did. So, I would say the first part of that is really important, and adequate planning, you know, to the earlier conversation about changing weather and changing climate, I think the utilities and utility regulators need to make sure that they are looking forward at the impacts of what the future weather may be, rather than looking backward and expecting that that's going to tell us what the weather will look like. So, those are certainly two big components of

that.

With respect to the role of renewables, in Colorado, you know, they performed when they were needed, and they provide a reliable asset to our utilities. I think it's really been about the integration and the planning of the weather. Xcel Energy, our largest investor_owned utility, has invested in some of the most sophisticated weather modeling among the utilities, and it really allows them to project and forecast very close in time when those resources will be available to them.

*Ms. Castor. Thank you. Commissioner Pridemore, your testimony caught my eye, because in it you claimed that if a utility, say in this case, Georgia Power, violates a law or an EPA rule, then, "customers are left to pay for the fines and any resulting costs from legal actions.’’

Now, that strikes me as a strange statement coming from a public utility commissioner, because the commission decides whether or not it's appropriate for Georgians to pay those costs on their power bill. It isn't something that's guaranteed.

It's a choice that you and the utility commission would

have to decide. Why do you think it's appropriate for Georgians to have __ to pay the cost of Georgia Power's lawsuits, and why should __ why should the utility be able to challenge the law using Georgia rate payer dollars, and also fund their lobbying and political expenses?

*Ms. Pridemore. Thank you for the question. In the state of Georgia, Georgia Power has the legal right to seek recovery of the cost of operating their business, including lawsuits and the related costs for lawsuits. Especially those that are brought up by unnecessary federal government actions.

*Ms. Castor. Well, there's been a rash of scandals all across the country. I think everyone in the utility business understands what's happened in Ohio with First Energy. Florida Power and Light in my home state was found funding political consultants to fund ghost candidates to challenge legislative critics.

Carolina Water, CommEd in Illinois, New York with National Fuel, Michigan __ it's __ and now in Georgia, the southern company, the parent company of Georgia Power has been actively engaged in lobbying against new transmission

lines and other cleaner, cheaper energy sources.

Southern reported spending 191 million in activities related to political influence from 2015 to 2020 alone in annual filings to FERC, far more than other utilities. Has the Georgia Public Service Commission approved the use of rate payer funds for lobbying and other political activity?

*Ms. Pridemore. As much as I can see from afar of issues that have happened and according to other states, that's not the reality that I have in Georgia. So __

*Ms. Castor. Well, did the commission approves those? And here __ you don't have __ answer for the record because I'm running out of time. Many people don't think that's fair, and it's causing electric bills to go sky high, and I know that in Colorado __

*Mr. Duncan. The lady's time has expired.

*Ms. Castor. __ you passed a law to prevent that, and I've also filed a new Ethics in Energy Act, and I'd like you all to comment on the record with a follow up question to you on the appropriateness of those kind of funds.

*Ms. Pridemore. I'd like to address the question.

*Mr. Duncan. The gentlelady's time has expired. I will

now go to Mrs. Lesko for five minutes.

*Mrs. Lesko. Thank you, Mr. Chairman, and I really want to thank Commissioner Myers from Arizona for coming here and representing our great state of Arizona, and for all your great work. I think it's very common sense work that you do to benefit the Arizona rate payers.

*Mr. Myers. Thank you.

*Mrs. Lesko. I also want to recognize your daughter sitting behind you, Zoe, the committee __ yay, Zoe. Well, it's great that you get to visit with your dad and learn about all these great things, and hopefully you'll get to see some sights here in Washington, DC, and have a little bit of fun.

Mr. Myers, in your written testimony, you said your priorities in this order are grid reliability, rate payer affordability, and then cleaner technologies, and I want to say I totally agree with your priorities.

Just last week, the Arizona Corporation Commission took steps to dial back some of the costly renewable energy standards and tariff rules that were going on since 2006, I think. Hopefully this will be a model for other states to

follow.

Because of our reasonable approaches in Arizona, we have been a magnet for new businesses coming to our state. Many of these businesses are fleeing California due to their single priority, which is a hundred percent renewable energy. California is actively against policies that are affordable and reliable.

The average residential utility bill in Arizona is $138 per month. We have very hot summers, so our usage is much higher to keep people cool. However, if we had the same rates as California, the average bill would increase to $274 a month, doubling the cost.

I am working on draft legislation that will address grid reliability and affordability, so I'm very interested in all of your views in this area. My first question for Commissioner Myers is, the EPA's power plant proposal effectively requires carbon capture and storage, or clean hydrogen, two commercially unproven technologies, to reduce carbon emissions by 90 percent. Since these technologies are unproven, can you discuss the potential reliability problems EPA's proposal would create for Arizona?

*Mr. Myers. Absolutely. Thank you for the question. I believe our __ one of our utilities used the words aspirational and unproven when they were describing it, because that's exactly what it is. Those technologies are so much in their infancy that they are extremely expensive, the timeline is extremely rushed, and there is absolutely no infrastructure in place to handle either one of those technologies.

We have power plants that are outside of __ you know, they're kind of out in the rural areas. Well, you can't pipe hydrogen, for example, long distances. You have to convert it to ammonia and convert it back. That is extremely expensive. There is no infrastructure in place to handle any of that.

It would absolutely increase costs dramatically to Arizona utilities if we had to do that. It might also accelerate the closure of certain plants because of these requirements.

These requirements __ the dates on them, I believe, are carbon capture by __ would have to be installed by 2030, and hydrogen blending would have to be 2032. Those are extremely

accelerated dates, and that might end up changing the timelines of our reliable energy shutdown. So, that ends up being a reliability problem for us.

*Mrs. Lesko. Well, thank you very much for that answer, and Mrs. Pridemore, I think you wanted to talk about the last statement from my democratic colleagues, so I'll give you a chance to do that.

*Ms. Pridemore. Thank you, Congresswoman Lesko. I don't want to correct any member of the committee, but the gentlelady's question was relative to the holding company. I regulate the __ one of the operating companies. The activities of Southern Company are not regulated and certainly not under my authority.

*Mrs. Lesko. Thank you, and in the few seconds I have left, Commissioner Myers, can you discuss how the natural gas system contributes to the overall reliability and resiliency of the energy system?

*Mr. Myers. Absolutely. Natural gas is our reliable dispatchable energy. So without that, we have no backup when the sun doesn't shine. Batteries simply are not there. They __ you know, for as much battery storage that we have, it is

only two to four hours top, and we have one utility that's been waiting ten years to get the batteries they've ordered. So, the supply chain issue is a big deal. So, the only option we have right now is natural gas for our reliable back up.

*Mrs. Lesko. Thank you very much, and I yield back.

*Mr. Duncan. The gentlelady yields back. I now recognize Representative Cardenas for his five minutes of questioning.

*Mr. Cardenas. Thank you, Chairman Duncan, and also I'd like to thank Ranking Member DeGette for holding this important hearing. I appreciate the witnesses sharing your expertise and your opinions on this matter. The importance and value of a reliable power grid is undeniable. Every day, over 340 million Americans rely on it to keep the power on, and also to keep the number one economy in the world, energy is critical.

Unfortunately, it's also undeniable that our nation's energy system is facing substantial evolving and complex challenges that put reliability at risk. I think we can all agree that preserving access to reliable electricity should

be a top priority for all of us.

In my district for instance, we are seeing crisis level heat waves at increasing rates. During those heat waves, having reliable air conditioning can quickly become a matter of life and death.

Multiple studies, including the Department of Energy's national transmission needs study, have indicated that within regions that interregional transmission capacity will hold the largest benefit for reliability.

Mr. Hay, in your testimony, you also state that accelerating the build out of interregional transmission is key to both minimizing costs to electricity consumers, and increasing the reliability and resilience of the grid. Can you expand upon why interregional transmission is necessary to ensure reliability for communities throughout the region, particularly during extreme weather events?

*Mr. Hay. Thank you, Representative. And I suppose one way to think about that is if you have a grid that's bigger than the weather system, then you actually have those renewable resources outside of that weather impacted area that are then able to supply those resources back into those

communities. And so by building out that interregional transmission, we hopefully can get to a grid where it is bigger than the weather system.

*Mr. Cardenas. Thank you. I also want to make it clear that in my district, reliability of electricity is not the only priority. For environmental justice communities like the one I represent, it is also a public health imperative to reduce dangerous emissions that pollute our communities. Luckily, reports have indicated that utilities already have the tools to both cut carbon pollution and maintain reliability. There is also evidence that transmission can help move fossil fuel plants out of environmental justice communities that are already overburdened by pollution.

Mr. Hay, given that many aging plants are retiring and going offline, can you expand on the role grid modernization could play in reducing carbon pollution, and making cleaner energy available and accessible to such communities?

*Mr. Hay. I thank you, Representative. And that's actually something that's really important to the state of Colorado, and partially why in this legislative session we're working both on our distribution grid and our transmission

grid.

You know, as we think about grid modernization by getting a 21st century distribution grid, we make it possible to build more renewable energy and more clean energy in communities. So, giving communities solar and rooftop solar to what we in Colorado call disproportionately impacted communities is one of the things that we are looking at. That's a statutory term in Colorado.

And then, you know, making sure that we have a robust distribution grid so that we can build out to where those renewable energy resources are. One of the things that we did in Colorado that I think can be a model is we've actually enabled one of our utilities to build a system in advance of actually having the generation so that now we can hook up those renewables to match up with the timing that we have for need. And so looking at both the distribution and the transmission system is going to be key to bring those clean energy resources up.

*Mr. Cardenas. Thank you. While interregional transmission is an important opportunity to better support our communities, so is supporting local clean energy projects

and micro_grids.

Last Congress, Democrats delivered a historic $10.5 billion in funding for grid reliability, resiliency, and flexibility projects. Mr. Hay, can you discuss how this funding will empower communities to develop micro_grids, and in turn how it will promote resiliency and reliability?

*Mr. Hay. We are working with part of that funding to actually stand up a grant program for some of our rural electric cooperatives that is helping them actually develop an understanding of what micro_grids are all the way through the process of putting effectively steel in the ground to build those micro_grids, and what it does is it allows those communities to have power when the larger grid is otherwise unavailable to them perhaps from an extreme weather event or a localized outage. So, it really ensures just the opportunity to continue to supply power within that community.

*Mr. Cardenas. Thank you. For far too long, our country and our world depended on fossil fuels far too much when it comes to power and power generation, but luckily today we do have technology, as long as we have the will to

actually integrate a better system that is more integrated with different sources of power, I think we can have a better world. With my time having expired, I yield back.

*Mr. Duncan. The gentleman yields back. I now go to Mr. Pence for five minutes.

*Mr. Pence. Thank you, Chairman Duncan and Ranking Member DeGette, and thank you for the witnesses for being here today. I'd like to especially welcome Chairman Huston of Indiana's Utility Regulatory Commission, who is actually the Indiana Sixth District director also in his life. So, he knows more about my district than I do.

So, Chairman Huston has served with the commission since being appointed by my brother, Governor Mike Pence, and is keyed into solving critical grid reliability issues facing Hoosier families and businesses. As Chairman Huston well knows, Indiana is a state that works. We have balanced budgets, a business family state government, and a state and state agencies that work prudently with industry to meet common goals of affordable, reliable, and safe energy for all Hoosiers.

Importantly, IURC has implemented a five pillar

framework for our state's energy policies that the chairman mentioned, and those __ the pillars are, protects reliability, affordability, resilience, stability, and environmental sustainability.

I've heard from my peers on the other side that the technology exists to do all those things. I disagree in the many hearings that we've had over the last couple of years that technology does not exist. It's theoretical in many cases.

However, the common sense approach of our home state has been inhibited by the onslaught of regulatory actions by the Biden Administration. At every turn, this administration is making it harder to produce, distribute, and use our nation's energy resources.

As I have stated in this committee many times before, our nation is on a path towards catastrophic failures in our energy industry. Unfortunately the results of this misguided approach by the administration will be borne onto the consumer with higher prices and fewer economic opportunities for business, as the Chairman stated in his opening remarks.

Decisions affecting electricity markets and their impact

on our grid are not overnight decisions. These affect long term investments, and could take years to fully realize. Mr. Chairman, in Richmond, Indiana, our public power agency operates a coal_fired peaker plant, White Water Valley Station, that you and I talked about a little earlier. And it's in MISO's region, and PJM's footprint comes over to Richmond as well.

Because the plant only operates ten percent of the year, they had previously received exemptions from certain affluent limitation guideline requirements. During the two degree and one degree above zero for about two weeks, it was fired up and provided heat and electricity to the houses in my district.

For a plant like White Water Valley Station who runs on slim margins, these exemptions are critically important to maintaining reliability in the region. Now as the EPA is re_imposing these regulations, White Water Station's retirement timeline has been accelerated by a number of years. Can __ Mr. Huston, can you speak to the role of dispatchable peaker plants for reliability in our home state of Indiana?

*Mr. Huston. Thank you, Congressman Pence. Yes, peaker plants have a substantial role in the overall delivery of electricity. As you stated in this particular facility, it may only be used ten percent of the time, but it's ten percent of the time when it's most necessary.

I think one of the other members talked about vulnerable populations. Whether it's in the winter months, or whether it's in the summer months, and typically peakers operate more in the summer months, you want those vulnerable populations to have the air conditioning that they need when power is at its scarcest.

The systems that are built in our state and elsewhere in the country are built to meet peak load, plus have reserve margins, and those peaking facilities are a part of that matrix. So, it's important to have peaking facilities available to meet those circumstances, whether it's in the winter or weather it's in the summer when they're most needed.

*Mr. Pence. All right, thank you for that, and I appreciate you pointing that out. I mean, you know, we have lots of windmills and solar panels in the district as you

pointed out __

*Mr. Huston. That's exactly right.

*Mr. Pence. __ in your __

*Mr. Huston. And close to Richmond, Indiana, there are abundant rich windmills in Randolph County, and north of that in Jay County as well that all hook up to the PJM interconnect. They're all in that strike zone of Northern Indiana where wind at 50 feet above ground is optimal.

*Mr. Pence. And it would have been a catastrophe had that plant not been up and running?

*Mr. Huston. That's exactly right, but that's the role that peaking plants often play. And as the grid changes, those peaking plants may be called on more frequently than what they had in the past.

*Mr. Pence. Thank you, sir. My time is expired, and I yield back.

*Mr. Duncan. The gentleman's time has expired. I now go to Ms. Kuster? Right? Yeah, Ms. Kuster for five minutes.

*Ms. Kuster. Thank you so much for hosting the hearing, Chairman Duncan and Ranking Member DeGette. Last month, 45 major companies, including Best Buy, eBay, General Motors,

Pepsi, and Walmart wrote to the Federal Energy Regulatory Commission urging the commission to finalize a pending regional transmission planning rulemaking to, "lower energy customer costs, improve reliability, and modernize our grid to meet growing demands across the country so that the United States is positioned to capture innovation, growth, and jobs.'' These electricity buyers note that our energy system is literally the backbone of the nation's economy.

Mr. Hay, my first question is to you. Do you believe that our electric transmission system is keeping pace with the significant demand growth that we're seeing from reshoring manufacturing here to the United States, and the electrification of the transportation and residential sector?

*Mr. Hay. In the modeling that we did looking out from 2030 to 2040, and thinking about the fact that that will lead in Colorado to something close to a 40 percent increase in electricity need, one of the things that we stepped back from that and did is actually this year, legislatively, we are looking at bills to help build out the 21st century grid of the future on the distribution side, and to accelerate permitting and do permitting reform on the transmission grid.

I think those are both places where the federal government can and should step in and play a role to support the states that are looking to do that, because representative, we are all going to need to invest in our transmission architecture, and our distribution architecture, to keep pace with both manufacturing and the levels of electrification that are coming.

*Ms. Kuster. Thank you, and I agree. Turning now to energy markets. I am a proud capitalist. I believe competition improves quality and lowers prices, and that's why I've been so surprised in this hearing to hear that some of my colleagues on the other side of the aisle bemoan competition in electricity markets.

Before we introduced competition in the electricity markets in the 1990s and 2000s, states' electricity systems were literally regulated monopolies. This meant consumers were forced to pay whatever the price was set by the utility and approved by the state's regulator, and we've been through this in New Hampshire with very high costs.

Competitive markets, which by the way, were a bipartisan idea, have broken up these monopolies in many parts of the

country, and enabled electricity consumers to enjoy the benefits of competition. Lower prices, more reliability, and efficient investment.

In contrast in monopoly markets, and I look to the state of Georgia, consumers end up on the hook for supposedly prudent investments, even when there are significant cost overruns.

The VOGTEL nuclear reactor three and four offer a good example. After unprecedented delays and cost overruns, this year, the Georgia Public Utility Commission has approved nearly $10 billion in costs associated with the construction of the VOGTEL power plants going into Georgians' electricity bills. By one estimate, Georgia rate payers' electricity bills are going to increase $168 a year to pay for this construction.

Mrs. Pridemore, it's puzzling that your testimony complains about EPA regulations' impacts on rate payers, but makes no mention of the VOGTEL's price tag. What advice can you offer for other regulators to learn from the VOGTEL experience, and avoid similar costly mistakes that would be borne by consumers?

*Ms. Pridemore. Thank you for the question, Ms. Kuster. I want to clarify though the cost considerations for VOGTEL. The commission approved back in December a $7.7 billion final price of the project. That was __ then started to appear in customer rates in the January bill. We're very proud of the 60 to 80 year asset that plant VOGTEL is and will be long into the future.

*Ms. Kuster. What has the impact been on consumers?

*Ms. Pridemore. We had a $3.17 a month bill impact off unit three, and then a total bill impact of just over $12. So, that is also __

*Ms. Kuster. Does that include all of the cost overruns, or what happened with the cost overruns?

*Ms. Pridemore. The commission reached a stipulated agreement with Georgia Power over exactly what the customer would pay, and exactly what Georgia Power would cover in their costs. So, the shareholders of Georgia Power, they absorb some of the costs as well.

*Ms. Kuster. And do you know what the total cost overruns for the project were?

*Ms. Pridemore. I don't have it directly in front of

me. We did VOGTEL construction monitoring twice a year through two large cases where we provided in a very transparent public format everything that was happening onsite with the project.

Earlier when I was asked about SMRs, that's one of my pieces of advice to other states that are looking at nuclear. The importance of having a transparent long scale process where you monitor the construction not only from a time and schedule standpoint, but also from a cost consideration.

*Ms. Kuster. All right, my time is up. Thank you, I yield back.

*Mr. Duncan. The gentlelady's time expired, and I can tell you from a state that had a nuclear project going on at the same time as Plant VOGTEL that rate payers in South Carolina are still footing the bill for the cost overruns, and the failure of that project, and not generating a single electron of power.

So, I know the Georgia folks are happy that plant VOGTEL is online generating power, and will be for 60 to 80 years, whereas in South Carolina, we lost 2,000 megawatts of power for the future. So, I will now go to Mr. Armstrong for five

minutes.

*Mr. Armstrong. Thank you, Mr. Chairman, and I feel like I start every one of these hearings with the basic caveat that everything is cheaper if you give it a tax break or a subsidy, not just renewable energy; everything is cheaper if you give it a tax break or a subsidy, and I wish my colleagues from California and Florida were here to talk about cold weather energy production. It's something we know a little bit about in North Dakota.

And you know what we think environmental justice is? Making sure the heat comes on when it's 70 degrees below wind chill, and to give you an idea of why we don't have wind turbines going when it's 35 below is because we don't make them, because it's incredibly expensive to heat them, and why would they?

The average lifespan of a wind turbine is 20 years. Six months regular maintenance. Anybody have any idea when the average repower of a wind farm is? It's ten years. Anybody know why? Because that's when the repower tax credit kicks in. We create these policies __ Mrs. Pridemore, I appreciated your answer when you said the responsibility ends

with you for the power coming back on. I just wish we didn't tie one hand behind your back all the time. Today, MISO is running 27.3 percent coal, 37.6 percent natural gas, 14.2 percent nuclear, 8.3 wind, 5.0 solar. That's today. But when it's 70 degrees below zero? There's no wind. Not __ zero. And so, coal and natural gas spikes.

And Mr. Huston, when you talk about all of the above energy, I think we do this so often, and I will be the first one to admit Republicans were late to the game on this conversation.

We were late on carbon, we were late on climate change, we were late on all those things. So, now we take on those buzzwords and those catch words. The problem with all_of_the_above is it only works if the pie chart stays in equilibrium.

Because at some point in time, intermittent weather dependent energy, when it gets too big to be __ too big on the pie chart, what happens to coal or natural gas plants? They go out of business. They have to make money every day so they're running __ you were just talking about peaker plants with Mr. Pence, but they have to make money every day,

otherwise they're not available when we need it, when it is 70 degrees below zero.

So, I asked this when FERC was in here before, and then I want to talk to you about RTO load forecasting __ that should be riveting __ however, it's very important. We're the greatest country in the history of the world, and let's just assume through all the renewable utopia that exists, we can power this entire country for 360 out of 365 days a year on wind and solar.

What do we do the other five? Does the government __ do state governments subsidize coal plants, natural gas plants, nuclear plants? Does the federal government subsidize those things? Or does the greatest country in the history of the world just go dark for five days a year? I hope it's not in January in North Dakota, because otherwise we've got serious, serious problems.

One of the goals of the Office of Electric Reliability is to coordinate with ISOs and RTOs among other entities to facilitate electric reliability and security. Mr. Huston, I talk to you, because it's MISO and it's what we love, but you're aware of FERC evaluating RTO load forecasting. Can

you explain just briefly how this forecast has an impact on generating units?

*Mr. Huston. Well, we're all concerned about load forecasting, because the future may be somewhat uncertain in what electric load looks like over the horizon, if there is a certain amount of adoption in transportation electrification, it could have a magnificent impact on load forecasting, but that's not our experience in Indiana.

*Mr. Armstrong. So, generators in my state have raised concerns that MISO has been under forecasting load, which incentivizes distributed generation at the expense of dispatchable generation. Load forecasts that are based on preferred political outcomes rather than reliability jeopardize the overall well_being of the grid.

We know that the Sierra Club and the National Resource Defense Council have evaluated influencing PJM forecasting because these organizations claim that PJM is muting price signals that are essential to attracting the right kind of resources, also known as weather dependent power supply. Meanwhile, the North American Electric Reliability Corporation has noted that RTOs like MISO can face challenges

in meeting the above normal peak demand if wind generator energy output is lower than expected. So, the Sierra Club and the NRDC want RTOs to have a lower load forecast to support the deployment of wind, but at the same time, the nation's chief reliability evaluator says that it can make the grid more unreliable.

In its after_action report on the 2021 winter storm, SPP explicitly mentioned the importance of fuel assurance and resource adequacy as essential parts of responding to future reliability events, and I think what people don't recognize, we had brown outs in North Dakota during that storm. That storm went from the Canadian border to the Gulf of Mexico. So, shouldn't resource adequacy be foundational in the single most important decision to this conversation?

*Mr. Huston. It is to us.

*Mr. Armstrong. Thank you. I yield back.

*Mr. Duncan. The gentleman yields back. I will now go to Dr. Schrier for five minutes.

*Ms. Schrier. Thank you, Chairman Duncan, and thank you to all of our witnesses for being here. I also want to say a special thank you to the committee Chairwoman

McMorris_Rodgers, she's announced her retirement. It's been a pleasure to work with her, another Washingtonian.

I'm really glad that the majority has called a hearing on grid reliability. In the northwest, we enjoy abundant, non_emitting hydropower, in addition to the extreme weather and catastrophic wildfires that we associate with climate change, there's also going to be impacts to hydropower in Washington State.

The hydropower system is deeply integrated with the water cycle. Rain keeps rivers flowing in the winter and the spring, but it's the melting snow from the mountains that gives us consistent flows during the dry hot summer months when demand for energy spikes.

Climate change brings more rain and less snow pack, and over the last 70 years, we've already seen that snow pack shrink by a third, and it's accelerating, and this will likely affect reliability, particularly in the summer months in these next decades.

So as we think about adding energy sources, this committee has shared a lot of concerns about renewables introducing new considerations, namely variability, and the

presumed need for more baseload energy sources, specifically nuclear energy.

So Mr. Hay, I was intrigued to see that as Colorado plans how to meet anticipated increased energy and reliability demands with non_emitting sources, your research has determined that along with clean hydrogen and geothermal, solar, wind, and battery storage will be the best, most reliable, most economical solution, and it will comprise the majority of your portfolio.

So, I have two questions. One is a social one. In Washington State there's some resistance to installing solar and wind farms in rural areas in order to meet the rest of the state's needs, much of which is in large cities. How are you managing what I presume are similar social struggles in Colorado, and how can energy offices and agricultural rural interests work together to get a favorable outcome for everybody?

*Mr. Hay. I __ thank you, Representative. And like Washington, Colorado has a large rural population and a large rural land area, and that happens to be where many of our best wind and solar resources are. And like Washington, our

load centers are our big cities which, you know, are Denver and Colorado Springs and Fort Collins.

You know, we __ one of the things that we have done in our energy office is partner with our Department of Agriculture to look at an aggregable tech program to really work with farmers to help them understand that it's not renewables or farming, it's really you can do both on your land, and there's a long term benefit to them.

The same is also true of wind, is really just making sure that the land owners understand the benefits and being able to work and partner with them. That's the biggest part of it.

*Ms. Schrier. Thank you, I appreciate that answer. I was also intrigued by your discussion of a hundred hour iron air batteries. Another concern that we have shared as a whole committee is that with traditional lithium batteries, we rely too much on China for materials, and that is a precarious state to be in.

This emerging technology sounds very made in America, and I was wondering if you could comment a little bit about that if you're __ if you know the technology, what else is

required, but I also don't mean to put you on the spot if that's not your expertise.

*Mr. Hay. Thank you, Representative, and I would have to get back to you. I am __ I am not a battery chemist. While I understand the regulatory part of that, and it's important that our largest utility is coming forward to test a hundred hour iron air battery, the chemistry of that I couldn't explain to you today.

*Ms. Schrier. Well, thank you. I did a quick Google search. It sounds like they do not require the rare earth minerals, which is very nice to hear, and we also had commentary from the Department of Energy just about a week ago saying just wait, five or six years from now, we're going to have whole different technologies for batteries, which I found very reassuring as well.

I have 30 seconds left. Can you talk, Mr. Hay, about the importance of interstate transmission? Looking at the map of the US, there's a lot of benefit to having regional plans, and I know you're not representing an RTO or an ISO, but if you could just speak to how that would help Colorado?

*Mr. Hay. We've done a lot of studies looking at

Colorado entering into some form of an organized market in the west, and there really are a couple of layers of benefits. One is the economic benefit to customers, and the other is the ability to move clean power, and that comes with a climate benefit.

*Ms. Schrier. Thank you. I yield back.

*Mr. Duncan. The gentlelady yields back. Mr. Balderson is recognize.

*Mr. Balderson. Thank you, Mr. Chairman, and thank you all for being here today. My first question is for Mr. Myers. In the coming years, states and utilities are expected to make substantial investments in energy infrastructure to ensure reliability. This is especially true in states like Ohio, and your home state of Arizona, both of which are seeing a significant increase in demand from new data centers and semiconductor manufacturing. Over the long run, some of these investments may be insufficient or unnecessary. As a state commissioner, how do you evaluate proposed projects to make sure your project rate payers, and how do you balance that with relying on the market?

*Mr. Myers. That is an excellent question. We __ as a

__ as a regulator, we go through an IRP process as well. It's a ten year forecast __ or, a ten year outlook with a five year action plan, and we have them come in every three years to reevaluate. That's the time when we look at what is upcoming and what we should be focusing on.

Right now, it is very difficult, because as we've talked about, all of our reliable generation is going away, but there is no good reliable generation to replace it. We are active in markets, as you've pointed out.

We are actively looking at day ahead markets, but as far as energy generation, we need to be able to have our own __ cover our own rears, if you will, and that's a resource adequacy requirement that at least Markets Plus is looking at, is everybody needs to make sure they have their own generation, so we have to bring that to the table in order to join the markets.

And it is a very difficult decision right now. We're in that transition period where we would love to see micro_nuclear, or even a hydrogen come on, but they're just too young at this point.

*Mr. Balderson. Okay, good. Mrs. Pridemore, would you

like to follow up with that at all, or __

*Ms. Pridemore. Thank you, Mr. Balderson. I agree with Mr. Myers. There is a lot of options I believe that are on the table and available to us in the future. I think that what is important though is the speed at which we deploy those, and the way that we deploy new generation assets so that we don't overly burden customers with this exorbitant cost.

*Mr. Balderson. Thank you. Mr. Huston, you're up next. I'm concerned that sometimes when we discuss new transmission development, it's not to responsibly build out a more reliable system, but rather because certain regions and states are irresponsibly driving dispatchable generation off the grid.

Many times, this is to pursue unrealistic environmental goals, and then as many rate payers as possible to absorb cost and even if they don't benefit from that transmission. Is a large radius of intermittent generation such as wind and solar equal to a smaller radius of dispatchable generation, and at what cost?

*Mr. Huston. Well, in Indiana, the proximity of

transmission to intermittent resources is key for them. They have to be close to transmission or they're not going to site it.

It would make their competitiveness unsustainable. They would not be able to do it. That's the reason why Indiana gets a lot of solar, gets a lot of wind, is because we do have a significant amount of transmission. The biggest concern that I have is in some of the difference between the two RTOs that operate in Indiana.

MISO's queue process for existing transition allows for them not to go to the back of the line if they're going to be repowering or reusing a specific site for generation __ if they're going to change their generation mix. PJM doesn't, and that is something through the stakeholder process that is being worked on currently. I'm not sure if that answers your question __

*Mr. Balderson. Yeah.

*Mr. Huston. __ but that is __ I have __ I do have concerns about the queue processes.

*Mr. Balderson. Okay, thank you. Follow up, and I'll include you, Mr. Huston and Mr. Myers, and I'm going to let

Mr. Myers go first since you just finished. Do you both have concerns with neighboring states creating unrealistic renewable portfolio standards knowing they can rely on dispatchable resources from other states?

*Mr. Myers. Absolutely. That is a concern, especially with our neighbor to the west. And this goes back to the resource adequacy planning where we want to make sure that if we do join a market that all the resource adequacy calculations are consistent amongst the states so that they can be counted the same, you know, in our __ in our planning.

*Mr. Balderson. Okay. Mr. Myers? Or, Mr. Huston, excuse me. Pardon me, gentleman.

*Mr. Huston. Our neighbor to the west has an ambitious goal as well, and it serves as an economic development incentive tool. We allow businesses to self_generate any kind of way they want to.

*Mr. Balderson. Thank you both. Mr. Chairman, I yield back. Thank you.

*Mr. Duncan. The gentleman yields back. I'll now go to Mr. Sarbanes for five minutes.

*Mr. Sarbanes. Thank you very much, Mr. Chairman, and

thanks to all of you. For states that have set deliberate clean energy goals, state energy offices and public service commissions, as you know, play a powerful role in advancing policies that foster sustainable and reliable energy. This is true in Colorado as we've heard today, and it is also certainly true in states like Maryland that participate in a regional electricity market.

Maryland has set some of the most aggressive renewable goals in the country, but these goals will not be realized without a holistic and proactive approach to energy generation, storage, and transmission.

For instance, the last coal fired power plants in Maryland are slated to retire in the coming years. Among these is the Brandon Shores Power Plant located in my district, and last year its operator announced it would shutter the plant in 2025. So, that's coming obviously very quickly.

Maryland is reliant upon the mid_Atlantic's regional transmission operator, PJM Interconnection for grid operations and management, and PJM's response to the news of this closure has been to issue a reliability must run

agreement while it works to complete nearly $800 million in transmission upgrades to compensate for the plant's power. As Maryland's energy mix moves away from fossil fuel, I am grateful that the public service commission in our state has been pushing for PJM to consider a wide suite of planning options to achieve reliability in a holistic, timely, and cost effective manner.

Mr. Hay, I'm very impressed by this study the Colorado Energy Office has conducted to model how your state can meet projected energy needs while also decarbonizing your electric grid.

Could you share your main take aways from that exercise? And I'm particularly interested to learn more about what you concluded the role of battery infrastructure is in your state, as in addition to the renewable energy and transmission build out, batteries could certainly be a key element of maintaining reliability in our state of Maryland.

*Mr. Hay. I thank you, Representative. You know, I would say first of all the biggest take away is deep decarbonization is possible, and that there are multiple pathways to get there.

It's really important to us that the business as usual approach then gets us to a 94 percent emissions reduction, and that really getting to a fully decarbonized electrical grid, the best way to do that according to our analysis is to set that target, and then in Colorado, we use our resource planning process, which for many of our utilities requires them to do competitive procurement.

And so, we use that market to influence the overall cost of getting to that level of deep decarbonization. But I don't want to miss the importance of energy efficiency. We've talked a lot about that this morning. That's really a key piece of benefitting not just the grid, but benefitting customers and helping them lower and control their energy costs. It's a big piece of that affordability question.

*Mr. Sarbanes. What about the battery infrastructure in particular?

*Mr. Hay. Absolutely every scenario we looked at had a large investment in batteries, and different types of batteries from two hours up to a hundred hour iron air batteries.

*Mr. Sarbanes. Mm_hmm.

*Mr. Hay. That's something that has actually come forward in our most recent resource planning process with our largest utility is that we're going to be moving onto our grid a large chunk of batteries in the next several years in order to ensure reliability. We have every confidence that those batteries will be there when they're necessary.

*Mr. Sarbanes. I appreciate it, and the study there in Colorado shows forethought of the kind frankly I'd like to see from PJM to maintain our grid's reliability and prevent avoidable cost increases for Maryland rate payers as it plans for the upcoming retirement of coal generated power, because obviously it's going to make these transitions. We've got to keep the average citizen first and foremost in our minds.

Across the country, there's no doubt that increasing transmission capacity will be essential to minimizing costs to electricity consumers and maximizing grid resilience going forward. That's why we're so focused on this. Thank you all very much, and I yield back.

*Mr. Duncan. The gentleman yields back, and now I'll go to Mr. Pfluger for five minutes.

*Mr. Pfluger. Thank you, Mr. Chairman, and I appreciate

the witness's testimony today. Does __ we've had a lot of discussions about the pillars. I think you have three, Mr. Hay. There's a couple that have five. Most important pillar that you __ I mean, the single most important one that you consider?

*Ms. Pridemore. Reliability.

*Mr. Pfluger. Mr. Huston?

*Mr. Huston. We were not allowed to rank them, but three of the five are related to reliability.

*Mr. Pfluger. Mr. Hay?

*Mr. Hay. Like Mr. Huston, we don't rank them, but certainly reliability is important.

*Mr. Pfluger. Mr. Myers?

*Mr. Myers. I was elected on a ranking, and its reliability.

*Mr. Pfluger. Okay. All right. This is rare for us to have bipartisan agreement on these. So, I want to talk about that, because as resource adequacy truly is, I think, of national security level importance, Mr. Hay, you've said that there's going to be a 40 percent increase in the demand for electricity. Anybody have a different __ I mean, or about

the same across the board?

*Mr. Hay. We do not have any load forecast that would indicate that kind of increase. We __ I apologize, I'm __

*Mr. Pfluger. Okay.

*Mr. Hay. __ giving you a long answer here.

*Mr. Pfluger. That's okay.

*Mr. Hay. But even with electrification, we __ that is a great unknown.

*Mr. Pfluger. It's an unknown, and we __

*Mr. Hay. We have a lot of reliance on gas for home heating, and that's what consumers choose. So, home heating would be one, but we're not seeing the shift in transportation.

*Mr. Pfluger. Mrs. Pridemore, do federal policies affect resource adequacy, and the resources that we will have to supply a 40 percent increase in Colorado, or X amount in any of the states that are represented here?

*Ms. Pridemore. Yes, sir. Most definitely. When you consider that the federal policies that are being proposed right now, such as those under the EPA, they will dramatically limit my accessibility to have my utilities use

dispatchable energy sources such as natural gas and coal.

*Mr. Pfluger. Mm_hmm.

*Ms. Pridemore. That takes away those elements out of my diversified mix. It definitely jeopardizes reliability, but it almost certainly increases costs for customers.

*Mr. Pfluger. One of the pillars that you hadn't mentioned, and I wouldn't expect you to, is geopolitical, energy as a tool __ as a geopolitical tool of national security.

The administration has recently announced a ban on the export of LNG, which is a resource adequacy problem at the very foundation of it. Mr. Hay, what I want to talk about with you is, do you agree with John Kerry when he said that renewable energy is not baseload __ not baseload capable?

*Mr. Hay. What I would say, Representative, is that there really is a way to manage our system in Colorado. The study demonstrates that the least cost pathway to meeting future electricity would be about 40 percent relies on wind, solar, and batteries.

*Mr. Pfluger. Colorado is lucky to have wind. I went to school there. It is windy. And I don't use the word best

of the above. I just don't believe in it. I don't believe in all_of_the_above.

I believe in best of the above. So, I don't use this term, all_of_the_above. Colorado, you're lucky to have wind, I guess, and you should use it. But in your testimony, you mentioned in the written testimony that you're going to go to a two percent by 2040 gas powered __ gas driven electrical grid, yet you're not going to reduce the capacity of your gas.

So, I'm not following here on, you're going to __ you are going to depend on 98 percent, even though 60 something __ 66 percent right now is serviced by other than renewable energy. So, how are you going to get to two percent gas, but you're going to keep that capacity?

*Mr. Hay. Thank you, Representative. That's not actually state policy. That's the economics of gas compared __ the high cost of the economics of gas compared to the low cost of renewables. The modeling say that when you __ when you look at the best pathway going forward from an economic perspective, you keep the gas units around, but they just don't operate because they're so much more expensive than the

renewables.

*Mr. Pfluger. How will you avoid what Germany has done, which is going backwards? So, they thought they were transitioned, and then they realized that they weren't. So, how will you avoid that? And by the way, the second question is, could you accomplish your plan without federal subsidies?

*Mr. Hay. So, to your first question, Representative, you know, that's why we did the planning we're doing, right? There are multiple pathways that demonstrate that we can get to a decarbonized grid. We have a business as usual approach. We have six different scenarios that have looked at a range of technology options that all get us there.

*Mr. Pfluger. Can you get there without federal subsidies?

*Mr. Hay. I don't know that any utility in the country actually is able to supply electricity to its customers and to its businesses without federal subsidies. We've subsidized coal, we've subsidized gas, today we subsidize renewables. So, I don't think it's a question of who is getting subsidies. I think it's a question of which subsidies we want going forward.

*Mr. Pfluger. Mr. Chairman, my time has expired. I categorically disagree with the statement made by one of my colleagues about what happened in Texas, and want to note that it was not a failure of gas, but it was decisions that led to subsequent reactions and effects that then prevented some of the gas infrastructure to work, and I yield back.

*Mr. Duncan. The gentleman's time has expired.

*Ms. DeGette. Mr. Chairman, if I may just correct the record, the administration has not announced a ban on LNG exports.

*Mr. Duncan. The Chair will recognize Mr. Griffith.

*Mr. Griffith. Well, that wasn't __ that wasn't where I was going, but here we go. The gentlelady is correct. The administration did not announce a ban on LNG exports. What they announced was they weren't going to allow any new permits, which in essence shuts down all of the potential because everybody is afraid to go forward with liquified natural gas products or projects, whether it be, you know, facilities to export or pipelines to export, et cetera. So, the gentlelady is correct on one part, but future LNG gas is coming to a quick halt because of that announcement, and it

was just in a press release, it wasn't actual policy yet, and hopefully that will be better __ a more refined statement to come.

All right, now let me get back to where I was going. To Chairman Huston, Commissioner Myers, and Commissioner Pridemore, EPA's clean power plan 2.0 could retire many generating units permanently __ or, excuse me, prematurely. Would you agree that the decreasing amounts of dispatchable generation and stricter environmental regulations are making requests for power plant operation waivers more and more likely? Yes or no?

*Ms. Pridemore. Yes.

*Mr. Huston. Yes.

*Mr. Myers. Probably.

*Mr. Griffith. Okay. Do you __ again to all three of you, that the 90 __ the 90 day as needed waivers are the best approach to ensuring reliability?

*Ms. Pridemore. No.

*Mr. Huston. No.

*Mr. Myers. No.

*Mr. Griffith. All right, now the loaded question.

What do you think is better than the 90 day waiver?

*Ms. Pridemore. No plan at all.

*Mr. Huston. Take the rule back.

*Mr. Myers. Take the rule back. Get rid of the __ get rid of the restrictions in the first place.

*Mr. Griffith. All right, Mr. Hay, just because I want to be fair, what do you think?

*Mr. Hay. As my comments say, Representative, in Colorado we actually are already ahead of the curve, but I think the rule is, you know, one that Colorado can certainly succeed under.

*Mr. Griffith. But if there is a significant number of states that can't, you can recognize that creates a problem for us in Congress. Maybe not in Colorado, but in Congress trying to look out for the interests of the whole nation. Would you not agree with that?

*Mr. Hay. What I would suggest to you, Representative, is that the study that we've conducted lays out multiple pathways for states to look at sets of resources that can help them achieve deep decarbonization.

So while there are some states today that have concerns

that they can't do it given the way that they are doing planning, our modeling suggests that if you __ if you do planning correctly, you actually can achieve the targets.

*Mr. Griffith. You know, one of the concerns that I have is, is that I have an economically stressed area on household income, at about 400 of the 435 Congressional districts in the United States.

And here's what happens when we start down this path towards all these new ideas, and maybe we can reach them, is that if you're living in the big city, and you're in one of those bigger buck areas, maybe you can afford it. Maybe it's not that big a chunk of your budget that's impacted.

In my district, we're getting lots of letters because this winter the rates went up significantly, and while the average might only be $35 a month, it's hurting folks because they don't have that $35 a month.

When you're making right __ when your household __ your average household for the whole district income __ household income is right at 50,000, $35 a month when you're trying to pay for everything else and all of your other things are gone, that's very, very difficult. And all of these policies

have made our electric rates go up. I mean, there's no question about that. Mrs. Pridemore, I see you nodding. Do you agree with my statement?

*Ms. Pridemore. Yes, sir.

*Mr. Griffith. Mr. Huston?

*Mr. Huston. Yes, I do.

*Mr. Myers. Yes, sir.

*Mr. Griffith. Mr. Myers, thank you. I appreciate that. I'm getting close to the end of my time, and I probably got on my high house and ran out of time to ask a significant question in the remaining time that I have. I do appreciate you all being here, but sometimes people just have to say, you know, like I said, this may work for rich folks. That's not who I represent. I yield back.

*Mr. Duncan. The gentleman yields back. Now I'll go to Mr. Veasey for five minutes.

*Mr. Veasey. Thank you very much, Mr. Chair, and I'm glad that we are having this hearing today. I think that all of you guys know that in Texas, we're always trying to figure out how we're going to maintain a safe, secure, reliable grid, particularly with all the growth that we're having. I

mean, we are having unprecedented growth.

I think I saw a report a couple of weeks ago that said that Texas is on pace right now to __ after the next census to probably add four to six new Congressional districts, which means that our state is growing pretty rapidly __ much more rapidly than any other area, and it has been that way. And as we've had growth, of course, we've also had extreme weather events like other places have across the country that haven't experienced growth.

And in between record setting heat, extreme cold, and more industries like cryptomining calling Texas home, ERCOT is seeing a rapid increase in its load growth, and that is probably going to continue into the foreseeable future.

ERCOT is lucky that this load growth is paired with strong growth and renewable capacity. We've seen about a 50 percent increase from 2018 until 2023, and even so, we continue to push the grid to the brink of blackouts, and our failure to invest in grid infrastructure is a threat to our economic national security, and everything that we're trying to accomplish as we continue to add more and more people to our state.

And so, I have a question for all of you. Recent studies indicate that the expanding and modernizing the transmission grid in just the Eastern US would unleash about 7.8 trillion in investment and generate more than 6 million net new jobs.

Do you agree that transmission build out, which uses iron, steel, and other US manufactured products, creates domestic, good paying union jobs, and in the __ good paying union jobs in the planning and engineering phase, as well as construction and long term operation and maintenance ops for line workers? Anyone can answer.

*Ms. Pridemore. Yes, sir. I agree with your statement, and as a __ as a state that just finished what was the largest construction project at any given time in the country with 7,000 craft skill labor folks on site at Plant VOGTEL, I can tell you that it has made a significant difference.

But I don't believe that we should build transmission infrastructure just to create jobs. I believe that we build transmission infrastructure to be able to transmit essential power to provide for a more reliable system.

*Mr. Huston. Yeah, and I would agree with that too.

Transmission by itself is not a reason to invest. It's to deliver electricity and the kind of electrons that are necessary to make a system work on a 24/7 365 basis.

*Mr. Veasey. Yeah. You know, thank you, and I also want to ask everyone too, the Texas Energy Fund is the latest in a long line of changes in the wake of massive blackouts during Winter Storm Uri, and provides loans up to 60 percent of the total capital costs for new or expanded power plants. If you were on the Texas PUC, what considerations would you give to existing natural gas generators as they work to implement the Texas Energy Fund? Anyone want to __

*Ms. Pridemore. Thank you for the question, Mr. Veasey. I steer clear of telling my fellow regulators how to run regulation in their states.

*Mr. Veasey. Okay.

*Mr. Huston. And I __ I don't want to beg off on this one, but I mean, Texas is a very unique situation. They've got eight percent load growth per year, and you've __

*Mr. Veasey. Right.

*Mr. Huston. __ referenced that.

*Mr. Veasey. Right.

*Mr. Huston. It's very unusual. We look at one percent load growth, which generally gets offset by energy efficiency, and $10 billion, which is what that fund __ I think the low interest loan program is going to be, would be almost half of our state budget.

*Mr. Veasey. Yeah. Also, another question for everybody before I leave. The nation's transmission grid is subject to thousands of sophisticated cyber attacks, including from hostile foreign nations, every day. What steps are your states taking to modernize and protect the grid, and how much responsibility do you think the federal government bears for high capacity transmission lines? I'd love to hear y'all's thoughts on that.

*Ms. Pridemore. I would love to see the federal government more active in informing the states on what they're doing to prevent cyber attacks from foreign enemies. That is, when you look at the things that are outside of my control as a state regulator, that is certainly one of them.

*Mr. Huston. When Former Vice_President Pence was governor of Indiana, he initiated the governor's task force on cybersecurity efforts. It's been perpetuated by

succeeding Governor Holcomb as well with the __ with the interest in not just energy delivery, but all sectors.

*Mr. Veasey. Mm_hmm.

*Mr. Huston. And the FBI, the Justice Department, and other federal entities are critical participants in all of that exchange, and to be able to exchange data about threat risks, whether they're criminal or state actors.

*Mr. Veasey. Okay. Thank you, Mr. Chairman.

*Mr. Duncan. The gentleman's time has expired and he yields back. I'll now go to Mr. Allen for five minutes.

*Mr. Allen. Thank you, Mr. Chair. Let me get this thing on. There we go. Thank you, Chair Duncan, for allowing me to wave on for this important discussion. I want to thank our witnesses.

In particular, I especially thank Commissioner Tricia Pridemore for testifying today. It's great to have a Georgia commissioner here to discuss our vertically integrated public utility model, which is working very well. I'm proud that the state of Georgia is leading the way in innovation for supplying our constituents with affordable, reliable energy. Not only that, but Georgia has for the past, I think, 11 or

12 years, been the number one state to do business, and that requires a lot of resources, particularly energy and affordable energy.

To meet the needs of our constituents and businesses, we've got to support all_of_the_above energy strategy. The __ this means utilizing a diverse set of energy resources. Commissioner, you've talked about Plant VOGTEL, units three and four.

You know, these are the first units built in over 30 years, and I'm proud they've been built and now completed __ almost completed in the state of Georgia, and four is expected I believe to come online very soon. Commissioner Pridemore, can you explain why the Georgia Public Commission supported the __ I mean, it's been 30 years, so we want to build two new nuclear units, and why was it important to the energy grid?

*Ms. Pridemore. Thank you for the question, Mr. Allen. It's always good to see you. Plant VOGTEL represents a turning point for our state. It provides our state with energy security. It provides and sends a market signal to nations and other states, and businesses that are looking to

relocate.

It tells the world that we put a premium on energy. Carbon free, 24/7 365 power. It also sends a signal to the world that we're willing to do and take on these hard and difficult tasks not only for the benefit of our state, but also for the benefit of our country.

I believe so strongly that our nation has everything that we need to be energy independent and energy secure, but yet we continue to put barriers up that preclude us from being able to have that reality. And I'm __ I welcome the opportunity to be with you, to share our point of view in Georgia. We're proud of the work at Plant VOGTEL. It's a 60 to 80 year asset.

When I look at solar, which certainly has its place in the portfolio, but it's a 15 to 20 year PPA with a limited asset. I'm still in the very recent stages of figuring out what my retirement policy is for solar, how that is to be managed. There's just so many factors to consider where VOGTEL is really a shining star and something that we're proud of.

*Mr. Allen. Yeah, we __ you know, we develop all these

things, but very short sighted, and then like, what do you do when these things when, you know, the life expectancy. But yeah, going back to nuclear. Is there an equivalent to a 24/7 baseload clean generation that we get from nuclear power? Especially considering the length of time that you're going to be in operation there?

*Ms. Pridemore. No.

*Mr. Allen. And does it cost very little once you get the capital costs to operate __ that's some of the cleanest, most reliable, most efficient energy that you can produce?

*Ms. Pridemore. Yes, sir.

*Mr. Allen. Good. Many states, Commissioner Pridemore, have chosen to deregulate their electric utilities. I'm not here to question those choices for those states, but from my vantage point, that does not seem like the right choice for the state of Georgia or other states in the southeast. The states that elected retail choice seem to be struggling the most when it comes to reliability. So, commissioner, what does the value of utilities remaining vertically integrated, and what are the risk of deregulation for customers in Georgia?

*Ms. Pridemore. Our vertically integrated system, with 41 EMCs, 49 municipals, and one vertically integrated investor owned utility, provides us with little to no redundancy of assets, and we still have rates that are up to ten percent below the national average.

It gives us an economy of scale that is unmatched in any RTO or ISO state. We also have the ability now through SEEM, the Southeastern Exchange Market, to be able to help export and help our neighbors when they need it, and import when God forbid we need to help ourselves.

*Mr. Allen. Great. Well, listen, great to see you, and thank you for what you're doing in Georgia, and I yield back.

*Mr. Duncan. The gentleman yields back, and the chair will now go to Mr. Carter from Georgia for five minutes.

*Mr. Carter. Thank you, Mr. Chairman, and I appreciate the opportunity to wave onto this committee and this subcommittee. You know, as you are well aware, Mr. Chairman, I'm very proud of the state of Georgia. I know you're one of many who wished you lived in the state of Georgia, but nevertheless __ but __

*Mr. Duncan. The gentleman's words need to be taken

down.

[Laughter.]

*Mr. Carter. But I'm especially __ and I appreciate all of you being here, but I'm especially glad to see you, Commissioner Pridemore. I appreciate your work on public service commission. I appreciate everything you all do. We've known each other for many years and I appreciate all your work in the state of Georgia. I'm very proud of the state of Georgia.

Everybody here knows that. I'm very proud of the fact that we are the number one state in which to do business for the 11th year in a row, I believe it is, and there's a reason for that, and one of __ and many reasons, but one of the reasons is because we've got reliable, affordable energy. And we have done that __ we're number six in solar energy in the state of Georgia.

You know, there's __ we've got a lot to be proud of in Georgia, but we got a lot of sunshine in Georgia, and we take advantage of that. We also, as you have been talking about with my colleague here from the state of Georgia, are nuclear.

The first nuclear reactors built in 30 years right there in our state. I mean, this shows the kind of foresight that our commissioners have done such an outstanding job of, and I thank you for that, and our state thanks you for that. But you know, as I say, that's one of the primary reasons that we are able to be the number one state in which to do business, but let me ask you.

As you know, Commissioner Pridemore, we've got the single largest economic development project in the history of our state in my district: the Hyundai plant. A $5.5 billion investment that's going to create 8,100 jobs. Probably that much more of an investment in ancillary businesses, probably that many more jobs in ancillary businesses. We've got to prepare for that. What can Congress do? What can we do to help the utilities plan for this kind of growth?

*Ms. Pridemore. Congress can first reign in the EPA. I think that that's essential, and I know that we've talked about that for many hours today. Georgia, to your point __ and it's always good to see you, Mr. Carter __ we lead through innovation. We're very methodical.

We're conservative in our approach, but we're very proud

of what's happening with Hyundai and the EV plant in your district. It represents an enormous opportunity not only for our state, but for the electric vehicle market in our country. But we're still in the position to route natural gas and do pipeline expansions to give them the necessary infrastructure that they need.

So, it goes back to the all_of_the_above approach that is essential, and anything that this Congress can do to help us build more gas __ natural gas pipelines, and reign in some of these policies that are coming out of the federal agencies that are limiting __ they are limiting my ability to generate, they're putting unnecessary burdens on the backs of rate payers, and they're certainly limiting innovation.

*Mr. Carter. And you know, I've gotten a number of letters from you and your fellow commissioners about just that, the fact that we need more access to natural gas, and the restrictions that have been laid upon natural gas exports here I think are just awful, short sighted for our economic development here in this country, and for the environmental impact worldwide that it's going to have, because we have clean natural gas here __ cleaner natural gas than anywhere

else.

We should be exporting, and we should be doing just the opposite of what we're doing. But I also wanted to make sure that I mentioned, because I think what you touched on was the regulatory process, the permitting process. You know, I had the opportunity last year to travel to Huston on three different occasions.

Every time I was there, it was the same thing. Regulations, permitting, crushing us. Crushing us. And that's what we need to be doing. Just to __ one more question, Commissioner Pridemore. Do you feel like you understand the energy generation and transmission needs of the citizens in Georgia more so than a bureaucrat here in Washington, DC?

*Ms. Pridemore. Yes, sir. Beyond a shadow of a doubt.

*Mr. Carter. And I would agree with you. Thank you again for being here. Thank you all for being here, and I will yield back.

*Mr. Duncan. The gentleman yields back, and that will conclude the hearing. I want to thank all of our witnesses for being here today. Members may have additional questions.

I know that Mrs. Fletcher mentioned that.

For all of you, I will remind members they have ten business days to submit additional questions for the record, and I ask that witnesses do their best to submit responses within ten business days upon receipt of the questions.

I ask unanimous consent to insert in the record the documents included on the staff hearing document list. Without objection, that will be the order, and without objection, the subcommittee will stand adjourned.

[Whereupon, at 1:35 p.m., the Subcommittee was adjourned.]