

PENDING LEGISLATION

HEARING
BEFORE THE
SUBCOMMITTEE ON ENERGY
OF THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED SIXTEENTH CONGRESS
FIRST SESSION
ON

S. 607 S. 2137
S. 1739 S. 2300
S. 1821 S. 2368
S. 2094 S. 2393
S. 2095

SEPTEMBER 11, 2019



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The text for each of the bills which were addressed in this hearing can be found on the committee's website at: <https://www.energy.senate.gov/hearings/2019/9/subcommittee-on-energy-legislative-hearing>.

PENDING LEGISLATION

WEDNESDAY, SEPTEMBER 11, 2019

U.S. SENATE,
SUBCOMMITTEE ON ENERGY,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:15 p.m. in Room SD-366, Dirksen Senate Office Building, Hon. Bill Cassidy, presiding.

OPENING STATEMENT OF HON. BILL CASSIDY, U.S. SENATOR FROM LOUISIANA

Senator CASSIDY [presiding]. The Committee will come to order. We are going to have testimony, and we are trying to hustle because we have votes at 2:45.

Senator Wyden has another commitment. He asked if he can go first. That is fine with Senator Heinrich and I.

Senator Wyden, we will start with you, and then we will turn to Under Secretary Menezes and Mr. Porter. Out of deference to my Senate colleague, I am nonetheless told that we must do that for some sort of procedural aspect.

Senator Wyden.

STATEMENT OF HON. RON WYDEN, U.S. SENATOR FROM OREGON

Senator WYDEN. Mr. Chairman and Senator Heinrich, thank you both for your thoughtfulness, and I am going to clock this in at under three minutes because I know our witnesses' time is short.

Mr. Chairman and colleagues, I had the opportunity this summer to be with those at Oregon State University who are most knowledgeable in marine energy research and development. Oregon State University is a national leader in the development of new marine energy technologies. They partner with the University of Washington and the University of Alaska at Fairbanks. They co-manage the Pacific Marine Energy Center, a DOE test center established in 2008, to advance marine energy technologies.

What we talked about there, and I will wrap up with this, are essentially what are the next steps. I am interested in working with my colleagues here and Chair Murkowski. The Marine Energy Research and Development Act builds on efforts underway at the Department of Energy (DOE) by giving the Water Power Office more funding to quicken American innovation and spur production in marine energy technologies.

What the legislation does is it directs the Water Power Office to support efforts in the private sector, national labs, and the Marine Energy Centers and focus on advanced energy technologies that are capable of generating more marine energy more affordably and with a smaller carbon footprint.

I am going to break the speechifying off by saying I think all of us have been concerned with respect to marine energy, that we want to be sensitive to fisheries and marine navigation. We are doing that. I also want to commend the folks at DOE with the Powering the Blue Economy.

I will put the rest of my statement, Mr. Chairman, with your permission and that of Senator Heinrich's, in the record.

Senator CASSIDY. Without objection.

Senator WYDEN. Thank you. Thank you both.

Senator CASSIDY. Under Secretary Menezes.

**STATEMENT OF HON. MARK W. MENEZES, UNDER SECRETARY,
U.S. DEPARTMENT OF ENERGY**

Mr. MENEZES. Thank you, Chairman Cassidy, Ranking Member Heinrich and members of the Subcommittee.

Senator Wyden, thank you for your comments on the Power the Blue, and I'll reference your bill.

It's a privilege and honor to serve at the Department of Energy, an agency tasked with, among many other important responsibilities, overseeing the nation's energy supply, our 17 national labs supporting early stage energy R&D across a wide range of science and engineering disciplines and working effectively with our states and tribes on our nation's energy challenges.

First, I'd like to, of course, thank the members of this Committee for your advocacy resulting in the confirmation of our Director of Advanced Research Projects Agency-Energy, ARPA-E, Lane Genatowski, appreciate your support for that. And we're very pleased to have gotten confirmed, Dr. Rita Baranwal, who now heads up our Nuclear Energy Office. Thank you very much for that support.

Thank you for the opportunity to testify before you today regarding the legislation that's pertinent and important to the Department of Energy which is now pending before the Senate. The Administration continues to review all of these bills, although we have provided some technical assistance to your staff, as requested.

The Department is grateful for the Committee's attention to these critical issues. In the energy sector we believe the research and development capabilities consistently demonstrated by our national labs is unrivaled and provide unique opportunities to address key challenges working with industry, academia and the states.

The President's America First Energy Plan rightly calls for utilizing all of our energy sources to achieve energy security and economic strength at home and energy dominance through exports to markets abroad.

Today's hearing addresses many areas, including reauthorizing many important nuclear energy research and development programs to ensure the long-term viability of the existing fleet of the nuclear power plants; support for state and local government's en-

ergy infrastructure; promoting innovation with the Clean Energy Technologies Market, specifically including carbon capture, as Senator Wyden mentioned; accelerating the introduction of marine renewable energy into the U.S. energy supply; support for grid resiliency; and finally, supporting the training and development of an emerging generation of energy jobs. Each of these are, indeed, crucial factors in advancing energy resilience, protecting and projecting America's power overseas and securing our economic and national security.

DOE has a long and successful history of working with states on the nation's most significant energy challenges. Nearly all state and territory governments and select local governments have an energy security or assurance plan which serves as a foundation for action when an energy disruption threatens public welfare or when the energy industry requests help. These plans address energy supply risks and vulnerabilities and enable a quick recovery and restoration. Combined with training and exercises for personnel and stakeholders, energy assurance plans enhance response and recovery efforts and support resiliency investments.

Specifically, the bills associated with supporting states and local governments, S. 2094 and S. 2095, will continue a long and successful history of working with states as a reliable partner on the nation's most significant energy challenges. We must continue to evaluate the risks facing our nation's energy infrastructure and mitigate high risk scenarios. So we thank you for supporting our efforts to do this. The Department, specifically the Office of Electricity, has been a leader in this area with its efforts focused on electricity resilience, investing in energy storage, microgrids, sensors and advanced modeling.

Additionally, your bills on the Department's Office of Cyber will help our Department's Office of Cybersecurity, Energy Security, and Emergency Response (CESER) provide guidance and support for state energy and emergency officials to ensure that their energy assurance and security plans and related planning efforts are regularly updated and tested.

Your bills promote an important function of the Department which is to provide support for states and local governments to develop and refine energy assurance plans and build institutional expertise on understanding interdependencies and vulnerabilities. These plans address energy supply and security risks and vulnerabilities, support resiliency investments and enable technology advancement to improve energy security.

Keenly aware of the threats posed by physical and cyberattacks as well as natural disasters, as we have just seen with the hurricane off of our coast, our Office of Electricity and the CESER Office have been working with several offices within the Department to maintain the kind of readiness needed to withstand the fiercest and most sophisticated attacks imaginable. Your bills would further enable the Department to serve as a foundation for robust preparedness, response and recovery efforts across governments, the electricity, oil and natural gas industries.

Now, having spent most of my career working throughout multiple segments of the energy industry, I know firsthand the na-

tional importance of maintaining a robust workforce that requires an extraordinary level of technical expertise.

The Department of Energy National Labs Jobs ACCESS Act and Clean Energy Jobs Act of 2019 will serve to fulfill that market reality, the need for a skilled, technical workforce, especially at the national labs and certain facilities within the NNSA.

I also thank you for presenting a bill that grants the Commissioner of FERC the additional funding and flexibility to hire experts to service the growing number of projects over which FERC has jurisdiction.

Finally, it is important to highlight that without this Committee's assistance, advancing critical technologies, such as artificial intelligence, advanced data analytics, grid-scale storage and carbon capture, utilization and sequestration, would simply not be possible.

And so, before I close, let me say thank you for advancing Senate bill 143, DOE's Veterans' Health Initiative Act, as you have shown that you know the health of our nation's veterans is of utmost importance to the Trump Administration, to Congress and, of course, the Department of Energy.

We recently have begun standing up an Office of Artificial Intelligence which will perform a myriad of functions for the nation and, specifically, the nation's vets. DOE-fueled advancements in artificial intelligence and machine learning are helping researchers identify and neurologists treat traumatic brain injuries and other mental health conditions paving the way for better outcomes and a better future for our nation's war fighters.

In conclusion, let me thank you again for the opportunity to be here today. The Department appreciates the ongoing, bipartisan efforts to address our nation's energy challenges, and we look forward to working with the Committee on the legislation today, any future legislation. I look forward to your questions and our discussion.

Thank you.

[The prepared statement of Mr. Menezes follows:]

**Testimony of Under Secretary of Energy Mark W. Menezes
U.S. Department of Energy**

**Before the
Committee on Energy and Natural Resources
Subcommittee on Energy
United States Senate**

September 11, 2019

INTRODUCTION

Chairman Cassidy, Ranking Member Heinrich, and Members of the Subcommittee, it is a privilege and an honor to serve at the Department of Energy (DOE or the Department), which is tasked with, among other important responsibilities: overseeing the Nation's nuclear energy research and development programs; creating and sustaining American leadership in the transition to a global clean energy economy; working effectively with the States on our Nation's energy challenges; and supporting our current, and developing our Nation's future, energy workforce. Thank you for the opportunity to testify today on behalf of the Department regarding legislation pertinent to DOE that is now pending in the Senate.

I have been asked to testify on nine (9) bills today. The Administration continues to review all of these bills. I appreciate the ongoing bipartisan efforts to address our Nation's energy challenges and I look forward to working with the Committee.

NUCLEAR ENERGY

As the major source of clean, reliable, and resilient baseload electricity, nuclear energy is a strategic national asset for the United States. It is an essential element of the Nation's diverse energy portfolio helping to sustain the U.S. economy and support our national goals. A strong domestic nuclear industry enabled by the existing nuclear fleet and enhanced by innovative technology developers is critical to our national security interests as well.

S. 2368 - Nuclear Energy Renewal Act

S. 2368, the Nuclear Energy Renewal Act, reauthorizes many nuclear energy research and development programs and authorizes several new activities to support the existing fleet of nuclear power plants while simultaneously accelerating the development of innovative advanced nuclear technologies. It supports licensing and relicensing of certain nuclear facilities and nuclear energy research, demonstration, and development.

The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward.

ENERGY EFFICIENCY AND RENEWABLE ENERGY

The mission of DOE's Office of Energy Efficiency and Renewable Energy (EERE) is to create and sustain American leadership in the transition to a global clean energy economy. EERE has, among other strategic goals, the aim of: improving the energy efficiency of our nation's homes,

buildings, and industries; stimulating the growth of a thriving domestic clean energy manufacturing industry; and increasing the generation of electric power from renewable sources.

S. 2137 - Energy Savings and Industrial Competitiveness Act

S. 2137, Energy Savings and Industrial Competitiveness Act of 2019, would require DOE to “encourage and support the adoption of building energy codes by States” and Indian tribes. The bill requires that each State and Indian tribe demonstrate that the energy savings for the code provisions meet or exceed the energy savings of the updated model building energy code.

The bill endeavors to further establish authority for industrial efficiency programs of the Department of Energy; accelerate the deployment of technologies and practices that would increase industrial energy efficiency and improve productivity; accelerate the development and demonstration of technologies that would assist the deployment goals of the industrial efficiency programs of the Department and increase manufacturing efficiency; to improve industrial productivity and competitiveness; meet the future workforce needs of industry; and strengthen partnerships between Federal and State governmental agencies and the private and academic sectors.

Additionally, not later than one (1) year after the date of enactment, the bill requires each Federal agency to coordinate with the Director of the Office of Management and Budget, the Secretary, and the Administrator of the Environmental Protection Agency to develop an implementation strategy for the maintenance, purchase, and use by the Federal agency of energy-efficient and energy-saving information technologies.

Given the numerous subjects included within this bill, the Department continues to review the various provisions of this bill.

S. 2300 - Clean Industrial Technology Act

S. 2300, Clean Industrial Technology Act, would amend the Energy Independence and Security Act of 2007, to establish a program to incent innovation and to enhance the industrial competitiveness of the United States but only if the technologies also reduce greenhouse gas emissions of non-power industrial sectors.

The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward.

S. 1821 - Marine Energy Research and Development Act

As the bill indicates, the Water Power Technologies Office (WPTO) involves the Department’s program to accelerate the introduction of marine renewable energy production into the U.S. energy supply. The program’s work in marine renewable energy focuses on addressing scientific and engineering challenges that facilitate breakthroughs that have broad, industry-wide benefits. WPTO has developed strategic partnerships across the industry and into other scientific, engineering, and industrial disciplines to leverage and focus resources on long-term marine renewable energy goals.

The makes provision for National Marine (Renewable) Energy Centers. The program works closely with the three existing National Marine Renewable Energy Centers (Pacific Marine Energy Center, Hawaii National Marine Renewable Energy Center, and Southeast National Marine Renewable Energy Center) and will continue to expand research, development, and testing activities for marine renewable energy.

The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward. At this time, the Department would like to offer one technical adjustment: The marine renewable energy industry uses the term “marine renewable energy” (MRE) as opposed to “marine energy.” The Department recommends using the term “marine renewable energy” for consistency purposes.

INTERACTIONS WITH THE STATES

DOE has a long and successful history of working with States on the Nation’s most significant energy challenges. DOE has provided support for State and local governments to develop and refine energy assurance plans, build in-house expertise on infrastructure interdependencies (i.e., other critical infrastructure systems’ reliance on electricity for operations) and vulnerabilities, integrate renewable energy, address challenges associated with premature nuclear power plant retirements and opportunities associated with advanced nuclear deployment, and utilize new applications such as cyber and smart grid technologies.

S. 2094 – Enhancing State Energy Security Planning and Emergency Preparedness Act

Planning for energy sector disruptions—often led by state energy offices—is essential to safeguarding energy system reliability and resilience. Energy assurance planning can help to achieve a robust, secure and reliable energy infrastructure that is also able to restore services rapidly in the event of any disaster. Nearly all state and territory governments and select local governments have an energy security or assurance plan, which serves as a foundation for action when an energy disruption threatens public welfare or when the energy industry requests help. These plans address energy supply risks and vulnerabilities and enable a quick recovery and restoration. Combined with training and exercises for personnel and stakeholders, energy assurance plans enhance response and recovery efforts and support resiliency.

The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward.

S. 2095 – Enhancing Grid Security through Public-Private Partnerships Act

One of the most critical missions at DOE is developing the science and technology to successfully counter the ever-evolving, increasing threat of cyber and other attacks on our networks, data, facilities, and infrastructure. DOE works closely with our Federal agency partners, as well as governments at the State, local, tribal and territorial government levels, industry, academic institutions, and National Laboratory partners to accomplish this mission.

This bill provides for certain activities in the Department concerning cybersecurity and vulnerabilities of, and physical threats to, the electric grid. It creates a program related to physical security and cybersecurity of electric utilities.

The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward.

HUMAN CAPITAL

In the United States we are producing a wider range of fuels, more abundantly and affordably, while using them more cleanly and efficiently than ever. As part of a balanced approach to energy policy, our Nation is vastly improving energy choice, embracing new and smarter ways to reach our energy, and our environmental goals. In the United States, our energy renaissance over the last decade has been nothing short of a game-changer. As energy evolves, so too does our demand on our current and future workforce.

S. 607 – Timely Review of Infrastructure Act

S. 607, Timely Review of Infrastructure Act, is primarily within the Federal Energy Regulatory Commission's (FERC) purview.

This bill gives the FERC Chairman additional discretion and employee compensation capabilities to hire the experts and personnel needed to meet its current demands. It amends the Department of Energy Organization Act to address insufficient compensation of employees or other personnel. The Department will continue to review the legislation and looks forward to working with Congress as the legislative process moves forward.

S. 2393 - Clean Energy Jobs Act

S. 2393, *Clean Energy Jobs Act*, orders the Secretary to establish and carry out a comprehensive and nationwide program to improve education and training for jobs in energy-related industries to increase the number of skilled workers trained to work in energy related industries, such as manufacturing, engineering, construction, and retrofitting jobs. This bill also includes providing internships, fellowships, traineeships, apprenticeships, and employment at DOE and the National Laboratories.

The Department continues to review the legislation and looks forward to working with Congress as the legislative process moves forward. We also defer to the Department of Labor who is the lead Federal agency on job training programs and provides oversight of workforce development boards authorized under the Workforce Innovation and Opportunity Act (WIOA).

S. 1739 - Department of Energy National Labs ACCESS Act

S. 1739, Department of Energy National Labs ACCESS Act, directs the Secretary to establish competitive five (5)-year grants to conduct Federal cost-sharing to aid in the development and delivery of related instruction associated with pre-apprenticeship and apprenticeship programs specifically designed to train critical skill sets needed to fill positions at the National Laboratories and at National Nuclear Security Administration (NNSA) sites.

Sec. 2. (a) of the bill proposes that, "Not later than 180 days after the date of enactment of this Act, the Secretary shall establish a program known as the 'Department of Energy National Lab Jobs ACCESS program.'" NNSA's Office of Acquisition and Program Management is concerned that six months may not be long enough to implement a technical skills-based pre-

apprenticeship and apprenticeship program envisioned by the Act. Further, NNSA's Office of Research, Development, Test & Evaluation notes that there is no funding path for the grant awards identified in the legislation and current funding cannot support the creation of a new program within six months. We defer to the Department of Labor on the technical aspects of the apprenticeship language as the Department of Labor is the lead Federal agency on pre-apprenticeship and apprenticeship programs, and as noted above, provides oversight of workforce development boards authorized under WIOA.

Conclusion

Thank you again for the opportunity to be here today. The Department appreciates the ongoing bipartisan efforts to address our Nation's energy challenges, and looks forward to working with the Committee on the legislation on today's agenda and any future legislation. I would be happy to answer your questions.

Senator CASSIDY. Mr. Porter, we are going to call an audible.
I understand that we wanted you guys to testify first because we are going to bump up against votes, but Senator Heinrich and I are both going to submit our statements for the record.
[Statements of Senator Cassidy and Senator Heinrich follow:]

Opening Statement

Senator Bill Cassidy

Energy & Natural Resources Committee

Subcommittee on Energy

The purpose of this hearing is to receive testimony on several bills

September 11, 2019

NEED TO HIT:

- The Timely Review of Infrastructure Act is legislation I introduced with Chairwoman Murkowski and Senator Gardner to address FERC's backlog of applications for infrastructure projects, including LNG projects.
- The backlog of projects is standing in the way of good-paying jobs for Louisiana families. FERC needs the expertise and manpower to speed up the review process and end long wait times for new natural gas terminals.
- Improving the review process will allow more U.S. LNG to hit the global market, allowing for countries around the globe to lower their emissions and reduce their reliance on coal and other foreign countries such as Russia and Venezuela.
- If the United States wants to continue to be a leader in emissions reductions, we must ensure we are continuing to develop new technologies and ensuring we have a workforce that is ready to address the needs of our growing energy portfolio.

Good Afternoon, today the subcommittee convenes its second legislative hearing.

This legislative hearing allows us to receive testimony and ask questions from representatives from the Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC).

Specifically, we have the Under Secretary for Energy, Mr. Mark Menezes from DOE and Executive Director, Mr. Anton Porter for FERC.

Today's hearing gives us the opportunity to address key issues facing the energy sector, including two that I continue to work on: workforce training and innovative solutions to lower global emissions. If the United States wants to continue to be a leader in emission reductions, we must ensure we have the necessary workforce in place.

I, Ranking Member Heinrich, and Senator Duckworth have bills addressing the challenges of hiring employees within the energy sector. In the coming years, the United States will face a shortage of a qualified employees as the current workforce enters retirement age. According to

the 2019 U.S. Energy and Employment Report, hiring difficulty is a growing problem. Specifically, the report states:

“Lack of experience, training, and technical skills was almost universally cited as a top reason for hiring difficulty by employers. The need for technical training and certifications was also frequently cited, implying the need for expanded investments in workforce training and closer coordination between employers and the workforce training system”.

The Federal Energy Regulatory Commission (FERC) is tasked with delivering energy to markets. Unfortunately, as we’ll hear from our witness today, reviewing and processing project applications in a timely manner is becoming difficult due to recruitment challenges and high attrition at the FERC.

The Timely Review of Infrastructure Act, is legislation I introduced with Chairwoman Murkowski and Senator Gardner in February. Our House colleague Pete Olson from Texas has introduced a

bipartisan companion bill and has provided the Committee with a Statement for Record.

If there is no objection, I ask his Statement be entered in to the record. [PAUSE] Without objection, so ordered.

Our bill grants the FERC the ability to offer applicants a salary outside of the traditional classes and grades for compensating federal employees. The ability for FERC to exercise this authority would remain in effect for five years, could be renewed and is narrow in scope, focused on vacancies for scientists, mathematicians and engineers. Further, engagement and consultation with the Office of Personnel Management to determine the appropriate compensation levels is required.

This legislation does not change any environmental laws and does not put FERC on a “shot clock” to review project applications. It does not favor one source of energy over and can allow FERC to remain competitive with the private sector, attracting and retaining the caliber of employees needed to sustain energy development and economic growth.

In addition to the several workforce training bills, Senator Wyden, Senator Coons and Senator Whitehouse have bills addressing R&D needs within DOE:

S. 1821, the Marine Energy Research and Development Act, introduced by Senator Wyden provides for research, development, and deployment of, marine energy.

S. 2368, the Nuclear Energy Renewal Act of 2019, introduced by Senator Coons, will support the licensing and relicensing of certain nuclear facilities and nuclear energy research, demonstration, and development.

S. 2300, the Clean Industrial Technology Act, introduced by Senator Whitehouse, establishes a program to incentivize innovation and to enhance the industrial competitiveness of the United States.

According to the International Energy Agency, global industrial emissions account for a quarter of carbon emissions. The IEA found that reducing industrial emissions without impacting economic growth will require new technologies. The U.S. is already showing the world how to

reduce emissions and maintain an economy. Through increased attention and focus on developing new technologies, we can continue to set an example the world will follow.

Other bills on today's docket include:

Senator Gardner has two bills on today's agenda, S. 2094 and S. 2095, that both look at increasing the security of our nation's energy grid.

S. 2137, the Energy Savings and Industrial Competitiveness Act, introduced by Senators Portman and Shaheen, looks to promote energy savings in residential buildings and industry.

I look forward to hearing from our witnesses and I will now turn it over to my colleague and friend, Ranking Member Heinrich.

Energy Subcommittee Legislative Hearing
September 11, 2019

Senator Heinrich's Opening Statement for the Record

Thank you, Chairman Cassidy, for holding our second legislative hearing in the Energy Subcommittee.

And welcome to our two witnesses: Under Secretary Menezes and Mr. Porter. Thank you for being here.

After our first hearing and reporting out 22 bills in July, I think we're on track to keep up a good legislative pace, continuing with today's hearing.

There are nine bills on today's agenda, including my Clean Energy Jobs Act, which Ranking Member Manchin has cosponsored.

Our bill is a companion to a bipartisan effort in the House led by Congressman Bobby Rush. The bill establishes a comprehensive, nationwide program at the Department of Energy to improve education and training for careers in energy-related industries. A focus of our bill is on increasing participation of women and minorities in energy.

The legislation provides DOE new authority to offer direct assistance to schools, workforce development boards, and labor organizations. This is something that will help students and workers learn the skills they need to build energy careers in New Mexico and across the nation.

Also on the agenda is Senator Duckworth's bipartisan "National Labs Jobs ACCESS Act," which is a companion to legislation introduced in the House by Congressman Ben Ray Lujan. The bill supports targeted apprenticeship programs to fill gaps in critical sectors of the technical workforce at DOE's national labs. Developing a strong workforce pipeline within our local communities would expand pathways to careers at DOE sites, such as Sandia and Los Alamos National labs in New Mexico.

Today's agenda also includes several important bills that would help move the needle on energy efficiency and reducing carbon pollution. Many have bipartisan support.

For example, Senators Portman and Shaheen's bill, S. 2137, represents a major down payment for making our residential, commercial, and industrial sectors more energy efficient – that's good for the economy, good for consumers, and it's good for the climate.

This bipartisan bill has been reported favorably by the Energy Committee in each of the last three Congresses and passed the Senate in the 114th Congress as part of the Committee's bipartisan energy policy act.

I hope this is the year that we finally send that bill to the president for his signature.

We also have important bills on the agenda from Senators Wyden and Whitehouse that focus on research for marine renewable energy and reducing hard-to-abate industrial emissions of carbon.

At our last hearing, I asked Deputy Assistant Secretary Bennett about technical options to decarbonize some of the high-temperature industrial processes, like steel and cement. Today I look forward to hearing from Under Secretary Menezes on that topic.

These are important issues for us to be discussing and advancing as a Committee.

These should all be bipartisan priorities.

In that vein, I note that on Monday, I introduced with Senator Collins the American Energy Opportunity Act, S. 2447.

This bipartisan bill would provide new, voluntary tools state and local governments can use to help standardize the process for local permitting of distributed renewable energy and energy storage systems, while ensuring the highest standards of safety and quality.

The current patchwork of permitting requirements across local jurisdictions causes delays and increases costs for both local governments and the businesses and homeowners who want to build smaller-scale systems. I hope that legislation will be on the agenda for our next hearing.

Again, I thank the chairman for calling today's hearing. I look forward to working with Chairman Murkowski and Ranking Member Manchin to keep the momentum going in processing important legislation that will promote energy efficiency and reduce greenhouse gas emissions.

I ask unanimous consent to add a letters of support to the record

Senator CASSIDY. I think we have time for Senators Portman and Whitehouse to testify, and then we will come back to you before we go to votes.

Senator Portman, would you go next please?

**STATEMENT OF HON. ROB PORTMAN,
U.S. SENATOR FROM OHIO**

Senator PORTMAN. Thank you, Mr. Chairman, and I appreciate you and Senator Heinrich letting us come by today and the opportunity to give a brief statement on the Subcommittee legislation you're looking at today which is S. 2137 that Senator Shaheen and I have worked on for the past eight years, that's the Energy Savings and Industrial Competitiveness Act.

Back in 2015, as you remember, Mr. Chairman, President Obama did sign a few pieces of this legislation into law, but most of the legislation was caught up at the House. We did pass it in the Senate by an overwhelming vote of 85 to 12 and this Committee has approved it overwhelmingly, on a bipartisan basis, in the last four Congresses.

I would also like to thank the Under Secretary for being here today and for the Department's support of our energy efficiency efforts. During Secretary Perry's confirmation, he committed to working with me to get this across the line, as you know, and we look forward to continuing to work with both of you.

It improves energy efficiency in basically three areas: residential and commercial buildings, manufacturing, and then the biggest energy user of all in the United States which is our Federal Government.

The greenhouse gas emission reductions are equivalent to taking about 11 million cars off the road. We think even more. We are getting more studies on that. But it just makes sense. It is good for the economy. It is good for the environment. It is good for jobs.

I am proud it doesn't include heavy-handed mandates, something, Mr. Chairman, some colleagues on the other side of the aisle have been concerned about. In fact, the building code sections, in particular, are completely voluntary. We developed a compromise that's supported by a wide range of groups, including energy efficiency advocates, environmental groups, industry states and even some of the home builder groups.

I'd like to thank the other co-sponsors of the legislation in the Senate, but also our House sponsors. We have an identical House companion bill, and that would be Representatives McKinley and Welch who stuck with us.

So it is time to get this bill passed once and for all.

I appreciate you letting us come by today and really appreciate your holding the hearing today.

Senator CASSIDY. Thank you.

Senator Whitehouse.

**STATEMENT OF HON. SHELDON WHITEHOUSE,
U.S. SENATOR FROM RHODE ISLAND**

Senator WHITEHOUSE. Let me thank Chairman Cassidy and Ranking Member Heinrich for inviting me here today. Thank you, Senator King, for being here.

And let me also applaud the full Energy Committee, under the leadership of Senators Murkowski and Manchin, for reviewing legislation that would boost energy storage, advanced nuclear, energy efficiency, carbon capture, renewables, and grid modernization.

Today, the Subcommittee is going to be considering other important measures, including my bill with Senators Manchin, Capito, Braun, Booker, Collins and Feinstein, targeting emissions from the industrial and heavy-duty transportation sectors like steel, cement, chemicals and emissions from commercial airplanes and trucking.

Around 30 percent of U.S. greenhouse gas emissions come from these sectors, yet few technologies exist to substantially reduce their emissions. Our bill sets up a new Department of Energy Advisory Council to fund research and deploy emission reduction technologies for these sources and a technical assistance program to help local governments support these innovations.

The bill has broad bipartisan support from industry, labor, and environmental groups. You don't often hear this, but it's supported by the Environmental Defense Fund, the National Association of Manufacturers, the Natural Resources Defense Council, the U.S. Chamber of Commerce, the American Chemistry Council, and the United Steelworkers.

The House Science Committee today also cleared companion legislation led by Representatives Casten, McKinley and Eddie Bernice Johnson. So if this moves, it stands a very good chance of coming into law.

This is, of course, one piece of a much larger puzzle that ultimately must include putting a price on carbon emissions, a price on carbon, that corrects a market failure and puts us on a path to avoid the worst climate chaos.

I appreciate very much the opportunity to be here today, to be working with this Committee and Subcommittee, and to help develop the broad climate change package that our times require.

Thank you.

Senator CASSIDY. Thank you both.

Mr. Porter.

**STATEMENT OF ANTON C. PORTER, EXECUTIVE DIRECTOR,
FEDERAL ENERGY REGULATORY COMMISSION**

Mr. PORTER. Chairman Cassidy, Ranking Member Heinrich and Senator King, my name is Anton Porter and I serve as the Executive Director of the Federal Energy Regulatory Commission (FERC).

The Office of the Executive Director is responsible for providing administrative support services to the Commission, including human resources, financial management, information technology, security, procurement, logistics, and organizational management. It is my honor to provide testimony this afternoon responsive to S. 607, the Timely Review of Infrastructure Act.

As a member of the Commission's staff, the views I express in this testimony are my own, and not necessarily those of the Commission or of any individual Commissioner.

The Federal Energy Regulatory Commission is composed of 12 program offices that support the agency's mission of ensuring con-

sumers can obtain economically efficient, safe, reliable, and secure energy services.

Our largest program office, the Office of Energy Projects (OEP), is responsible for performing the engineering and environmental review of natural gas pipelines, liquefied natural gas facilities and non-federal hydroelectric projects.

The Commission's Office of Electric Reliability helps protect and improve the reliability and security of the nation's bulk power system through effective regulatory oversight of the development of mandatory reliability and security standards.

In addition, the Office of Energy Infrastructure Security provides leadership, expertise and assistance to the energy industry to identify, communicate and seek comprehensive solutions to potential risks of FERC-jurisdictional facilities from cybersecurity, from cyberattacks and such physical threats as electromagnetic pulses.

All three offices, which employ specialists in highly technical fields, would be impacted by S. 607. For example, OEP is made up of 345 specialists, including archeologists, biologists, geologists, engineers, environmental protection specialists and recreation planners, engaged in infrastructure review. In particular, the level of expertise required to support FERC's LNG program responsibilities is highly technical and scarce within the job market. Due to this scarcity, FERC has experienced difficulties recruiting and retaining staff in the Washington, DC, area due to compensation constraints. We've been forced to replace a third of this valuable expertise over this term to keep pace with this rate of attrition. During this four-year period, the Commission has constantly attempted to recruit candidates to fill these positions, issuing 176 vacancy announcements; however, 39 percent of these postings failed to result in the identification of any desirable candidates, in significant part due to compensation constraints. As a result, the Office of Energy Projects has not been able to keep pace with staff attrition.

These problems have not been confined to OEP. Many of the Commission's offices have had similar experiences. Over the past four years many of our offices have experienced double-digit attrition rates that have been difficult to address despite our aggressive hiring efforts due to compensation constraints. Given the nine percent average attrition rate of engineers for the agency, our agency has not been able to rise above attrition.

In FY 2016, engineers comprised 16 percent of the total number of agency-wide hires. Though there was growth in FY 2017 with engineers making up 22 percent of total agency-wide hires, in FY 2018 that number plummeted to 13 percent. It is the lowest level in the past four years.

Over the past four fiscal years as well, the Commission has made strategic—made hiring a strategic priority working diligently to hire ahead of the forecasted attrition. We have maximized our use of available Title V Recruitment Incentives, including offering one-time recruitment and relocation bonuses as well as using superior qualifications for setting pay above the minimum rate.

Once employees are on board, we have also maximized our use of Title V Retention Incentives, including investing just over \$1 million annually in providing student loan repayment program incentives to staff. Even with these flexibilities, 18 percent of can-

didates that declined offers noted they did so to pursue private sector opportunities that provide greater compensation.

In summary, the language in S. 607, the Timely Review of Infrastructure, will assist the Commission in attracting and retaining the needed workforce with additional compensation authorities.

This concludes my testimony. I'd be happy to answer any of your questions.

[The prepared statement of Mr. Porter follows:]

Testimony of**Anton C. Porter
Executive Director****Federal Energy Regulatory Commission
888 First Street, N.E. Washington, DC, 20426**

Chairman Cassidy, Ranking Member Heinrich, and Members of the Committee:

My name is Anton C. Porter and I serve as the Executive Director for the Federal Energy Regulatory Commission. The Office of the Executive Director is responsible for providing administrative support services to the Commission, including human resources, financial management, information technology, security, procurement, logistics, and organizational management. It is my honor to provide testimony this afternoon responsive to S.607, the "Timely Review of Infrastructure Act" which would amend the Department of Energy Organizational Act to address insufficient compensation of employees and other personnel of the Federal Energy Regulatory Commission. As a member of the Commission's staff, the views I express in this testimony are my own, and not necessarily those of the Commission or of any individual Commissioner.

The Federal Energy Regulatory Commission (FERC or Commission) is composed of twelve program offices that support the agency's mission of ensuring consumers can obtain economically efficient, safe, reliable, and secure energy services. Our largest program office, the Office of Energy Projects (OEP), is responsible for performing the engineering and environmental review of natural gas pipeline projects, liquefied natural gas facilities and non-federal hydroelectric projects. The Commission's Office of Electric Reliability (OER) helps protect and improve the reliability and security of the nation's bulk power system through effective regulatory oversight of the development of mandatory reliability and security standards. In addition, the Office of Energy Infrastructure Security provides leadership, expertise and assistance to the energy industry to identify, communicate and seek comprehensive solutions to potential risks of FERC-jurisdictional facilities from cyber-attacks and such physical threats as electromagnetic pulses. All three offices, which employ specialists in highly technical fields, would be impacted by S.607.

For example, OEP is made up of 345 specialists, including archeologists, biologists, geologists, engineers, environmental protection specialists, and recreation planners, engaged in infrastructure review. As industry invests in and develops more LNG projects, OEP's workload will increase prospectively. At the same time, the level of expertise required to support FERC's LNG program responsibilities is highly technical and scarce within the job market. FERC supports these responsibilities with professionals specializing in an array of engineering disciplines to include mechanical, civil, petroleum and fire protection. Due to this scarcity in the market, FERC has experienced difficulties recruiting and retaining staff in the Washington, DC area due to compensation constraints. Among its staff with engineering disciplines FERC has observed a separation rate of approximately 30% over the past 4 fiscal years. As such, we have been forced to replace a third of this valuable expertise over this term to keep pace with this rate of attrition.

During this period, the Commission has constantly attempted to recruit candidates to fill these positions to ensure OEP stays at the targeted 345 full-time equivalent staffing level, issuing 176 vacancy announcements. However, 39% of these postings failed to result in the identification of any desirable candidates after conducting initial screenings, interviews and/or reference checks. In postings that did return candidates with the needed professional and interpersonal skills, 18 percent of job offers were turned down, with the majority of those candidates indicating compensation constraints as a principal reason. As a result, OEP has not been able to keep pace with staff attrition. This issue has been more pronounced in extending job offers for LNG engineering positions where we have experienced a 50% success rate relative to acceptances.

Attracting qualified employees to work in the Washington, DC area has come with only marginal success. According to the Economic Research Institute, a compensation analysis firm, the annual median salary for a petroleum engineers in the Washington, DC area is \$175,861. The current annual median salary for a Commission petroleum engineer is \$122,605. This compensation analysis is based on salary survey data collected directly from employers in the Washington, DC area.

FERC has previously considered alternative approaches to supporting its technical workload, to include acquiring contractor support. In fact, it uses contractor engineering support on a limited basis to assist with LNG inspections. However, engaging contractors in a more extensive fashion presents unique challenges. The universe of qualified and capable firms that can support FERC's LNG activities is very small. Industry leverages these consultants to a large extent in support of their activities. These existing relationships create organizational conflicts of interest that preclude FERC from leveraging this limited universe more extensively. Due to these constraints, Federal staff provide the optimal continuity for seamless execution of the agency's related obligations.

FERC's continued issues recruiting and retaining technical staff to be stationed in the DC area, and at FERC's recently-announced office in Houston, Texas, will eventually have a negative impact on LNG program performance unless it finds other viable recruiting and compensation strategies to acquire and retain skilled staff.

These problems have not been confined to OEP. Many of the Commission's other offices have had similar experiences. Over the past four years, many of our offices have experienced double digit attrition rates that have been difficult to address despite our aggressive hiring efforts due to compensation constraints.

The Commission has realized an unsteady hire rate in key Commission occupations within the last four fiscal years. Given the 9% average attrition rate of engineers, for example, our agency has not been able to rise above attrition. In FY 2016 engineers comprised 16% of the total number of agency-wide hires. Though there was growth in FY 2017, with Engineers making up 22% of total agency-wide hires, in FY 2018 that number plummeted to 13%, its lowest levels the past four fiscal years. It is a real concern that our agency will not be able to on-board as many Engineers as separate, leaving our Engineering ranks perpetually lacking.

In the annual 2018 Federal Employee Viewpoint Survey, administered by the U.S. Office of Personnel Management (OPM), 26% of Commission employees responded that they are considering leaving the Commission within the next year. Among those who are

considering leaving within the next year, only 46% of them expressed satisfaction with their pay. Among the respondents who have Doctoral or Professional Degrees the overall satisfaction with pay (regardless of intent to leave) was the lowest, at 62%, compared to respondents with no degrees or other degrees. We are awaiting 2019 survey data results from OPM.

Over the past four fiscal years, the Commission has made hiring a strategic priority, working diligently to hire ahead of forecasted attrition. Over this period, our average time to hire has been under our 55 calendar days metric, with an average time to hire of 49 calendar days in FY 2018. While this has addressed our ability to be responsive to applicants, we remain challenged with attracting quality candidates to fill our positions. We have also maximized our use of available Title 5 recruitment incentives, including offering one-time recruitment and relocation bonuses, offering creditable service for annual leave accrual for non-Federal work experience and experience in uniformed service, as well as using superior qualifications for setting pay above the minimum rate. Once employees are on-board, we have also maximized our use of available Title 5 retention incentives, including investing just over \$1 million annually in providing Student Loan Repayment Program incentives to staff. Even with these flexibilities, 18% of candidates that declined offers noted they did so to pursue private sector opportunities that provided greater compensation. These compensation issues are compounded in the Washington, DC Headquarters location and in our San Francisco Regional Office by higher costs of living.

The Commission has used Federal Government-wide direct hire authorities for Information Technology professionals with information security experience over the past eight years. This year we have also expanded our use of Government-wide direct hire authorities granted for Economists, Biological Scientists, Fishery Biologists, General Engineers, Engineers, Physical Scientists, and Acquisition occupations. While the direct hire authority expedites the hiring process, we are often faced with not being able to offer competitive compensation for these needed skill sets.

In summary, the language contained in S.607, the “Timely Review of Infrastructure Act” will assist the Commission in attracting and retaining the needed workforce with additional compensation authorities. This concludes my testimony. I would be happy to answer any of your questions.

Senator CASSIDY. Thank you, Mr. Porter.
And now, Senator Shaheen.

**STATEMENT OF HON. JEANNE SHAHEEN,
U.S. SENATOR FROM NEW HAMPSHIRE**

Senator SHAHEEN. Well, thank you very much, Mr. Chairman and Ranking Member Heinrich. I appreciate your letting me bump into this panel. I hope the panelists don't mind two minutes. I know you're trying to get the Senators in and out before our votes start.

I want to make three points about the Energy Efficiency and Industrial Competitiveness Act. I know that Senator Portman has already spoken to the bill, although I figured I needed to get here because I am sure he called it Portman-Shaheen, and I wanted to make sure we got the Shaheen-Portman piece.

[Laughter.]

Some of you remember we have introduced—first of all, it's about energy efficiency. And as everyone knows, energy efficiency is the cheapest, fastest way to deal with our energy needs. My favorite statistic is that over the last 40 years, we have saved more energy through efficiency than we have produced through fossil fuels and nuclear power combined in this country. So it is the low-hanging fruit.

Second, this is a bill that has passed this Committee virtually every Congress that we've introduced it. We introduced it for the first time in 2011, and I think that speaks for itself. It has gotten hung up on various other issues that have really had very little to do with the specific provisions of the bill. And I think one of the reasons that it's gotten through the Committee so well in the past is because it's had this broad array of supporters, everyone from the leading builders of America, to the American Chemistry Council, to the National Resources Defense Council. It's very rare that we find a piece of legislation that has that broad a range of advocates supporting it.

And third, we can actually pass it through the Congress this year.

We have, I think, much more support in the House than we've had in some past sessions. It has strong bipartisan support. In the past, the last time it passed through the full Senate, it passed with an overwhelming bipartisan majority. So this is legislation that can get done. It can actually provide some savings. According to the American Council for an Energy-Efficient Economy (ACEEE), if we pass this legislation, not only would it save consumers over \$16 billion a year, it would create about 300,000 jobs and be the equivalent of taking 22 million cars off the road. So there are real benefits to passing the legislation.

I would urge the Committee to consider it and pass it out again so that we can actually make it into law.

Thank you very much, Mr. Chairman.

Senator CASSIDY. I will note that Portman said 11 million. You said 22 million. We've got to keep at this. We are growing pretty quickly.

Senator SHAHEEN. Well, let me just say that the statistics that I used on it were what we had from ACEEE the last time it was

introduced, and we're still waiting for their updated analysis on the bill as we've reintroduced it in this session.

Senator CASSIDY. Got it.

As I said earlier, I am going to submit my opening statement for the record.

If there is no objection, I'll also ask that Pete Olson, who has introduced a bipartisan companion bill to the Timely Review of Infrastructure Act, that his statement be entered into the record, without objection, so ordered.

[Representative Olson's statement follows:]

Written Statement of Representative Pete Olson (TX-22)
Senate Energy and Natural Resources Committee
September 11, 2019

Thank you, Chairman Murkowski and Ranking Member Manchin, for having this important hearing today. I continue to be impressed by your thoughtful, bipartisan work in support of American energy. I am particularly grateful to see your consideration of my friend Bill Cassidy's S. 607, the Timely Review of Infrastructure Act.

As you know, this is the Senate companion for my own H.R. 1426, which I introduced in a bipartisan manner with my colleague on the House Energy and Commerce Committee Mike Doyle of Pennsylvania. In fact, not only is this bill bipartisan, but it currently has more Democratic support than it does Republican—no small feat for an energy bill in our all-too-divided Congress.

I believe this is because the bill you consider today is not only important but is also fundamentally fair and technologically neutral. The Federal Energy Regulatory Commission is at the heart of getting American energy to market. Our energy economy, and in many ways our broader economic security, are threatened when FERC is dysfunctional or unable to act on its Congressional mandates. If a project is valid, safe and worthwhile it should be approved. If not, it should be denied. No one wins when a project languishes with regulators except for “white-shoe” legal firms in Washington, D.C. That is why having a fully staffed FERC to review and decide upon projects is so vital.

And yet, the status quo is clearly not working. As FERC told my staff recently, almost 20% of job offers FERC makes to qualified candidates to help review major energy project applications are turned down—mostly over pay. Of course, the issue isn't just about new *hires*—the Commission has told us that they have an attrition problem as key staff in areas such as engineering and economics leave. What remains is a FERC at risk of being understaffed and unprepared.

The idea behind S. 607 is nothing new to Congress. Years ago, to stop the subject matter experts at the Securities and Exchange Commission from being swept away by wall street, Congress allowed the SEC to pay competitive salaries. Likewise, the simple fact is that complex energy projects require uniquely qualified staff to review them. The Commission is competing with industry, and the salaries for certain positions at 888 First Street are simply not competitive to bring in enough of the caliber of employees we need. *That* is why this bill is so important.

Passage of the Timely Review of Infrastructure Act will be a significant step in remedying this broken status quo. By allowing higher salaries for specific classes of employees when *absolutely* necessary, we can clear hurdles to American energy development and economic growth. **You have an opportunity to create more certainty in the system without making a single change to environmental laws, without creating a “shot clock” on reviews, or taking any of the other more controversial steps that have been proposed in recent years.** I hope you take it.

Again, thank you for holding this hearing today. I stand ready to help in any way I can as you consider this bill in the future.

Senator CASSIDY. Martin, are you going to submit yours for the record?

Senator HEINRICH. I just wanted to ask unanimous consent that a number of letters of support for various pieces of legislation be included in the record.

Senator CASSIDY. Without objection.

[Letters of support for various pieces of legislation follow:]

September 11, 2019

The Honorable Lisa Murkowski
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

The Honorable Joe Manchin
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

The Honorable Frank Pallone
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Greg Walden
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

Re: Support for the Energy Savings and Industrial Competitiveness Act of 2019 (S. 2137 and H.R. 3962)

Dear Chairwoman Murkowski, Ranking Member Manchin, Chairman Pallone, and Ranking Member Walden:

We, the undersigned, represent a broad coalition of states, energy efficiency organizations, businesses, builders, trade associations, and public interest groups writing to express our support for the Energy Savings and Industrial Competitiveness Act of 2019 (S. 2137 and H.R. 3962).¹ These bills are more colloquially known by the names of their respective sponsors: “Portman-Shaheen” and “Welch-McKinley.” These identical bills would save energy and reduce costs for families and businesses, create jobs and promote economic growth, and reduce greenhouse gas emissions and other pollutants. We urge your support for these bills and encourage you to bring S. 2137 and H.R. 3962 up for consideration and a vote before your respective committees at the earliest possible time.

These bipartisan bills include provisions that would improve U.S. energy productivity, expand energy efficiency savings and benefits across the economy, and seize opportunities to reduce the energy and water consumption of the federal government. Passage of this legislation would create jobs in local economies across the country and lower energy costs—year after year—for American households. More specifically, Portman-Shaheen and Welch-McKinley would create a national strategy to increase the use of energy efficiency through a model building energy code; promote the cost-effective implementation of building energy codes; help ensure homeowners can realize a return on investment for energy efficiency upgrades by updating mortgage rules to account for the value of energy savings; re-establish forward-looking energy and water consumption targets for federal agencies; encourage strategic planning to meet sustainability goals; promote public-private partnerships to implement energy and water conservation measures; streamline information to support the deployment of energy-efficient technologies in schools; improve commercial building efficiency; and set forth a number of other policies and initiatives.

Energy efficiency is the quickest, cheapest, and cleanest way to reduce costs and greenhouse gas emissions. It also represents an important engine of economic growth in the energy sector. More than

¹ [S. 2137](#), the Energy Savings and Industrial Competitiveness Act of 2019, was introduced by Senators Rob Portman (R-Ohio) and Jeanne Shaheen (D-N.H.) on July 17, 2019. [H.R. 3962](#), which has the same short title, was introduced by Representatives Peter Welch (D-Vt.) and David McKinley (R-W.Va.) on July 26, 2019.

Re: Support for S. 2137/H.R. 3962, the Energy Savings and Industrial Competitiveness Act
September 11, 2019

2.3 million Americans hold energy efficiency jobs, representing over one-third of the total energy sector workforce.² Moreover, energy efficiency policies offer Americans protection from rising energy costs caused by instability overseas and move us toward greater energy security.

These bills have bipartisan support and provide an opportunity for Congress to reduce greenhouse gas emissions while spurring economic growth and creating jobs. We respectfully urge you to support these bipartisan bills and bring S. 2137 and H.R. 3962 up for committee consideration at the first opportunity during this session of the 116th Congress.

Sincerely,

Acuity Brands
Air-Conditioning, Heating, and Refrigeration Institute
Alliance for Industrial Efficiency
Alliance to Save Energy
Ameresco
American Chemistry Council
American Council for an Energy-Efficient Economy
Association of Energy Engineers
Building Performance Association
Business Council for Sustainable Energy
Consumer Technology Association
Covestro LLC
Danfoss
DuPont
E4TheFuture
Federal Performance Contracting Coalition
Illuminating Engineering Society
Ingersoll Rand
Institute for Market Transformation
Johns Manville
Johnson Controls, Inc.
Knauf Insulation
Legrand
National Association of Energy Service Companies
National Association of Manufacturers
National Association of State Energy Officials
Natural Resources Defense Council
North American Insulation Manufacturers Association
Owens Corning
Pearl Certification
Polyisocyanurate Insulation Manufacturers Association
Schneider Electric
Siemens Corporation USA

² National Association of State Energy Officials and Energy Futures Initiative. The 2019 U.S. Energy & Employment Report. Available at: <https://www.usenergyjobs.org/>

Re: Support for S. 2137/H.R. 3962, the Energy Savings and Industrial Competitiveness Act
September 11, 2019

Signify
The Stella Group, Ltd.
U.S. Chamber of Commerce

Cc: Chairman and Ranking Member, U.S. House of Representatives Committee on the Budget
Chairwoman and Ranking Member, U.S. House of Representatives Committee on Financial
Services
Chairman and Ranking Member, U.S. House of Representatives Committee on Oversight and
Government Reform
Chairwoman and Ranking Member, U.S. House of Representatives Committee on Science,
Space, and Technology
Chairman and Ranking Member, U.S. House of Representatives Committee on Transportation
and Infrastructure



2111 Wilson Boulevard Suite 500 Arlington VA 22201-3001 USA
Phone 703 524 8800 | Fax 703 562 1942
www.ahrinet.org

July 17, 2019

The Honorable Rob Portman
448 Russell Senate Office Building
Washington, DC 20510

The Honorable Jeanne Shaheen
506 Hart Senate Office Building
Washington, DC 20510

Dear Senators Portman and Shaheen:

On behalf of the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) I am writing to express our support for the Energy Savings and Industrial Competitiveness Act.

AHRI is the trade association representing more than 320 manufacturers of residential, commercial, and industrial air conditioning, space heating, water heating, and commercial refrigeration equipment and components for sale in North America and around the world. The heating, ventilation, air-conditioning, refrigeration (HVACR), and water heating industry employs 1.3 million people and generates \$257 billion in annual economic activity.

The Energy Savings and Industrial Competitiveness Act would implement several energy efficiency measures across the residential, commercial, and industrial sectors. Energy efficiency measures are the quickest, cheapest, and cleanest way to tackle growing energy demand. Energy efficiency offers real solutions to deal with the short- and long-term economic and environmental problems associated with rising energy use while saving money, lessening dependence on imported energy sources, reducing pollution, and improving our nation's global competitiveness. In addition, these initiatives enable domestic businesses to leverage private capital, provide long-term market certainty, spur economic growth, and create jobs.

For these reasons, AHRI supports the Energy Savings and Industrial Competitiveness Act. Should you have any questions, or if we can be helpful as a resource should there be an opportunity for input from the HVACR industry, please feel free to contact me at 703-293-4871 or via email at sslater@ahrinet.org.

Sincerely,

Samantha M. Slater
Vice President, Government Relations



July 9, 2019

The Honorable Lisa Murkowski
U.S. Senate Committee on Energy and
Natural Resources
304 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Joe Manchin III
U.S. Senate Committee on Energy and
Natural Resources
304 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Chairman Murkowski and Ranking Member Manchin:

The American Chemistry Council and the products of chemistry are committed to delivering solutions and technologies that empower Americans to improve energy efficiency and make our nation's energy supplies go further while lowering energy costs for businesses and families. As a key stakeholder invested in supplying and delivering energy efficiency across the value chain in homes and buildings, we write to encourage your continued support for efficiency legislation that will promote and encourage the adoption of updated building energy codes. We are grateful for your past support of legislation that embodies flexibility for builders while encouraging states and localities to improve their codes. Your thoughtful leadership, along with Senator Portman and Senator Shaheen, demonstrates that you understand the value of this very important provision.

We have consistently supported the long-standing, bipartisan efforts of Senator Portman and Senator Shaheen to implement a reasonable and thoughtful approach to building energy codes, most recently in S.385 (115th). This provision has long enjoyed bipartisan support primarily because it was painstakingly crafted to accommodate input from several organizations and companies across the construction industry. Importantly, while not every stakeholder received all its desires, we agreed to support it because even incremental improvement is beneficial given that so many states have not adopted updated model codes.

We all have a vested interest in making sure homes and buildings are safe and efficient. As such, we were disappointed with some of the changes to the codes provision in S.1460 (115th). In some instances, the provisions in S.1460 (115th) were worse than current law. For example, it lengthened the timeframe to certify compliance and prescriptively defined "economically justified" in a way that could authorize DOE to establish pricing for building materials and



consider “facts” at its discretion without any parameters. Respectfully, these provisions are designed to impede implementation and impair the performance benefits of code advancements.

At a time when natural disasters and the cost of housing are rising, we collectively cannot afford to regress on adoption of improved codes. Locking in energy savings and resiliency from updated codes is one of the best strategies for consumers and taxpayers to mitigate these challenges. As codes directly impact our members’ ability to commercialize innovative products, building product manufacturers have a critical role in driving the market to better alternatives. While we understand that builders do and should continue to play a role in the process, it must be noted that they are only one part of the housing industry. A 2014 study by the National Association of Home Builders shows that for every single-family home that is built, approximately three jobs are created¹ – notably, only one of those is for the builder. Therefore, we must stress that product manufacturers deserve equal consideration in policies related to codes, as they are a key player in the drive for a more energy efficiency and resilient building infrastructure.

Again, thank you for your past support of S.385 (115th) and the codes provisions in previous versions of Portman-Shaheen/Shaheen-Portman over the last eight years. We stand with you and urge you to retain these codes provisions. The changes to the codes provisions in S.1460 (115th) would not improve upon current law, but rather could decrease energy efficiency and impair effective implementation of updated codes. We look forward to working with you and all stakeholders, and thank you in advance for your ongoing support for efficiency and building codes that boost energy security, help generate significant cost-savings to consumers over the life of a building, and help stabilize energy demand.

Sincerely,



Bryan Zumwalt
Vice President, Federal Affairs
American Chemistry Council

cc: The Honorable Rob Portman
The Honorable Jeanne Shaheen

¹ <http://www.nahbclassic.org/generic.aspx?sectionID=734&genericContentID=227858&channelID=311>, accessed, June 24, 2019





Statement

For Immediate Release

July 25, 2019

Contact: Jennifer Scott (202) 249-6512

Email: jennifer_scott@americanchemistry.com

ACC WELCOMES BIPARTISAN INTRODUCTION OF THE CLEAN INDUSTRIAL TECHNOLOGY ACT *Legislation Would Create R&D Program for Emissions-Reducing Technologies*

WASHINGTON (July 25, 2019) – The American Chemistry Council (ACC) today welcomed bicameral introduction of legislation to spur innovation and enhance industrial competitiveness by developing new technologies to reduce greenhouse gas emissions. Senate sponsors of the Clean Industrial Technology Act (CITA) are Sheldon Whitehouse (D-R.I.), Shelley Moore Capito (R-W.Va.), Mike Braun (R-Ind.), Joe Manchin (D-W.Va.) and Cory Booker (D-N.J.). In the House, the bill is sponsored by Reps. Sean Casten (D-Ill.), David McKinley (R-W.Va.), Aumua Amata (R-American Samoa-At Large) and Eddie Bernice Johnson (D-Texas).

“We commend Senators Whitehouse, Capito, Braun, Manchin and Booker and Reps. Casten, McKinley, Amata and Johnson for advancing R&D in technologies to cut emissions and strengthen competitiveness in U.S. industry. Developing new ways to produce process heat and power industrial equipment will be critical to meeting the climate challenge. We urge lawmakers to support this smart, bipartisan proposal.

“American chemistry uses carbon molecules to create products that save energy (e.g., building insulation, lightweight vehicle parts), enable renewable energy (e.g., wind turbines, solar panels) and lower the emissions intensity of industrial processes (e.g., combined heat and power, carbon capture and storage systems, catalysis, hydrogen). These innovations are among many ways that chemistry is the [science behind sustainability](#).

“The chemistry industry is continually looking for ways to reduce emissions in our processes while providing solutions that help society reduce emissions. A vibrant chemical industry with robust production capacity will be necessary to achieve our nation’s climate goals.”

CITA would direct the Secretary of Energy to establish an Industrial Emissions Reduction Technology Development Program aimed at developing innovative low- and zero-emissions technologies. It would create a technical assistance grant program to help states, local governments and tribal organizations implement low- and zero-emissions technologies. An advisory committee comprised of experts from federal agencies, industry, labor, National Laboratories and non-profit advocacy groups would advise the Secretary on development of the program.



#

<http://www.americanchemistry.com>

The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®; common sense advocacy designed to address major public policy issues; and health and environmental research and product testing. The business of chemistry is a \$526 billion enterprise and a key element of the nation's economy. It is among the largest exporters in the nation, accounting for ten percent of all U.S. goods exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure.





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1791 Tullie Circle NE • Atlanta, GA 30329-2305 • Tel: 404.636.8400 • Fax: 404.321.5478 • www.ashrae.org

September 11, 2019

The Honorable Lisa Murkowski
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

The Honorable Joe Manchin
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

The Honorable Bill Cassidy
Committee on Energy and Natural Resources
Subcommittee on Energy
U.S. House of Representatives
Washington, D.C. 20510

The Honorable Martin Heinrich
Committee on Energy and Natural Resources
Subcommittee on Energy
U.S. House of Representatives
Washington, D.C. 20510

Dear Chairwoman Murkowski, Ranking Member Manchin, Chairman Cassidy, and Ranking Member Heinrich:

We are writing to express our support for several provisions in S. 2137 and H.R. 3962, the Energy Savings and Industrial Competitiveness Act of 2019 (ESIC). The bill contains provisions that would improve the energy performance of buildings, strengthening their resilience, increasing energy security, and bolstering the economy. ASHRAE appreciates the dedication of the sponsors of this legislation for working in a bipartisan fashion and seeking the input of a wide variety of stakeholders in crafting the bill.

The ESIC focuses on buildings as a pathway to reduce energy use since they are responsible for approximately 38% of energy consumption in the United States.¹ In addition to having the Department of Energy establish energy efficiency targets for building codes, the bill requires the use of ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings* (Standard 90.1), as the benchmark for commercial buildings. Standard 90.1 has been used for the last 40 years and the most recent version of the standard, which was published in 2016, is about 34% more energy efficient than the 2004 version. We appreciate the bill sponsors' recognition of Standard 90.1, as it serves as indispensable reference for state and local government, engineers and other professionals involved in design of buildings and building systems.

We also appreciate that ESIC would create several new programs that would further advance building energy performance. These programs include:

- Assisting state and local agencies with adapting and implementing building energy codes and standards.

¹ U.S. Energy Information Administration, "Use of Energy in the United States - Energy Explained, Your Guide To Understanding Energy," Updated 29 May 2018, www.eia.gov/energyexplained/index.php?page=us_energy_use

- Making improvements to the U.S. Energy Information Administration's Commercial Buildings Energy Consumption Survey (CBECS), which serves as the baseline for many initiatives designed to reduce energy consumption in both new and existing buildings.
- Collaborating with non-profits to create a training program that will equip workers with the skills necessary for construction and installation of energy-efficient building products and systems
- Improving energy efficiency in schools and federal buildings.

Thank you for your consideration of our comments, and for taking the time to deliberate this important legislation. If you have any questions or need additional information, please do not hesitate to contact either of us or have your staff contact GovAffairs@ashrae.org.

Sincerely,



Darryl K. Boyce
President



Jeff H. Littleton
Executive Vice President



STEVEN J. GOLDBERG
Vice President & Deputy General
Counsel
Regulatory Law and Government
Affairs

July 17, 2019

Honorable Rob Portman
United States Senate
448 Russell Senate Office Building
Washington, D.C. 20510

Honorable Jeanne Shaheen
United States Senate
506 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Portman and Senator Shaheen:

I write to congratulate you on the re-introduction of S. 2137 - *Energy Savings and Industrial Competitiveness Act*. Your diligent and thoughtful efforts on energy efficiency are greatly appreciated and BASF Corporation is pleased to support the bill.

At BASF, we create chemistry for a sustainable future. BASF Corporation is a key supplier to the housing industry and a building material manufacturer. Like you, we understand the value that energy efficiency delivers to our economy and to our environment. With homes and buildings consuming almost 40% of all the energy in the U.S., there is a tremendous untapped opportunity to see significant savings. The SAVE Act, along with the building energy codes provision in this bill, is one of the best ways to achieve those savings and we are pleased that those provisions are included.

BASF Corporation looks forward to working with you and the other cosponsors to move the measure forward and we hope that it can be enacted quickly into law. We appreciate your continued support for efficiency and for your commitment to re-introducing the bill this session. Thank you for being a champion for energy efficiency and supporting policies that will help deliver it across the value chain.

Very best regards,

Steven J. Goldberg
Vice President & Deputy General Counsel
Regulatory & Government Affairs

BASF Corporation
100 Park Avenue
Florham Park, N.J. 07932
(800) 526-1072
www.basf.us



Duke Energy
550 South Tryon Street
Charlotte, NC 28202

July 29, 2019

The Honorable Martin Heinrich
303 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Heinrich:

On behalf of Duke Energy, we are pleased to support the "Clean Energy Jobs Act of 2019" to establish a nationwide program to improve education and training for jobs in energy-related fields. We appreciate your leadership as we continue to think creatively about how to remove barriers for women, minorities and veterans to enter the energy industry.

Duke Energy is one of the largest electric power holding companies in the United States, providing electricity to 7.6 million retail customers across the Southeast and in the Midwest representing a population of approximately 24 million Americans (Florida, Indiana, Kentucky, North Carolina, Ohio, South Carolina). Our Company also provides natural gas to 1.6 million customers in five states and operates a growing renewable energy portfolio across the country.

As we transform our customers' experience, modernize our energy grid and generate cleaner energy, we are planning for tomorrow's energy workforce to ensure we can meet these evolving demands. With nearly 40 percent of our workforce eligible to retire within the next three years, we are committed to attracting and retaining employees that reflect the communities we serve and recognize the need for greater alignment between course curriculum and in demand energy jobs. That's why we are building partnerships with community colleges, military bases, underrepresented groups and Historically Black Colleges and Universities (HBCUs) to close the skills gap and accelerate the time in which potential employees can begin a career in energy.

Attracting and retaining lineworkers is an area of focus for us and we offer extensive training for these individuals who maintain and restore equipment essential to providing reliable energy to our customers. By establishing an energy workforce grant program within DOE for utilities like ours, the Clean Energy Jobs Act will support our commitment to expand access to energy jobs and meet our customers' demands.

For additional information, please contact Colleen Moss (colleen.moss@duke-energy.com; 202-824-8010). We look forward to working with you to advance this important legislation.

Sincerely,

Joni Davis

VP Chief Diversity & Inclusion Officer, Talent Acquisition & Workforce Development

Stan Sherrill

VP Strategic HR Business Solutions, Employee & Labor Relations



Industrial Energy Consumers of America
The Voice of the Industrial Energy Consumers

1776 K Street, NW, Suite 720 • Washington, D.C. 20006
 Telephone (202) 223-1420 • www.ieca-us.org

July 26, 2019

The Honorable Sheldon Whitehouse
 U.S. Senate
 530 Hart Senate Office Building
 Washington, DC 20510

Re: IECA Supports S. 2300, the "Clean Industrial Technology Act of 2019"

Dear Senator Whitehouse:

On behalf of the Industrial Energy Consumers of America (IECA), we support S. 2300, the "Clean Industrial Technology Act of 2019." An R&D program that results in cost-effective technology which reduces GHG emissions and increases competitiveness is a win-win for the environment, economic growth, investment, and job creation. Manufacturers are self-motivated to reduce energy consumption, a cost, due to fierce global price competition. And, if this legislation results in new cost-effective technology, we will use it.

We especially appreciate the fact that the bill focuses on increased research and development spending on technology to reduce GHG emissions in energy-intensive trade-exposed (EITE) industries. IECA member companies are from the EITE industries.

Given your interest, below are facts that you will find insightful.

- Since 1990, the manufacturing sector has lowered CO₂ emissions by 15 percent, the best performance of any sector of the U.S. economy.¹
- Since 1987, manufacturing energy intensity has decreased by 54 percent, while output has increased by 322 percent. A tremendous success story.²
- In 2017, the average manufacturing worker in the U.S. earned \$84,832 annually, including pay and benefits. The average worker in all nonfarm industries earned \$66,847.³

¹ Environment, U.S. Energy Information Administration (EIA), <https://www.eia.gov/totalenergy/data/annual/index.php>

² U.S. Energy Information Administration (EIA), U.S. Bureau of Economic Analysis (BEA)

³ Facts About Manufacturing, National Association of Manufacturers (NAM), <https://www.nam.org/facts-about-manufacturing/>

Page 2
Industrial Energy Consumers of America

- There are 12.8 million manufacturing workers in the U.S., accounting for 8.5 percent of the workforce.⁴

Thank you for your leadership on this important issue. Please let us know how we can be helpful in moving this legislation.

Sincerely,

Paul N. Cicio
President

cc: Senate Committee on Energy and Natural Resources

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.0 trillion in annual sales, over 3,700 facilities nationwide, and with more than 1.7 million employees. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, brewing, independent oil refining, and cement.

⁴ U.S. Bureau of Labor Statistics (BLS)



July 12, 2019

The Honorable Rob Portman
The Honorable Jeanne Shaheen
United States Senate
Washington, DC 20510

RE: Energy Savings and Industrial Competitiveness Act of 2019

Dear Senators Portman and Shaheen,

LBA is a Washington DC based trade association made up of the nation's largest homebuilders that build approximately 35% of all new homes in the United States. LBA members build in 34 states and the District of Columbia and produce a wide range of home types including traditional single-family homes, townhomes, condominiums, apartments, retirement and second homes. In 2018, LBA members sold over 220,000 new homes and supported over 650,000 jobs through direct employment and the engagement of subcontractors.

We are writing to express our strong support for the *Energy Savings and Industrial Competitiveness Act of 2019*. We are particularly pleased that it includes a provision known as the *Sensible Accounting to Value Energy Act*, or SAVE Act, which is included as Section 424 of the legislation. This provision would improve the energy efficiency of homes by providing a voluntary means of financing energy efficient features and improving the accuracy of mortgage underwriting for federally backed mortgages.

For decades, policymakers have struggled to address the challenge of financing the upfront costs of energy efficient features which can save homeowners significant dollars on their monthly utility bills. The SAVE Act will address that challenge.

Manufacturers and builders are continually innovating new energy efficient products and features, but current mortgage underwriting processes and appraisals do not fully consider the costs and value of energy efficient features in a home. Therefore these money and energy saving features are not making their way into new homes. Passing the *Energy Savings and Industrial Competitiveness Act of 2019* will unlock demand for innovative new products and significantly reduce homeowners' utility bills.

**Leading Builders of America * 1455 Pennsylvania Ave., NW * Suite 400 * Washington,
DC 20004 * Phone (202) 821-1815 * www.leadingbuildersofamerica.org**

It's important to note that the SAVE Act would have NO limiting impact on the ability to sell a home. This is a completely voluntary program, open to buyers of energy efficient homes.

Given the SAVE Act's benefits for the economy, jobs, American manufacturing, and homeowners we strongly support this bi-partisan legislation and look forward to working with you to support its enactment. Thank you for your consideration.

Sincerely,

Kenneth Gear

Kenneth Gear

CEO

Ken.gear@leadingbuildersofamerica.org



The Honorable Lisa Murkowski
Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Joe Manchin
Ranking Member
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

August 23, 2019

Dear Chairman Murkowski and Ranking Member Manchin:

On behalf of NAIOP, the Commercial Real Estate Development Association, I write to express our strong support for the Energy Savings and Industrial Competitiveness Act (S. 2137), introduced by Senators Rob Portman and Jeanne Shaheen.

NAIOP is the leading organization for developers, owners, investors and related professionals in office, industrial, retail and mixed-use real estate, and comprises 20,000 members and 48 chapters throughout the United States.

We commend Senators Portman and Shaheen for facilitating the numerous discussions that took place with a variety of stakeholders over the years in crafting the Energy Savings and Industrial Competitiveness Act. As a result of this collaborative effort, S. 2137 reflects a balanced approach that provides commonsense solutions for promoting energy efficiency in buildings.

In order to develop effective building codes – and to ensure economically viable energy efficiency gains are achieved – initial costs and realistic payback periods must be taken into account. This legislation ensures that market realities are taken into account as efficiency targets are developed, in alignment with the economics inherent in the commercial real estate industry. We feel strongly that this approach is the best way for the federal government to promote energy efficiency in the built environment.

Thank you for your commitment to this important issue, and we look forward to working with the committee to advance this important legislation. For more information, please contact Alex Ford, Director of Federal Relations, at (703) 904-7100 or ford@naiop.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Bisacquino".

Thomas J. Bisacquino
President and CEO
NAIOP, the Commercial Real Estate Development Association



1130 Connecticut Ave NW
Suite 1050
Washington DC 20036

T (202) 833-2672
F (888) 267-9505
www.nacwa.org

July 25, 2019

The Honorable Rob Portman
United States Senator
Washington, D.C. 20510

The Honorable Jeanne Shaheen
United States Senator
Washington, D.C. 20510

Dear Senators Portman and Shaheen:

On behalf of the National Association of Clean Water Agencies (NACWA), I am writing in support of the bipartisan legislation you introduced, S.2137, the Energy Savings and Industrial Competitiveness Act, that will provide for improved water use efficiency and clean water management, including wastewater and stormwater, at U.S. federal facilities.

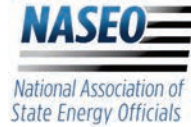
Over the past decade, many public clean water utilities throughout the country have been dealing with increasing water supply and water quality challenges, both for wastewater treatment and stormwater management. In turn, the clean water sector has been making great strides in utilizing innovative approaches and pushing for policies to address these growing challenges.

S. 2137 helps make the federal government a partner in addressing evolving water needs by ensuring that water is being used more efficiently by federal facilities, providing better environmental protection and saving taxpayer dollars at the same time. The water consumption targets and wastewater/stormwater infrastructure improvements set forth in the bill will help the federal government show important leadership in addressing growing water quantity and water quality challenges.

NACWA greatly appreciates your leadership on this legislation and for your consideration of policies important to the public clean water sector. We look forward to working together further to help advance this legislation.

Sincerely,

Adam Krantz
CEO



June 19, 2019

The Honorable Rob Portman
448 Russell Senate Office Building
Washington, DC 20510

The Honorable Jeanne Shaheen
506 Hart Senate Office Building
Washington, DC 20510

Dear Senator Portman and Senator Shaheen:

Thank you for your decision to reintroduce the Energy Savings and Industrial Competitiveness (ESIC) Act. On behalf of our 56 energy director members from the States, Territories, and District of Columbia, the National Association of State Energy Officials (NASEO) endorses the updated version of the bill.

As you know, the major principles behind ESIC – building energy codes and standards, workforce and career skills development, clean energy financing, energy-efficient manufacturing, and high-performance public buildings – are high-priority concerns for many of the State and Territory Energy Offices. Housing, businesses, schools, manufacturing plants, and other publicly- and privately-owned facilities are vital community assets that drive job retention and promote economic growth in states and localities across the country.

The measures proposed by ESIC would enable the states and their partners to accelerate investments that improve the performance, comfort and safety of these buildings and facilities while reducing their operational costs. For these reasons, NASEO is supportive of the bill and looks forward to working with your offices and members of the energy efficiency community in moving it forward.

We appreciate your consideration of this letter of endorsement for ESIC and would be pleased to answer any questions.

Sincerely,

David Terry
Executive Director, NASEO

1300 North 17th Street
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Arlington, Virginia 22209
Telephone: 703.299.8800
www.naseo.org

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 1201 F Street NW, Suite 1100
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 nei.org



September 10, 2019

The Honorable Chris Coons
 U.S. Senate
 218 Russell Senate Building
 Washington, D.C. 20510

The Honorable Martha McSally
 U.S. Senate
 404 Russell Senate Building
 Washington, D.C. 20510

Dear Senators Coons and McSally:

On behalf of the commercial nuclear energy industry, the Nuclear Energy Institute (NEI)¹ expresses our appreciation for the introduction of the Nuclear Energy Renewal Act (S. 2368). This bipartisan effort aims to enhance the efficiency of the operation of the existing fleet of 97 reactors while also seeking to spur the development of the carbon-free advanced reactors of the future.

Commercial nuclear energy is the source of nearly 20 percent of our nation's electricity and more than half of our carbon-free electricity. America's nuclear energy facilities demonstrate unmatched reliability by operating with an average capacity factor of more than 90 percent—higher than all other electricity sources. And nuclear energy facilities are not only more efficient and cleaner; they also employ more workers, an average of 400-700 permanent jobs per unit, at 36-percent-higher wages than similar jobs in the local area.

As our country and the world seek to address climate change, it is clear that carbon-free nuclear power—America's existing fleet and the advanced reactors under development—is a necessary tool that must be utilized. NEI encourages Congress to work in a bipartisan manner to ensure that S. 2368, the Nuclear Energy Renewal Act, is advanced in a manner that harmoniously

¹ The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

NUCLEAR. CLEAN AIR ENERGY

Senators Chris Coons and Martha McSally
September 10, 2019
Page 2

incorporates its goals along with those of the recently passed Nuclear Energy Innovation and Modernization Act, the Nuclear Energy Innovation Capabilities Act, as well as the pending Nuclear Energy Leadership Act of 2019. This progress will play a critical role in helping move our nation beyond partisan political divides toward innovation and a sustainable, carbon-free energy future.

We thank you for your thoughtful legislation and urge all Senators to support carbon-free nuclear energy.

Yours very sincerely,

A handwritten signature in cursive script that reads "Maria Korsnick". The ink is dark and the signature is fluid, with a long, sweeping underline.

Maria Korsnick

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Starwood Capital Group

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Chief Executive Officer
Boston Properties



The Real Estate Roundtable

September 11, 2019

The Honorable Lisa Murkowski
Chairman
Committee on Energy
and Natural Resources
U.S. Senate

The Honorable Bill Cassidy
Chairman
Subcommittee on Energy
U.S. Senate

The Honorable Joseph Manchin III
Ranking Member
Committee on Energy
and Natural Resources
U.S. Senate

The Honorable Martin Heinrich
Ranking Member
Subcommittee on Energy
U.S. Senate

Dear Chairmen and Ranking Members:

The Real Estate Roundtable strongly supports S. 2137, the Energy Savings and Industrial Competitiveness (ESIC) Act. The ESIC Act, co-sponsored by Senators Rob Portman (R-OH) and Jeanne Shaheen (D-NH), will be considered at the Subcommittee on Energy's legislative hearing this afternoon.

The U.S. real estate sector has made significant strides to improve the energy efficiency and reduce the carbon footprint of America's building infrastructure over the last decade. The ESIC Act will help drive further, cost-effective reductions in energy consumed by buildings and the occupants, tenants and visitors who live, work and play in them. S. 2137 will:

- Provide real estate stakeholders with opportunities to comment on code revisions offered by the Department of Energy (DOE) and thereby bring greater transparency to the currently opaque process by which federal code proposals are developed without formal opportunities for industry input;
- Import new economic and cost considerations into the process by which DOE proposes revisions to "model" building energy codes, that state and local bodies may ultimately adopt;
- Direct DOE to consider impacts on small businesses when developing its energy code submissions;
- Clarify standards for real estate appraisers and banks to consider energy efficiency capital investments when determining an asset's market value;
- Create a voluntary program that can lead to lower interest rates and greater qualifications for buyers seeking mortgages on new energy efficient homes; and

Page Two
September 11, 2019

- Direct the Energy Information Administration to coordinate and share information with the Environmental Protection Agency, to improve the integrity of nationwide data each agency separately collects regarding the energy used by U.S. commercial buildings.

The Roundtable has been a long-time supporter of the ESIC Act, and we request inclusion of this letter in the record for today's legislative hearing. For more information, please contact Duane Desiderio, The Roundtable's Senior Vice President and Counsel.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey D. DeBoer".

Jeffrey D. DeBoer
President and Chief Executive Officer

cc: The Honorable Rob Portman
The Honorable Jeanne Shaheen
Member of the Senate Subcommittee on Energy

Senator CASSIDY. Thank you, Senator Heinrich.

I will defer my—I will defer until the end. I have to be here.

So if Senator Hoeven would like to go first on our side, then I will——

Senator HOEVEN. Thanks, Doctor.

I want to thank Governor Shaheen for being here today and express my strong support for Shaheen-Portman——

[Laughter.]

——and also mention that it includes some outstanding pieces of legislation like the All-of-the-Above Federal Building Energy Conservation Act which is my bill, and that is another reason I am strongly supportive of advancing Shaheen-Portman this year. And I know, I think, there are many other members on the Committee feel the same way.

Thank you both to Senator Cassidy and Senator Heinrich for calling the hearing today. I appreciate it. And Senator Cassidy for allowing me to proceed.

Mr. Secretary, CarbonSAFE is, the FOA has been released on CarbonSAFE now. And we have some projects, particularly Project Tundra in North Dakota, where we have not only some of the most sophisticated coal-fired electric companies involved putting money into the equation, but also the Energy Environmental Research Center at the University of North Dakota which we have the PCorp partnership with the Department of Energy doing the latest, greatest research on a collaborative basis with a number of states and Canadian provinces to capture and store CO₂ and then, the State of North Dakota through the Lignite Energy Council is also putting money in. So we have a partnership there. The partner we need is the Federal Government in order to put this retrofit technology on these coal-fired electric plants to capture the CO₂ and sequester it.

The issue is not the technology to do it. We are certain that we can do it. As a matter of fact, we are already doing it, as I think you probably know, at Dakota Gasification Company. We are already sequestering huge amounts of CO₂. But it has to become commercially viable, commercially viable. And we have the added opportunity in North Dakota of not only capturing it and storing it, geological storage, but also tertiary oil recovery which can create a revenue opportunity too.

We are very anxious to see the FOA move forward and to be included, so would you address CarbonSAFE? How you plan to proceed and also I certainly would love to have you come out to North Dakota. We have had not only the Secretary but other members out there to see what we are doing.

But your thoughts on including projects like ours because we have to get out in the field and actually start doing this to get to commercial viability. You have to be a partner. We need to make it happen. This is the solution, in terms of carbon for coal-fired electric, is that carbon capture and storage and this opportunity for tertiary recovery.

So if you would please address that?

Mr. MENEZES. Well, thank you very much for your passion for supporting these technologies and, indeed, anyone who is familiar with what has been going on in North Dakota in the area of carbon

capture, utilization and sequestration over the years knows that North Dakota has really been leading the efforts. This has been going on for years with the support of, with the Department and it goes back to, I think, as early as the Carter years, if I know this.

I was fortunate enough to visit, really not in my capacity as Under Secretary but really in industry, trying to figure out if, in fact, we can get some of this technology that could be commercially available on to existing units.

So, and your leadership on this, of course, is second to none.

I think you'll be pleased to know that we have been working very diligently both on the CarbonSAFE and on the Tundra FOA and we—announcements on both are imminent.

And I think that you will be pleased to know that we have been trying to meet deadlines and get these FOAs out and get the funding out. We know that the fiscal year ends September 30th, so across the Department we are doing what we can, not only on these topics but across all of our FOAs, to get these FOAs out and the funding out as well. So I think you'll have some imminent news shortly.

Senator HOEVEN. Good. That is very encouraging.

The other project I want to bring up quickly here is, we also have Red Trail Energy which is actually an ethanol plant. They are producing ethanol from corn, obviously, in North Dakota, and they want to do the carbon capture as well to sell low-carbon intensity fuel on the West Coast, same kind of thing.

Your thoughts because now you are actually also doing carbon capture on a renewable fuel. We have that opportunity we are pursuing very aggressively. Your thoughts on that as well.

Mr. MENEZES. Well, you touched on a key topic. Carbon capture, utilization and sequestration is in no way limited to what traditionally are coal facilities. That's what we're thinking about. And indeed, Chairman Cassidy has a similar interest with respect to natural gas. The Department has an interest, not only on ethanol refiners itself, but all refineries, large industrial processes, cement, steel, across the way.

Interestingly, when we talk about carbon capture, post-combustion, you know, we have research underway for direct capture, the creation and the capture of the CO₂, the making of products that could be converted into hydrogen, the use of hydrogen to furnish the plant, you know, the use of liquid fuels and natural gas.

So, it's, we're looking at all of this across—the ethanol refinery is one example. We're looking at putting similar kinds of technologies anywhere where there's a post-combustion opportunity to capture the CO₂, put it to use where we can, sequester it where we can or make other products out of it. So all of which is to ultimately lower, you know, the greenhouse gas emissions.

Senator HOEVEN. Yes, thanks, Secretary. And your willingness to move on this is really important and much appreciated.

Mr. MENEZES. Thank you for your support on these very important topics.

Senator HOEVEN. Thank you, Mr. Chairman.

Senator CASSIDY. Senator Heinrich.

Senator HEINRICH. I want to start by asking Mr. Menezes a question on a related issue.

Back in 2007, Congress anticipated that lighting technology would advance rapidly, and certainly Sandia National Lab in New Mexico has been a huge part of that with developing our modern solid-state LED light bulbs.

At a time when we are seeing a number of our colleagues act very responsibly with respect to energy efficiency—moving forward the Portman-Shaheen legislation, for example—I was utterly dismayed that the Department recently reversed the progress that we have made on light bulbs. And the answer I got was that it didn't square with the underlying statute, but the underlying statute was incredibly broad. In fact, Part IV said any other lamps that the Secretary determines are used to satisfy lighting applications traditionally served by general service, incandescent lamps.

I want to know, why is the Administration turning back the clock on this? I just think it is absolutely nonsensical, and it is going to cost consumers an enormous amount of money.

Mr. MENEZES. Well, thank you for the question and allowing me to, sort of, demystify, you know, what transpired.

We didn't roll back any existing standards. What we did was there was a definitional rule which sought to combine the definition of general service lamps and the general service incandescent lamps which in 2007 Congress painstakingly put very specific language in that in the general service lamps definition they carved out, specifically, the general service incandescent lamps, specifically to pull that out. They further limited what products could be in the incandescent.

Senator HEINRICH. But the language is actually quite broad.

Mr. MENEZES. Well——

Senator HEINRICH. It gives the Secretary broad authority to say any other lamps that the Secretary determines are used to satisfy lighting applications, traditionally served by general service incandescent lamps.

Mr. MENEZES. Well again, but it was also very specific on——

Senator HEINRICH. I think you are choosing to selectively apply the law.

Mr. MENEZES. Well, in any event on incandescent, Congress made clear that before any increase in energy efficiency standards for incandescents, it had to be economically justifiable. And what frustrated the past Administration was the appropriations rider that did not allow the agency to use any appropriated monies to do the economic analysis. That has been eliminated. We have now done the economic analysis. Now you might not like the result of the analysis, but Lawrence Berkley Lab and Navigant has done the economic analysis, and on the incandescent light bulbs it stated clearly that it was not economically justified, that the cost to increase the efficiency of these incandescents would not survive the life of the product. But it's a definitional rule is what we've done. We haven't announced any standards, but that's what the rule has done.

And so, we think that this is more defensible in court because it does track, we think, what Congress intended——

Senator HEINRICH. I think it is——

Mr. MENEZES. ——in 2007.

Senator HEINRICH. —frankly, indefensible at a time when we are seeing unprecedented weather events, whether you choose to accept that or not, when we are seeing floods in the Midwest that are ruining people's livelihoods, when you are seeing entire countries devastated by hurricanes, that we have an Administration that is seeking to turn back the clock on the progress that we have made and that has created an enormous amount of economic opportunity in this country with that progress.

So I just want to say, once again, I think this is utterly disappointing that we have a Department of Energy that seeks to protect the technologies of the 19th century rather than embrace and improve the technologies of the 21st century.

Mr. MENEZES. Well again, there were no standards that we changed in the rule. It was purely definitional. So standards continue to exist, and we'll continue to look at that.

By the way, our complete analysis is all contained in the public record. We've asked for public comments until November 4th. This is not, in any way, a final rule. We take public comment and then we can issue a final rule thereafter, so—

Senator HEINRICH. I think you have had my—

Thank you, Chair.

Mr. MENEZES. —invite even more comment on that.

Senator CASSIDY. Senator McSally.

Senator MCSALLY. Thank you, Chairman Cassidy, Ranking Member Heinrich for holding this hearing today and for including the Nuclear Energy Renewal Act which I am proud to sponsor with Senator Coons.

Our bill will help support existing nuclear power plants by investing in DOE research that these plants use to improve efficiency, safety, and longevity of our nation's nuclear power fleet.

As you know, Arizona is a leader in our nuclear energy and the technology. The Palo Verde Nuclear Generating Station in my state is the largest electricity-generating plant of any source in the United States. According to Arizona Public Service, APS, who operates Palo Verde, the amount of clean power produced over the plant's lifetime has offset the emissions of nearly 484 million metric tons of carbon dioxide. That is the equivalent of taking 84 million cars off the road for a year, and this is just for Palo Verde.

Our nation's fleet of nearly 60 nuclear power plants keep more than 550 million tons of carbon dioxide emissions out of the atmosphere every year. This means any serious conversation about reducing carbon emissions must include serious support for our nuclear plants.

So I want to talk a little bit about our bill.

Secretary Menezes, in your testimony you identified nuclear energy as a strategic national asset for the U.S. I would like you to elaborate a little bit more on that, and what role do plants like Palo Verde play in providing energy security for our nation's electrical grid?

Mr. MENEZES. Well, thank you for that question.

And the Department of Energy realizes that without our leadership in civilian nuclear energy, we are yielding technological expertise and superiority to other countries who are developing new

fuels, new reactors and they are really beating us, if you will, at maintaining the global leadership.

It's imperative for us, whether you're pro-nuclear or not, to, frankly, support efforts to maintain and to increase that ability to be able to compete, all for other countries, these new technologies that are state-of-the-art and when economic conditions potentially change in the U.S., that we can build more nuclear facilities.

And at the Department when you look, you know, we are supporting the AP1000 technology and that plant that's being built in Georgia. We also have plans with the support of Congress to develop small modular reactors, and we hope to site one of those facilities, perhaps, at Idaho. We're also looking at other locations. But it's very important that we develop these new fuels for the existing fleet, and we need to be able to put in place testing reactors for the future fleet.

It's important that we, as we replace fossil using fuels, you have to have nuclear to provide baseload generation that continues to drive the economy.

And so, I ask people to look at nuclear in a different light than they may have looked at in the past. And while it is not an inexpensive technology, it is important that we maintain our current fleet, that we seek ways to relicense them, that we do seek to deal with the waste issue but that we do put resources together so that we can really develop those technologies of the future so that other countries look to us, rather than China, Russia and other countries that are developing this technology.

So it's important for the United States, we think, to really push hard on this.

Senator MCSALLY. I agree.

Mr. MENEZES. And the existing fleet is important.

Senator MCSALLY. Oh, that is what I wanted to get to as well.

In the research done at DOE, can you just speak to it, which is reauthorized and modernized and updated in our legislation. How important is that, specifically, for our efficiency and the longevity of our current nuclear fleet like we have at Palo Verde?

Mr. MENEZES. Right.

Well, and as I mentioned, we have programs that need to, you know, be reauthorized and they look at a variety of different things within the nuclear industry.

For existing facilities, it really is, it's the fuel cycle. How do you make improvements there? It's the cycle itself, it's the reactors themselves but it's also accident tolerant fuels. So we're making new fuels that will replace the existing fuels, minimize waste problems down the line.

The reactors, we need to push the envelope on advanced test reactors and versatile test reactors. Congress has been very good about identifying that you need to do that. Right now, we do not have that capacity. So those that come up with great ideas they go to other countries and they're not countries that we would want them to go to, to be absolutely frank about it.

It's in those areas that we need to continue those programs, and so that's why we are——

Senator MCSALLY. Great, thanks.

I am out of time. I just want to say I appreciate your work on this and thanks for including our bill.

Senator CASSIDY. Senator King.

Senator KING. I don't really have too many questions for these witnesses. I will wait for the markup to talk about some of the provisions of the bill.

My one question is on the nuclear bill.

Mr. Menezes, my only problem is we made a promise to the American people 70 years ago that we, the Federal Government, would take care of the waste from nuclear plants. It bothers me that we are talking about modernizing, relicensing, and extending and we still haven't kept that promise.

I live in a state that has a big slug of high-level nuclear waste sitting on an island waiting for the Federal Government to honor that commitment.

Don't you think it makes more sense to solve that problem before we start talking about relicensing, license extensions and new plants, and new technologies?

Mr. MENEZES. Well, a very good question and I wish I knew the answer on how it is that we can do what Congress had directed the Department to do some time ago and that is to license Yucca Mountain. That is still the current law. It's a permanent repository. Congress made that clear. We only have had limited resources that we can pursue that.

And so, it's really up to Congress and the appropriators to determine whether or not we have the resources to be able to develop that.

I'm aware that there are many in Congress that believe that Yucca Mountain is not the answer, that they may wish to have interim storage or any other kinds of programs and that certainly is the prerogative of the Congress.

We're happy to go any way on the technology, whether it's the Yucca Mountain, permanent storage. I think we have done sufficient research and development there that we can pursue that if Congress gives us the resources.

And likewise, if it's dry cask, if it's some type of interim, you know, we know that other countries have proven technologies and I think that, you know, there's probably several solutions potentially to this, but as the law is right now, it's still Yucca Mountain as the permanent repository. And we are paying \$2 million a day in taxpayer monies to be in compliance with the Yucca Mountain. We are found not to be in compliance and, it's costing the taxpayers \$2 million a day.

Senator KING. Thank you.

I certainly hope this is a question that we can ultimately address. I feel like this is just one more deficit that we are handing off to our children.

Thank you, Mr. Chairman.

Senator CASSIDY. Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman, and thanks to Ranking Member Heinrich for holding this hearing. I wasn't sure whether we were going to hear from Commissioner Chatterjee or not, but thank you, Mr. Porter, for being here.

We certainly want to keep the FERC organization running as professionally as possible. It is so important for us to focus on the important tools that the Federal Energy Regulatory Commission has when it comes to market manipulation and keeping our markets at just and reasonable rates.

I believe one of the most important things is that “cop on the beat” looking at who is out in the marketplace and what they might be doing, and we clearly want to make sure that those kind of enforcement provisions are being used.

And so, one of the concerns that I have is making sure that the Commission—there are recent reports that FERC’s Office of Enforcement may not be being as vigilant as they have been in the past and might not be going after as many bad actors. Could the Chairman use his authority to stop investigations without other Commissioners or any sort of public scrutiny?

Mr. PORTER. Obviously, the Chairman has the capability to direct staff activities, but it has been my understanding that the Commission is supportive of the established processes that are in place. The Office of Enforcement is conducting appropriate due diligence and looking into areas where there is potential manipulation. So from my perspective, the Office is still exercising its responsibilities under the law.

Senator CANTWELL. I think it is my understanding that in May, FERC rescinded its policy on issuing notices of alleged violations. In other words, stockholders or the public are no longer being informed that FERC has determined that certain market players are under scrutiny for uncompetitive and possibly illegal behavior.

Mr. PORTER. Senator, again, it is my understanding that the Office of Enforcement is executing its responsibilities in a comprehensive way.

Senator CANTWELL. Okay.

Could you get me a statistical analysis of that, the enforcement actions that have been done at the Office in the last, say, year?

Mr. PORTER. Yes, I could go back and confer with staff and provide a response for the record.

Senator CANTWELL. Okay, thank you, I appreciate that.

[Statistical analysis for Office of Enforcement at FERC follows:]

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426

October 31, 2019

OFFICE OF THE CHAIRMAN


The Honorable Maria Cantwell
United States Senate
Washington, D.C. 20510

Dear Senator Cantwell:

Thank you for your September 19, 2019, letter regarding your concern relating to the vital role the Federal Energy Regulatory Commission (FERC) plays in preventing fraud and manipulation in our nation's energy and financial markets. I wholeheartedly agree with you that the role the Commission plays is critical to safeguarding our jurisdictional markets. That is why I am committed to maintaining a robust enforcement program at FERC. Attached, please find answers to the specific questions posed in your letter.

I hope the information I have provided is helpful. If I can be of further assistance with this or any other Commission matter, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read 'Neil Chatterjee', with a long horizontal flourish extending to the right.

Neil Chatterjee
Chairman

Attachment**Market Manipulation:**

QUESTION: Over the past decade, market manipulation cases represented more than half of the Office of Enforcement's overall investigations, and from 2007 to 2019 FERC recovered approximately \$784 million from civil penalty actions. This year, the Commission has only recovered \$14.2 million from three civil penalty actions against five firms compared to an annual average of \$64 million. What explains this apparent decline in enforcement activity?

RESPONSE: The Commission's top enforcement priority continues to be market manipulation. Although underlying investigative activity has been relatively constant for more than a decade, the annual average civil penalty and disgorgement amounts have varied over the years. Each investigation involves varying amounts of market harm, gain and loss, and each takes varying amounts of time to resolve. Some years have resulted in large-dollar individual settlements (several over \$100 million) that generate high annual numbers, but that pattern is not always consistent.

Of note, the Office of Enforcement today uses a wide variety of robust surveillance screens to detect and prevent manipulation in natural gas and electric markets. When these screens are tripped, OE personnel contact market participants immediately to obtain additional information regarding their trades. Many large financial institutions no longer participate in Commission-jurisdictional markets and when market manipulation occurs now, it is much more likely to be detected early. Early detection reduces the magnitude of any market harm, thus reducing the amount of any civil penalty.

Finally, a reduction in the amounts and numbers of the Commission's civil penalty actions is a natural by-product of the maturation and increased effectiveness of the Commission's enforcement program. In particular, firms have gained significant experience with the Commission's anti-manipulation rule since it was issued in 2006, which should contribute to a reduction in the number of enforcement actions and large-dollar penalties. Moreover, the significant financial penalties assessed against firms over the past several years serve to deter manipulation in the electric and natural gas markets.

QUESTION: How does the number and scope of civil penalties and disgorgements compare to previous years?

RESPONSE: In FY 2018, there were six public civil penalty actions against five parties that recovered \$83,365,508 in civil penalties and \$66,953,806 in

disgorgement. In FY 2017, there were five civil penalty actions against six parties that together recovered \$51,841,000 in civil penalties and \$42,100,000 in disgorgement. In FY 2016, there were six civil penalty actions against eleven parties that together recovered \$12,250,225 in civil penalties and \$5,697,329 in disgorgement. And in FY 2015, there were nine civil penalty actions against eleven parties that together recovered \$26,250,000 in civil penalties and \$978,186 in disgorgement.

QUESTION: How many non-public investigations has the Office of Enforcement conducted this year and how does this compare to the average annual level of activity between 2017 and 2018?

RESPONSE: The Commission's investigations and inquiries often extend over multiple years. During FY 2019, the Office of Enforcement's Division of Investigations (DOI) conducted 70 separate non-public investigations and inquiries involving a total of 110 entities. For FY 2018, DOI conducted 89 separate non-public investigations and inquiries involving a total of 141 entities. And for FY 2017, DOI conducted 94 separate non-public investigations and inquiries involving a total of 152 entities. In addition to DOI's above activity in non-public investigations and inquiries, DOI also has litigated between three and five matters in Federal District Court over the periods in question.

QUESTION: How many of these non-public investigations were terminated by the Chairman? How many were terminated by vote of the Commission?

RESPONSE: During FY 2019, two non-public investigations were terminated by the Chairman. During FY 2019, one Order to Show Cause proceeding was terminated by vote of the Commission.

QUESTION: Under what authority can the Chairman unilaterally close an investigation that has been authorized by a commission order?

RESPONSE: Pursuant to § 7171(c) of the Department of Energy Organization Act, the Chairman is responsible for the executive and administrative operation of the Commission, including "the supervision of personnel employed by or assigned to the Commission [and] . . . the distribution of business among personnel and among administrative units of the Commission." In fulfilling these responsibilities, the Chairman allocates resources among and establishes priorities for Commission staff. These responsibilities and corresponding authority of the Chairman apply to non-public investigations conducted by the Office of Enforcement, including those that the Commission converts from informal investigations into formal investigations with subpoena authority.

QUESTION: Under FERC's current market enforcement rules, will the Commission decline to open a case against a market participant that manipulates a market even if it is not technically violating a tariff provision?

RESPONSE: No. The Commission consistently has stated that fraud is determined by all the circumstances of a case, "not by a mechanical rule limiting manipulation to tariff violations." *In re Make-Whole Payments & Related Bidding Strategies*, 144 FERC ¶ 61,068, at P 83 (2013).

Division of Energy Market Oversight:

QUESTION: Were all Commissioners aware of the decision to shutter the Division of Energy Market Oversight? Did all Commissioners weigh in on this decision? If not, why?

RESPONSE: Yes, all Commissioners were aware of the decision to realign the functions performed by the Division of Energy Market Oversight. The Commission addressed the realignment during the Commission's Open Meeting on September 19, 2019.

QUESTION: What analysis did Commissioners rely on when deciding to close the Division of Energy Market Oversight? Please provide all relevant documents and memos used in making this decision.

RESPONSE: The primary objective of the realignment was to better reflect the key functions and mission statements of the three existing Commission offices, the Office of Enforcement, the Office of Energy Policy and Innovation, and the Office of the Executive Director. The functions that were realigned will improve organizational efficiency by eliminating duplicative functions, streamlining remaining functions, and centralizing management expertise. The compliance functions that existed in the Office of Enforcement's Division of Energy Market Oversight remain in OE under the Division of Analytics and Surveillance and Division of Audits and Accounting.

The policy-related functions that are more closely aligned with the mission of the Office of Energy Policy and Innovation were transferred to that office under a new Division of Energy Markets Assessment, and some of the data management support functions in the Office of Enforcement's Division of Analytics were transferred to the newly created Data Governance Division within the Office of the Executive Director.

QUESTION: What efforts were made to inform Congress and the public about this planned reorganization?

RESPONSE: The Commission views this change as a minor but prudent realignment of existing functions to improve organizational efficiencies and effectiveness. No existing functions are being eliminated, and the mission and programs of the Office of Enforcement are not changing. Upon approval of the internal realignment, as required in our collective bargaining agreement, we worked with our local bargaining unit to notify them of the organizational changes, then notified staff in the relevant offices. The organizational changes were effective September 16, 2019. Chairman Chatterjee announced these organizational changes at the public September 19, 2019 Commission Open Meeting and responded to media inquiries during the normal post meeting press conference. Other Commissioners also indicated their support of this realignment at the Commission Open Meeting. Several briefings for Congressional staff have been held since the reorganization was announced.

QUESTION: How will the important functions currently performed by the Division of Energy Market Oversight be maintained by other FERC offices? Please list any functions that this division was engaged in that will no longer be pursued.

RESPONSE: All functions previously performed by the Division of Energy Market Oversight will continue to be performed by FERC staff.

Compliance and market surveillance functions performed by DEMO remain in the Office of Enforcement. Employees administering and performing compliance functions related to the Electric Quarterly Report (EQR) and the financial forms have moved to Office of Enforcement's Division of Audits and Accounting. Employees monitoring and conducting analysis of market power using EQR and other market data have moved to Office of Enforcement's Division of Analytics and Surveillance.

Policy-related functions that are more closely aligned with the mission of Office of Energy Policy and Innovation have been transferred to the Office of Energy and Policy Innovation. Employees responsible for functions such as the Seasonal Assessments, the Annual State of the Markets report, and other reports examining broad market trends make up the new Division of Market Assessments in Office of Energy Policy and Innovation.

QUESTION: How many of the Division of Energy Market Oversight's roughly 40 employees will continue to work at FERC in support of the mission of the Office of Enforcement?

RESPONSE: All 34 Division of Energy Market Oversight employees will continue to work at FERC in support of its mission. Seventeen employees from

the prior Division of Energy Market Oversight transferred to the Office of Energy Policy and Innovation's newly formed Division of Energy Market Assessments. One pre-existing vacancy for the Director of Division of Energy Market Assessments also transferred to the Office of Energy Policy and Innovation. The previous Director of DEMO became Deputy Director of the Office of Enforcement in July. The remaining 17 employees from DEMO will continue to support the Office of Enforcement's mission as part of other Office of Enforcement divisions, the Division of Audits and Accounting and the Division of Analytics and Surveillance.

Notice of Alleged Violations:

QUESTION: How many investigations has FERC conducted since May 19, 2019, that would have previously resulted in a NAV?

RESPONSE: One.

QUESTION: During the decade the NAV policy was in place, did FERC ever publicly disclose a subject was under investigation prior to them having an opportunity to respond to FERC's preliminary findings?

RESPONSE: Yes. From time to time, the Commission has by public order referred an entity for further action by the Office of Enforcement. While any investigations that resulted thereafter were non-public, the Commission's referrals did publicly identify the entities concerned prior to their having an opportunity to respond to preliminary findings, which in each case necessarily had yet to be made. In the Commission's other non-public investigations – where the identities of subjects were not made known through a public Commission order – all subjects had the opportunity to respond to preliminary findings before a NAV was issued.

QUESTION: The NAV policy rescission order cited the development of “more information methods of providing transparency to industry about investigations and enforcement actions”—do any of these information methods effectively warn markets that they may be dealing with participants whose actions were troubling enough to warrant additional scrutiny by FERC?

RESPONSE: The NAV order stated that there were “more informative” methods of providing transparency than the limited information included in NAVs. As described in paragraph 8 of the NAV order, one of these methods is the Commission's comprehensive *Annual Report on Enforcement*, which is published in November and transparently details numerous enforcement matters. The *Annual Report on Enforcement* details all matters that have been closed by

settlement, as well as all cases that have proceeded to litigation, either through a public Order to Show Cause proceeding, an Administrative Law Judge proceeding, or an appeal *de novo* to an applicable federal district court after an entity has failed to pay a penalty assessed by the Commission. Market participants thus have transparent knowledge of all entities whose liability the Commission has adjudicated, even where such entities may be contesting that liability. In addition, the Office of Enforcement has frequent non-public interactions with the independent market monitors charged with overseeing ISOs and RTOs, as part of which staff frequently identifies entities it is investigating and the conduct staff has observed.

Senator CANTWELL. But please hear me loud and clear—we are going to be very vigilant on this issue, because we need FERC to be vigilant on this issue.

Mr. PORTER. I understand.

Senator CANTWELL. Thank you.

Mr. Menezes, thank you so much for coming to the Pacific Northwest. We all enjoyed your comments at the Pacific Northwest National Laboratory (PNNL).

I wanted to follow up a little bit on some of the questions similar to what Senator Heinrich was more or less alluding to. I know you are a big booster of the all-of-the-above approach, but I know that there are predictions by Next Era, the world's largest utility company, that solar plus storage will be cheaper than coal, oil, or nuclear even after the federal tax credits expire.

I think just yesterday Los Angeles Municipal Utility approved a contract for the cheapest solar and energy storage to date. It is like, I think, a 400-megawatt facility.

What do you think of this renewable storage point that we are leading to, and the competition with these other fuel sources that are going to still be on the table?

Mr. MENEZES. Well, thank you for the question.

And as you are aware, this is precisely why we've chosen PNNL for the grid storage launch. It's to do precisely what you described, and PNNL will be the location.

And so, one of the reasons that you saw me out there at the Business Leaders Meeting—we then spent a good portion of two days at PNNL because, as you know, we fund a lot of the PNNL from the applied side and, particularly, with combining storage and renewables.

We, I think everybody will agree that if we can figure out the breakthrough technologies in storage at grid-scale, we will accomplish an awful lot of some of our energy challenges. But that still is a tremendous challenge.

Lithium, is it lithium-ion in battery? You know, we don't recycle lithium-ion. That's why we started a recycling lithium-ion program. But it's storage.

When you look at the intermittency of solar and wind it can be combined with load following, whether it's hydro, whether it's nuclear, whether it's natural gas. But if you have storage that can load follow, follow or provide energy, I think that's what, as someone described is, you know, it's the Holy Grail, if you will, of the energy technology.

But—

Senator CANTWELL. So you think it is cost-effective? You think it will be this cost-effective, which is about how successfully can you scale those solutions.

Mr. MENEZES. Well, and as you know, in EERE, the Office that looks at this stuff, we always have goals to achieve. It's—and typically, whether it's cost, whether it's efficiency, whether it's production, it has to be economic. Affordability is a key to everything we do. If we can develop a technology but no one can afford it, as some of the battery technology is, we're not really accomplishing a whole lot. So the goal is to bring down the cost and to make it very efficient.

Senator CANTWELL. Thank you, Mr. Chairman, sorry I went over there. Thank you.

Senator CASSIDY. I will ask my questions now and if you can keep your answers tight, I will try and get a lot of questions in.

Mr. Porter, obviously my bill concerns how do we get workforce out there. Your testimony pertained to that.

You referenced the average salary in Washington, DC, for petroleum engineers in the private sector versus FERC, but economists are also important in this.

Do you have figures available to share with us on the average private sector salary for economists versus that which FERC offers in Washington, DC?

Mr. PORTER. Yes, Chairman, I do.

The rate offered by Washington area firms for the services of economist is 13 percent above the median rate paid by the Commission.

Senator CASSIDY. And in absolute dollars what is it?

Mr. PORTER. In absolute dollars we're looking at what is offered in the private sector, \$138,600 versus \$122,600 by the Commission.

Senator CASSIDY. Okay.

And what is the current attrition rate for economists?

Mr. PORTER. The current attrition rate for economists is roughly 19 percent.

Senator CASSIDY. Okay. Really? That's a bad attrition rate, man.

Mr. PORTER. Yes, it is.

Senator CASSIDY. In your testimony you share that there are limited contractors who can assist with liquefied natural gas inspections because the contractors also work at private industries and you say FERC is concerned regarding the conflict of interest. However, working with outside contractors was originally cited in 2018 as a benefit by the revised environmental schedules FERC announced for 12 LNG projects.

Can you tell me what is the average cost to contract with one of these engineering firms to conduct these site inspections?

Mr. PORTER. I don't have specific data relative to individual inspection cost, but I can provide a little light on recent issues with contracting.

In 2018 we awarded \$200,000 to cover services for these inspections. We went through a competitive procurement process. Unfortunately, engaging in that process we only had one capable provider. The provider could not staff up to a sufficient level to support our activities and, thus, we moved away from that specific strategy.

We met the workload requirement by engaging the LNG staff. Those staff worked additional overtime to meet the mission. That is not a sustainable strategy, however.

Senator CASSIDY. Got it.

So then, that begs the question, what is the average salary FERC can offer to someone who does these inspections versus what they would earn in the private sector?

Mr. PORTER. Well, I would select, for example, petroleum engineers and petroleum engineers in the area earn approximately \$176,000. FERC can only offer roughly \$123,000.

Senator CASSIDY. Okay. I know what I want my son to study in college.

Mr. PORTER. Petroleum engineers, a very profitable field, sir.

Senator CASSIDY. And you have implied this, but can you tell me how this attrition rate and inability to fill openings has impacted FERC? Have you had to lower qualifications in order to get these positions filled? Should we be concerned about that or no, it is actually an inappropriate response?

Mr. PORTER. No, we have not lowered qualifications. In fact, what has happened, we've advertised positions multiple times because we didn't identify desirable candidates. But we have not lowered qualifications in any way which, you know, if we did, I would think would have a negative impact on our responsibilities.

Senator CASSIDY. Obviously, my legislation and that of Congressman Olson, Senator Murkowski, et cetera, hopes to help with this.

How would this legislation impact FERC's requirement to offset its appropriation from Congress through fees?

Mr. PORTER. I would treat any increases associated with additional salary similarly to any other increases we request in our budget. I think we already have appropriate coverage with regard to existing legislation that supports our ability to recover our full cost.

So what we would attempt to do is manage this in such a way that it wouldn't impact our jurisdictional entities whom we recover costs from in any one given fiscal year.

Senator CASSIDY. Got it.

Mr. Under Secretary, nuclear for non-electric applications, let's talk about that.

As the costs of electricity declines with natural gas and renewables, some experts, including those at MIT and the International Energy Agency, think that the future of nuclear may be in applications outside the electric power sector or in a hybrid energy system coupling nuclear energy with other resources. One particularly interesting area is industry where nuclear could provide high temperature heat.

How much work is DOE conducting on non-electric, nuclear energy research and hybrid energy systems and do you plan to expand this?

Mr. MENEZES. Well, thank you for the question.

Indeed, it's thermal heat. We have been looking for other uses for nuclear thermal heat, as you mentioned. And we just announced this week a new award to demonstrate hydrogen production at an existing nuclear plant at \$9.2 million—it's FirstEnergy's Besse plant in Ohio—as illustrative of our efforts to try to take advantage of this very clean-generated, emission-free generated thermal heat.

So whether it's water desal, whether it's making hydrogen, whether it's using the heat for, you know, high heat, high intensity manufacturing processes, we're looking very carefully at that.

One of our labs, Idaho National Labs in particular, also has a project underway to look at using thermal heat generated from nuclear facilities for these other uses.

Senator CASSIDY. And so, if you will, the payoff in terms of avoidance of carbon emissions is a little greater in this application than it would be for run-of-the-mill electricity production.

Mr. MENEZES. Right, precisely.

Senator CASSIDY. Okay.

Well, I thank you all.

Mr. MENEZES. Can I just add something on the bill?

Senator CASSIDY. Sure.

Mr. MENEZES. Just to give you a real-life example. So, you know, FERC is within DOE an independent agency. This shortage of man power was very real over there and, as you know, we have expertise at our national labs that can help with some of the modeling that is required here.

And Senator Heinrich, I want to give you this example. On some of the LNG applications, for example, it's beyond just the engineering of the facility itself, it's some of the modeling that what happens if in fact the facility is constructed and is operating in an area.

And so, you do consequential modeling in the event, you know, for safety concerns like this. Well, so I think they had lost some of their expertise. This is, you know, fairly highly specialized, this type of modeling. So we decided to canvas our labs to see if we had anything. Well, sure enough, at Sandia, you know, we have some of the world preeminent consequential modelists, and they have developed very sophisticated modeling. So as a sister agency you think you can offer that service to FERC. Well, you know, as it turns out it's government-owned. I mean, it's a private contractor that runs the lab and so as a consequence, it's not the fed salary that they would pay or the time but it's the contractor's pay which is probably three times the federal pay.

So even though a sister agency had the resources, now they were very busy at Sandia, they couldn't drop everything that they were doing to turn to this, but within time and six months they said they could probably do it.

But the expenses were still very, very steep for FERC, even though we had that ability in a national lab. But they really had no way to be able to utilize that. So I'll just give you that as a real-life experience on when we tried to, you know, come and help because we really are losing a lot of government, even at our labs, we had the same thing. We're losing a lot of qualified people to you know, we compete in the private sector.

And so, the workforce bills that you have here are very helpful and we just wanted to weigh in with that.

Senator KING. Mr. Chairman?

Mr. Chairman, this is a very interesting subject. It seems to me what you have demonstrated here today is that federal employees are underpaid. I suspect you could have a hearing exactly like this with virtually every other agency of the Federal Government.

What bothers me about this bill is this one little section of one agency and yet, the problem exists everywhere in the Federal Government.

I understand the problem you want to fix in a particular area, but you have opened up a big box here. I am sure the Administration will be very excited to learn that the Congress thinks the federal employees are underpaid, but that is what this hearing is all about. That is what you just demonstrated with the data.

But we could have 20 hearings like this with the Pentagon, with the Department of the Interior, with the Department of Justice, comparing legal salaries on K Street to legal salaries at the Department of Justice. It would make this look like a walk in the park. So I just make that observation.

Senator CASSIDY. I will say my intuition is that STEM-related fields are fields which are math intensive or those which are most competitive, both whether it is education or whether it is government or whether it is the private sector which is not to say that if there are people at the Department of Education that they may not be doing less well than their colleagues in the private sector. But STEM does seem to be that which is highest demand no matter where you go.

I think ours is kind of more focused on those people with that background, but your account is well taken.

Thank you very much.

Questions for the record will be due by close of business tomorrow.

Thanks to our witnesses.

And our meeting is now adjourned.

[Whereupon, at 3:15 p.m. the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

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QUESTIONS FROM CHARIMAN LISA MURKOWSKI

- Q1. As the Nuclear Energy Renewal Act reauthorizes many existing programs within the Department of Energy, are there areas where the bill overlaps with existing statutes or contradicts existing statutes?
- A1. This bill duplicates authority for a number of programs that are already authorized and underway within the Department of Energy (DOE), Office of Nuclear Energy (NE). However, it does not include all existing NE programs that are already authorized. It also does not fully capture the Fuel Cycle Research and Development (FCRD) program by only defining that section as covering used fuel storage, transportation and disposal and calls out the other pieces of the existing FCRD program separately. The FCRD program includes several additional activities beyond used fuel disposition (storage, transportation and disposal). Additionally, this does not include the FCRD subprograms on MPACT or Systems Analysis. The bill also directs DOE to “establish” several subprograms under the Nuclear Energy Enabling Technologies program but those subprograms, defined in subsections (3), (4), (5), and (6) are already authorized and being executed, with the exception of traineeships as defined in subsection (6). Section 3 would establish a dedicated program for DOE and the Nuclear Regulatory Commission (NRC) to work on licensing, but the topics described are currently being done under existing programs. Additionally, the bill authorizes a traineeship program which DOE previously executed under the Nuclear Energy University Programs.
- Q2. Are there any other applied research programs that have an exception to the cost-share requirement similar to that granted by the Nuclear Energy Renewal Act?
- A2. The exception to the cost-share requirement described in the *Nuclear Energy Renewal Act* is significantly broader than what is typical for applied research programs and the Office of Nuclear Energy does not currently apply such a broad exception to any of its programs.
- Q3. The Nuclear Energy Renewal Act directs the Department to develop a program for the certification and licensing of advanced reactors, including international licensing. What

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kind of relevant experience has the Department had in domestic and international nuclear energy licensing?

- A3. The Department has authority under Section 110(a) of the *Atomic Energy Act of 1954*, as amended (42 U.S.C. 2140(a)) (AEA), and Section 202 of the *Energy Reorganization Act of 1974* (42 U.S.C. 5842) to regulate reactors constructed by DOE or its contractors and which are not a demonstration nuclear reactor “operated as part of the power generation facilities of an electric utility system, or operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.” The Department has utilized this authority on numerous occasions for reactors across the national laboratory complex. The Department does not engage in international licensing.
- Q4. Would the Nuclear Energy Renewal Act in any way limit the ability of the Department to conduct other previously authorized nuclear energy R&D activities?
- A4. This bill does not direct the Department to terminate existing programs, therefore it would not limit our ability to continue previously authorized nuclear energy R&D activities.
- Q5. The Administration has repeatedly eliminated funding for the International nuclear Energy Cooperation Program. The Nuclear Energy Renewal Act remodels the international nuclear cooperation program after the International Military Education and Training Program of the Department of State. Would this potentially be seen as a more effective model than the current structure?
- A5. In the FY 2020 budget, The Administration requested authority to transfer the international responsibilities and associated budget of the International Nuclear Energy Cooperation (INEC) Program from the Office of Nuclear Energy (NE) to the Office of International Affairs (IA). This organizational change would eliminate NE’s need for the budget associated with the INEC program.

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QUESTIONS FROM RANKING MEMBER JOE MANCHIN III

- Q1. Where does DOE see the most potential for long term, well-paying job creation in the energy field that can compensate for the downturn of coal industry jobs? What can be done to ensure places like West Virginia are in a position to support those opportunities?
- A1. At DOE we are constantly searching for new ways to support science and technology, and new models of innovation to increase our impact. Developing new, non-thermal markets for coal-related products; developing next generation coal technologies that are near-zero emissions; promoting coal exports; and capitalizing on the benefits of the Appalachian shale gas are a few examples.

With respect to growing non-thermal markets for coal, DOE estimates that the demand for carbon fiber, graphite, and graphene, which can all be derived from coal, will experience double digit annual growth in the years ahead. A recent analysis undertaken by the National Coal Council, a Federal Advisory Committee to the U.S. Secretary of Energy, concluded coal usage for coal-to-products (i.e., non-combustion uses of coal) could potentially grow to the same order of magnitude as coal usage for power generation. As a result, DOE has increased its research and development in the area of coal-to-products.

As for advanced technology that can support the continued domestic use of coal, DOE continues to develop technologies that improve the efficiency and reduce the environmental footprint of the existing U.S. coal fleet. DOE is also advancing a next generation of near-zero emission coal power generation technologies. A significant part of this world-leading research is managed and conducted by DOE's National Energy Technology Laboratory (NETL).

Further, as the United States produces a wider range of fuels, more abundantly and affordably, while using them more cleanly and efficiently than ever, we are also sharing our energy abundance with allies across the globe. The United States is a net exporter of coal. According to the U.S. Energy Information Administration, in 2018, the United

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States exported about 116 million short tons of coal—equal to about 15 percent of U.S. coal production—to at least 52 countries.

The largest economic game changer in Appalachia, which includes West Virginia, is the shale gas revolution and what DOE expects to follow on the heels of it. The Appalachian basin is now the single largest producing basin of natural gas in the country. Low-cost natural gas to support energy-intensive manufacturing and gas-fired power generation is now abundant.

Co-produced with much of Appalachia's natural gas are liquids (e.g., ethane, propane, butane, and pentanes), which have many uses. These natural gas liquids (NGL) can be used as principal feedstocks for the petrochemical industry. The petrochemical industry makes plastic resins, chemical derivatives, and specialty chemicals that manufacturers further downstream convert into plastic automotive parts, medical devices, fabric, films, packaging, and other consumer products. To the extent that the region can use these abundant NGL and attract petrochemical companies, downstream manufacturers, and energy-intensive industries to Appalachia, there is a basis for substantial economic growth and job creation.

- Q2. I am concerned about losing experience and institutional knowledge through retirements at the National Labs. Which positions do you foresee being the most difficult to fill at the National Labs as the older workforce retires? What is DOE currently doing to address retention at the labs? Are there certain positions where retention is most challenging? What is DOE currently doing to encourage young men and women across the country to pursue careers at National Labs and the NNSA?
- A2. The Department of Energy (DOE) shares your concern over losing valuable technical and operations experience and institutional knowledge through retirements at the DOE National Laboratories. Ensuring the DOE national labs can continue to compete for and retain the skilled workforce needed to deliver on DOE's complex mission areas and national priorities is a joint responsibility between DOE and the laboratories. Some of the most difficult skills to replace with a generation of the workforce retiring are in technical operations areas unique to DOE's facilities, project management – particularly

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for DOE large scale scientific projects, and science and technology areas that are particularly unique to the DOE mission areas – accelerator and detector R&D, nuclear chemistry and radiochemistry, and computational sciences and computer science. The DOE labs also have the challenge of increasing international competition coming from countries who have stood up large scale research facilities and are making substantial investments in highly competitive research areas such as quantum information science, high performance computing, and new materials that are drawing away the international talent that have come to DOE labs in the past. Retention is particularly challenging in the areas of high-performance computational sciences and computer science where the competition from the private sector is substantial.

DOE's largest contribution in support of the development of the future lab workforce is with the sponsorship of student research and technical training opportunities at the DOE Labs, but we are also working with the DOE labs to ensure they have the hiring flexibilities they need to attract and compete for skilled workers. Stable federal funding is the most critical factor in supporting the DOE national laboratories workforce needs of the future.

The majority of DOE's science, technology, engineering and mathematics (STEM) training programs are focused on supporting hands-on research and technical internships at the DOE Labs for both real-world skills training opportunities, and to expose the next generation of STEM talent to current and future careers at the DOE labs. Over 1,500 undergraduate students (including community college students) and graduate students are directly supported in research and internship opportunities at the DOE national labs annually, and another 2,000 students are supported at the Labs through DOE/NNSA research projects and strategic partnerships projects across the DOE laboratory complex. Increasingly the DOE National Laboratory Human Resources (HR) Offices are ensuring that these student participants submit résumés to the Lab's HR database before they complete their internships, so that their information is more readily accessible for recruitment to future job opportunities.

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Several years ago, the DOE Office of Science (SC), which manages 10 of the 17 DOE labs, established a set of human resource tools to assist the SC labs in their recruitment and retention of critical skills for major projects, such as construction and upgrades of SC scientific user facilities. This includes things such as recruitment bonuses, variable pay options and performance bonuses, and service credit towards vacations accruals.

The laboratories themselves have been purposeful in their efforts to manage workforce retirements, including offering phase retirements to ensure there is overlap with new hires for effective training and smooth transitions. Laboratories have also increasingly developed apprenticeship programs to provide paid training in engineering and technical skill areas unique to a laboratory, with the potential for permanent employment. Often these programs are Department of Labor registered apprenticeship programs in collaboration with a technical trade school leading to a technical certification upon completion.

In October 2018, the National Nuclear Security Administration (NNSA) launched a team with the purpose of developing a Nuclear Security Enterprise (NSE) Workforce Strategy, to attract and retain the best and brightest from colleges, universities, trade schools, community colleges, and industry, to build a capable workforce necessary to sustain our future nuclear security missions across all sites, including the national laboratories. As part of this strategy, NNSA and its management and operating (M&O) partners have held “NSE Days” at several universities to increase interest in working for the multiple partners across the NSE and increase awareness of what NNSA is and what NNSA does to support United States national security. Each M&O organization within the NSE has multiple tools, such as hiring bonuses, loan repayment programs, and internships, to recruit the next generation of nuclear scientists and engineers. In addition, each M&O organization uses retention incentives, work-life balance, and competitive salaries and benefits to retain NNSA’s current workforce.

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- Q3. Two bills that were considered in the hearing aim to secure energy infrastructure against physical and cybersecurity threats focusing on increasing coordination between sectors and responsible parties and increase opportunities for sharing best practices and data within the electric sector.
- Q3a. How is DOE prepared to support the objectives of this proposed legislation? How are you working to increase coordination to support our critical infrastructure?
- A3a. The Office of Cybersecurity, Energy Security, and Emergency Response (CESER) leads the Department of Energy (DOE) efforts to secure our Nation's energy infrastructure against all hazards, reduce the risks of and impacts from cyber events and other disruptive events, and assist with restoration activities. CESER enhances the Department's ability to dedicate and focus attention on DOE's Sector-Specific Agency (SSA) responsibilities, providing greater visibility, accountability, and flexibility to better protect our Nation's energy infrastructure and support asset owners, as well as the overall critical infrastructure response framework overseen by the Department of Homeland Security (DHS).

CESER supports the objectives of S. 2094, the *Enhancing State Energy Security Planning and Emergency Preparedness Act*, and S. 2095, the *Enhancing Grid Security through Public Private Partnerships Act*, by working closely with Federal and state, local, tribal, and territorial government partners and the private sector to protect our Nation's critical energy infrastructure and enable more coordinated preparedness and response to cyber and physical threats and natural disasters.

S. 2094 amends the *Energy Policy and Conservation Act* (42 U.S.C. 6321) to provide Federal financial assistance to states in the development and implementation of state energy security plans. CESER works closely with state and local governments on energy assurance issues, providing guidance and support for state energy and emergency officials in order to ensure that their energy assurance and security plans are regularly updated and tested. This is done through forums, web-based training, and table top exercises for Federal, state, and local energy officials to exchange and share information.

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These efforts enable state officials to facilitate state-industry preparedness and response coordination, encourage response plans that help prepare for any potential consequences of a cyber-attack, and provide training and exercises to ensure that the states are ready and able to mitigate incidents and respond, if needed.

CESER also partners with state and local organizations to further assist in these efforts. Such groups include the National Association of State Energy Officials (NASEO), National Association of Regulatory Utility Commissioners (NARUC), National Governors Association (NGA), National Conference of State Legislatures (NCSL), and, at the local level, Public Technology Institute (PTI). For example, in June 2019, CESER worked with NARUC to help commissioners of state public utility commissions (PUCs or “commissions”) gather and evaluate information from utilities about their cybersecurity risk management practices. These PUC-driven evaluations of utilities in their states help to inform PUC investment decisions regarding the effectiveness of utilities’ cybersecurity preparedness efforts and the prudence of related expenditures. The preparedness and evaluation toolkit are publicly available on the NARUC website, benefitting not only commissioners, but other state officials as well. We are continuing to work with NARUC to support regional training on cybersecurity, with the goal of building commission expertise to ensure that cyber investments are both secure and economically viable. CESER also recently supported NGA in providing governors and energy advisors with policy strategies to protect electricity infrastructure and enhance cybersecurity in the electricity subsector. The NGA white paper outlines the roles and responsibilities of key state, industry, and Federal entities, and catalogs useful resources.

The Department’s Office of Electricity (OE) is also working with state and private sector partners complementary to, and in coordination with, CESER’s efforts. Under OE’s leadership, DOE and its partners are working to harness innovation for a stronger, more resilient, and more reliable North American energy system in support of America’s security, economy, and sustained global leadership. OE’s work is currently focused on

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activities on the front end of the emergency management spectrum of prevention, protection, mitigation, response, and recovery.

For example, OE is working with NARUC, NASEO, NGA, NCSL, and other state partners, and representatives of the utility industry, to develop a planning framework for electricity subsector resilience investments overseen by state governments that can be used in a variety of threat and hazard contexts depending on geographic location and other factors. Whereas planning lifecycle elements for reliability events are well understood and related planning methods, solutions, metrics and valuation are mature, planning elements for major local or regional resilience events are not mature and have significant knowledge gaps due to their increased scale, complexity, and variation. OE and its partners are collaborating to identify and address those knowledge gaps to support effective planning practices and the implementation of resilience improvements across a variety of state- and region-specific needs. OE is also supporting a joint effort by NARUC and NASEO to determine pathways to operationalize resilience planning practices.

OE is also working on the development of a first-of-its-kind tool, the North American Energy Resilience Model (NAERM). This tool will allow the electricity subsector, gas subsector, and researchers to conduct vital planning scenarios and contingency analyses of system interdependencies in the North American energy system. The NAERM will also advance capabilities for modeling, simulating, and assessing the behavior of electric power systems and associated interdependencies of critical infrastructures, while also mitigating threats to infrastructure. In order to ensure system reliability and resilience, we need to include all components of the electricity and natural gas systems, including the transmission and natural gas lines that cross our border. Both the eastern and western electricity interconnections cover the vast majority of Canada's topography. Canada is a necessary partner in our effort to gain a holistic and detailed view of the system. S. 2094 should help this project develop stronger and more dynamic modeling capabilities as the energy landscape continues to evolve.

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S. 2095 is focused on leveraging public-private partnerships to address the cybersecurity and vulnerabilities of, and physical threats to, the electric grid. Among other things, the bill requires DOE to work with state regulatory authorities, industry stakeholders, the electric reliability organization, and other Federal agencies to develop ways to assess the physical security and cybersecurity of electric utilities, assist with threat assessment and cybersecurity training for electric utilities and training to mitigate cybersecurity supply chain management risks, and increase opportunities for sharing best practices and data collection within the electricity subsector.

As SSA for the energy sector, DOE is charged with securing our Nation's energy infrastructure against all threats and hazards. CESER leads DOE's efforts, working closely with the public and private sector, to enhance the security and resilience of the Nation's critical energy infrastructure. This includes efforts to address the cybersecurity vulnerabilities of key control systems and operational technologies through programs like CESER's Cyber Testing for Resilience of the Industrial Control Systems (CyTRICS™). CyTRICS will help DOE increase energy sector cybersecurity and reliability through the testing and enumeration of critical electrical components. Analysis of test results will help identify both systemic and supply chain risks and vulnerabilities to the sector through the linkage of threat information with supply chain information and enriching it with other data sources and methods. Through CyTRICS, DOE works with government, national laboratories, and industry to identify key energy sector industrial control systems components and apply a targeted, prioritized, and collaborative approach to these efforts.

The ability for government and the energy sector to share timely and emerging threat data and vulnerability information is critical in order to help prevent, detect, identify, and thwart cyber-attacks. CESER is working with government partners and the energy sector to develop a secure platform to provide energy sector-wide situational awareness and actionable information to support the discovery and mitigation of advanced cyber threats to critical energy infrastructure. CESER's Cyber Analytics Tools and Techniques (CATT™ 2.0) program will achieve this through automated analysis of voluntarily provided

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energy sector information technology (IT) and operational technology (OT) data, enriched with classified threat information utilizing unique and sophisticated U.S. Government tools.

CESER continues to engage directly with our government and industry partners on exercises and training events to help ensure we are prepared and coordinated in the event of a cyber incident to the industry. For example, DOE's 2018 Liberty Eclipse Exercise consisted of the Phase I tabletop exercise focused on the roles, responsibilities, and authorities of Federal, state, and energy industry partners in response to a significant cyber-attack on energy infrastructure, and seven-day operations-based Phase II exercise on Plum Island, New York, which focused on increasing the country's ability to mitigate adversary cyber degradation of the grid's restoration capability. DOE also continues to sponsor Clear Path, an annual all hazards focused exercise series. These regionally focused exercises highlight the interdependencies between the Nation's energy infrastructure and other sectors. DOE's most recent exercise, Clear Path VII, took place in Memphis, Tennessee, in April 2019, bringing together more than 160 individuals from approximately 80 organizations representing Federal and state governments; the electricity and oil & natural gas subsectors; and the transportation, water, and communications sectors.

DOE is also continuing and expanding our annual collegiate-level cyber defense competition to help develop the next generation of cybersecurity professionals needed to secure the Nation's critical energy infrastructure. DOE's December 2018 CyberForce Competition™ featured 64 college and university teams from 24 States and Puerto Rico competing at seven national laboratories. The next iteration in November 2019 will take place at ten national laboratories, and will feature the CyberForce Competition™ Professional Pilot Program at two national laboratories.

CESER's research and development continues to focus on developing the tools and technologies utilities needed to secure existing infrastructure from cyber threats and

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designing next-generation systems that can detect, reject, and withstand cyber incidents—objectives that are aligned with S. 2095. Through CESER’s Cybersecurity for Energy Delivery Systems division, CESER co-funds industry-led, National Laboratory-led, and university-led projects with industry and State, local, tribal, and territorial partners to make advances in cybersecurity capabilities for energy delivery systems. These research partnerships are helping to detect, prevent, and mitigate the consequences of a cyber incident for our present and future energy delivery systems.

- Q4. What is DOE doing to reduce industrial and transportation sector emissions? Are any additional authorities needed to support DOE’s work in the industrial and transportation sectors?
- A4. Reduced emissions are often the byproduct of improved efficiencies, including in the industrial and transportation sectors. Established by the *Energy Policy Act of 2005*, DOE is authorized to carry out a program of “advanced technologies to improve the energy efficiency, environmental performance, and process efficiency of energy-intensive and waste-intensive industries.”

Within DOE’s Office of Energy Efficiency and Renewable Energy (EERE) is the Advanced Manufacturing Office (AMO). AMO conducts research and development (R&D) to improve energy efficiency across the manufacturing sector. As it relates to AMO, no additional authorities are needed to support DOE’s work in the industrial sector. Breakthroughs in areas AMO has invested in, such as additive manufacturing, chemical catalysis, chemical process intensification, and facility automation, are transforming manufacturing to use less energy. AMO’s R&D investments in technologies that can extend the useful lifetime of materials (e.g., via recovery of secondary materials), or extend the useful lifetime of products (e.g., via remanufacturing), provide co-benefits to manufacturers via reduced energy and materials costs.

EERE’s Vehicle Technologies Office (VTO) invests in both component-level technologies and system-level models and tools to reduce emissions in the U.S.

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transportation sector. At the component level, VTO invests in R&D to advance battery and electrification, engine and fuel, and lightweight material technologies. At the system level, the Energy Efficient Mobility Systems program applies modeling, simulation, and high-performance computing-enabled data analytics to demonstrate pathways to harnessing new transportation technologies such as connectivity and automation for a more efficient, more productive, and lower emission U.S. transportation sector. The Technology Integration Program covers a broad technology portfolio that includes alternative fuels (e.g., biofuels, natural gas, propane, hydrogen, electricity) and energy efficient mobility systems. These technologies can strengthen national security through the use of domestic fuels, reduce transportation energy costs for businesses and consumers, and provide greater vehicle emissions benefits. As it relates to VTO, no additional authorities are needed to support DOE's work in the vehicle technologies sector."

EERE's Bioenergy Technologies Office (BETO) focuses on applied R&D of transformative, sustainable bioenergy technologies that can support a growing bioeconomy.¹ Primarily, DOE is investing in cutting-edge technologies designed to produce biofuels with the potential to reduce transportation sector emissions from non-food sources of biomass such as wastes and agricultural residues, and from energy crops like switchgrass and algae. BETO would like to seek additional authorization to clearly include R&D on waste streams, such as, but not limited to: municipal solid waste (including plastics); biogas; landfill gas; biosolids; waste industrial gases; atmospheric carbon dioxide; food wastes; and manures in order to align with Congressional interest included in Appropriations Report language over the last three years. BETO's authorizations derived from Section 932 of the *Energy Policy Act of 2005*, do not authorize BETO to conduct R&D using the aforementioned waste streams. However,

¹ "Bioeconomy" is defined as "the industrial transition to sustainably utilizing renewable aquatic and terrestrial biomass resources for production of energy, intermediate, and final products with economic, environmental, social, and national security benefits," by the Biomass Research and Development Board within the Federal Activities Report on the Bioeconomy, February 2016 https://www.energy.gov/sites/prod/files/2016/02/f30/farb_2_18_16.pdf.

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Congress, BETO, industry, academia, and state and local governments are increasingly recognizing that these waste resources can be a valuable source of feedstock for energy and product production, while helping to address environmental and economic challenges of handling these wastes.

EERE's Fuel Cell Technologies Office (FCTO) supports innovations to advance hydrogen and fuel cell technologies. Research and development focuses on reducing the cost and improving the performance/durability of fuel cells, as well as developing affordable and efficient technologies for hydrogen production, delivery, storage and use. R&D advances are paving the way to reduce emissions in multiple sectors including transportation (such as heavy-duty fuel cell freight trucks), stationary power (including combined heat and power systems), and other energy intensive industries, such as steel and ammonia production. As it relates to FCTO, no additional authorities are needed to support DOE's work in the fuel cell technologies sector

- Q5. Some National Labs, including NETL, are struggling attract and retain skilled people in some highly-skilled roles. What tools does NETL have access to through OPM's hiring authority to help them address these challenges of hiring, recruiting, and retaining jobs in highly technical program areas of NETL? Are there more flexible compensation models for highly-qualified personnel in use within the other agencies, including pay banding and pay-for-performance that NETL could use to address these concerns? Please describe these models and any barriers to using them.
- A5. NETL utilizes many OPM authorities, as well as those unique to DOE, to attract and recruit the best talent. For example, NETL utilizes the EJ pay plan, which is unique to DOE, to recruit and retain highly qualified scientific personal for its Senior Fellow positions. EJ positions are in the Excepted Service and therefore outside of compensation restrictions in the Civil Service. In addition, NETL has utilized the "advance in hire" authority to offer higher salaries to attract candidates from private sector or academia. The lab also seeks approval to pay relocation benefits to top candidates, which helps broaden NETL's applicant pool considerably. NETL would utilize tools such as advances in hire, relocation benefits, and retention benefits to the greatest extent possible if funding were available to support these tools. NETL has also utilized tools such as the federal

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internship “Pathways Program” and Direct-Hire Authority for several job series such as engineers and physical scientists.

NETL is currently examining the use of pay banding to modernize its compensation model, as utilized by other parts of DOE.

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Questions for the Record Submitted to Mr. Anton Porter**

Questions from Ranking Member Manchin

Questions: As was discussed in the hearing, it is a challenge to attract and retain workers in some highly-skilled roles. Do the same issues apply to attracting qualified, experienced energy experts to serve as Commissioners? Is insufficient compensation an issue that you're aware of for would-be Commissioners? What are the current limitations on compensation for Commissioners? Are those limits the same as, or different, from compensation caps at other independent agencies like the Securities and Exchange Commission?

Response: I am unable to speak to any difficulties related to recruiting Commissioners, as the process of recruiting and nominating them is handled by the White House. However, speaking from my own experience, during my time at FERC, Commissioners have always been highly qualified energy experts, and it is my belief that Commissioners who come to FERC generally place a higher value on public service than financial compensation.

The current compensation limitations on Commission leadership, is as follows: Compensation for the FERC Chairman is capped at Executive Level (EX) III, currently \$168,400. Compensation for FERC Commissioners are capped at Executive Level (EX) IV, currently \$158,500.

Compensation for senior political officials serving in an EX position are currently under a modified pay freeze, with the 2019 payable rates for freeze-covered senior political officials serving in an EX position as follows: EX-I: \$203,500; EX-II: \$183,100; EX-III: \$168,400; EX-IV: \$158,500; and EX-V: \$148,500.

Comparing compensation caps to other similar independent agencies:

The one different Commission/Corporation from FERC and other similarly situated agencies is the Nuclear Regulatory Commission (NRC), where the NRC Chairman is compensated at the EX-II level (\$183,100), and the NRC Commissioners are compensated at the EX-III level (\$168,400)

The compensation caps for other similar independent agencies is identical to FERC, as follows:
Securities and Exchange Commission (SEC): The SEC Chairman is compensated at EX-III level (\$168,400), and the SEC Commissioners are compensated at EX-IV level (\$158,500)
Federal Deposit Insurance Corporation (FDIC): The FDIC Chairman is compensated at the EX-III level (\$168,400), and the FDIC Vice Chairman and Members of the Board are compensated at EX-IV (\$158,500)

Commodity Futures Trading Commission (CFTC): The CFTC Chairman is compensated at the EX-III level (\$168,400), and the CFTC Commissioners are compensated at EX-IV (\$158,500)

Federal Trade Commission (FTC): The FTC Chairman is compensated at the EX-III level (\$168,400), and the FTC Commissioners are compensated at EX-IV (\$158,500)

Federal Communications Commission (FCC): The FCC Chairman is compensated at the EX-III level (\$168,400), and the FCC Commissioners are compensated at EX-IV (\$158,500)



2800 S Shirlington Rd, Suite 300, Arlington, VA 22206. 703-824-8863

September 18, 2019

The Honorable Rob Portman
448 Russell Senate Office Building
Washington, DC 20510

The Honorable Jeanne Shaheen
506 Hart Senate Office Building
Washington, DC 20510

Dear Senators:

On behalf of the Air Conditioning Contractors of America (ACCA), I am writing to express our support for S. 2137, the Energy Savings and Industrial Competitiveness Act of 2019.

ACCA represents nearly 60,000 heating, ventilation, air conditioning, and refrigeration (HVACR) professionals across the country. HVACR contractors are a backbone of the economy, responsible for ensuring modern medicine is possible, ensuring information technology centers are operational, maintaining a fresh supply of food, and providing essential heating and cooling systems for nearly every hospital, office building, and home in the country. HVACR contractors provide more than comfort, they provide essential services that our economy depends upon and ACCA is the premier trade association representing this pillar of the economy.

The Energy Savings and Industrial Competitiveness Act would implement several energy efficiency measures across the residential, commercial, and industrial sectors. ACCA supports efforts to strengthen model building codes and ensure new homes and commercial buildings are more efficient. We also support grant programs to assist the skilled trades with implementing efficiency measures and educating workers on efficiency programs.

Energy efficiency measures offer some of the quickest, more affordable, and cleanest ways to tackle growing energy demand. Efficiency programs offer real solutions to deal with the short- and long-term economic and environmental problems associated with rising energy use while saving money, lessening dependence on imported energy sources, reducing pollution, and improving our nation's global competitiveness. In addition, these initiatives enable domestic businesses to leverage private capital, provide long-term market certainty, spur economic growth, and create jobs.

While ACCA supports a number of efficiency programs, we are concerned about equipment-focused efficiency programs. Too often in the HVACR industry, efficiency programs are focused on an HVACR system without acknowledging the specific design, installation, and maintenance requirements that ensure these products achieve their labeled efficiency.

The Environmental Protection Agency (EPA) estimates that half of all HVAC systems are not installed according to manufacturer requirements. The National Institute of Standards and Technology studied this issue and found that a poorly designed and installed HVACR system will consume 30-40 percent more energy than they were estimated to consume in laboratory settings. Increasing the efficiency of

these units will not provide the promised energy savings as long as the improper installation issue is not addressed.

ACCA supports additional funding for EPA programs that help address these problems. The EPA's ENERGY STAR Verified Installation Program is a great program that provides consumers with a guarantee their ENERGY STAR labeled HVACR systems will be installed properly and operate efficiently. The National Association of State Energy Officials highlighted the benefits of this program in a 2017 Board of Directors resolution and determined that following the program is a matter of best practices.

However, the ENERGY STAR program has not been adequately funded so consumers have not been made aware of this program. A properly funded ENERGY STAR Verified Installation Program will provide lasting benefits and ensure that the ENERGY STAR brand is protected.

ACCA is grateful for your decades of leadership on efficiency programs. We strongly support the goals of the Energy Savings and Industrial Competitiveness Act of 2019 and look forward to opportunities to make improvements on this legislation.

Please know that ACCA welcomes the opportunity to meet with you and serve as a resource should you require additional information. Please feel free to contact me at 703-824-8863 or via email at alyx.simon@acca.org.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alyx Simon', with a stylized flourish at the end.

Alyx Simon
Government Relations Representative
Air Conditioning Contractors of America

July 8, 2019

The Honorable Lisa Murkowski
U.S. Senate Committee on Energy and
Natural Resources
304 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Joe Manchin III
U.S. Senate Committee on Energy and
Natural Resources
304 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Murkowski and Ranking Member Manchin:

We write in support of legislative language that improves the model building energy code development process and provides states and communities with resources for effective code adoption and implementation. Provisions strengthening code development and implementation were included in the bipartisan and bicameral legislation, the Energy Savings and Industrial Competitiveness (ESIC) Act, introduced by Senators Portman and Shaheen¹ and Representatives McKinley and Welch.² The legislation was reported favorably by the Senate Committee on Energy and Natural Resources in the 113th, 114th and 115th Congresses, and passed the Senate as part of the Energy Policy and Modernization Act by a vote of 85-12.³

The buildings sector accounts for about 40 percent of U.S. greenhouse gas emissions. Building energy codes are the cost-effective first step toward addressing this challenge. Residential and commercial building energy codes are developed through stakeholder-based processes administered by the International Code Council and ASHRAE. The processes are open to anyone who wants to propose changes, and builders, manufacturers, architects, and consumer advocates participate as well as code officials. These “model” codes are then adopted and implemented by states and local governments on a customized basis. The Department of Energy (DOE) plays a limited but important role by analyzing model codes, suggesting improvements, and providing technical and financial assistance to states and local governments to implement updated building energy codes.

The language included in ESIC, developed over several Congresses based on extensive input from manufacturers, homebuilders, states, environmental and consumer advocates, and other stakeholders, would advance our nation’s energy efficiency and improve the affordability of new and renovated buildings. A 2015 analysis estimated that improved codes under the legislation would reduce U.S. energy use by over 30 quadrillion British thermal units and provide consumers and businesses over \$60 billion in net savings.⁴

Given the level of broad industry, energy efficiency and environmental support for ESIC, we are greatly concerned about alternative proposals championed by narrow constituencies that would

¹ See [S. 761](#) (113th Congress), [S. 1392](#) (113th Congress), [S. 2074](#) (113th Congress), [S. 2262](#) (113th Congress), [S. 720](#) (114th Congress), and [S. 385](#) (115th Congress).

² See [H.R. 1616](#) (113th Congress), [H.R. 2177](#) (114th Congress), and [H.R. 1443](#) (115th Congress).

³ See [S. 2012](#), as engrossed in the U.S. Senate (114th Congress).

⁴ 2015 *Federal Energy Efficiency Legislation: Projected Impacts*. <https://aceee.org/white-paper/2015-ee-legislation>. Estimates are cumulative for the lifetime of measures in new buildings built through 2040.

July 8, 2019

stymie efficiency gains in the residential and commercial building sector. For example, the Energy Savings and Building Efficiency Act introduced in the U.S. House of Representatives would impose an inflexible “simple payback” requirement for energy efficiency measures that would compromise the long-term affordability of new and renovated buildings to the financial detriment of home owners and renters.⁵ The same 2015 analysis estimated that this provision would actually result in weaker codes and thus more energy use and more consumer spending.

A second alternative proposal included in the broader Energy and Natural Resources Act from the 115th Congress (S. 1460) would also adversely affect efforts to improve the energy efficiency of the building sector. This proposal made changes that risked making the process unworkable and expensive, seemingly requiring an undefined consensus for DOE to act, avoiding the industry terminology of “model” codes, and requiring DOE to analyze multiple additional economic considerations beyond those in the ESIC bill. It also removed provisions that respond to current needs of state and local governments, including on code implementation and stretch codes. The signatories to this letter do not support this approach, but rather stand by the negotiated ESIC provisions. Indeed, we prefer the status quo on building energy codes to the changes proposed in S. 1460.

We appreciate your continued commitment to advance federal energy policy that spurs economic growth, creates jobs, reduces harmful emissions and strengthens the energy security of our nation. Not including the most important provision for building efficiency would neglect the sector with greatest energy use. It has been 12 years since the last comprehensive energy legislation, and the American public is eager for Congress to pass legislation that enjoys broad bipartisan support. We respectfully urge you to endorse and consider the ESIC legislation that includes the established version of model building energy codes language at the earliest opportunity during the 116th Congress.

Thank you for your consideration.

Sincerely,

Alliance to Save Energy
 American Council for an Energy-Efficient Economy
 Cellulose Insulation Manufacturers Association
 EPS Industry Alliance
 Extruded Polystyrene Foam Association (XPSA)
 Insulation Contractors Association of America
 National Association of State Energy Officials
 North American Insulation Manufacturers Association
 National Insulation Association
 Polyisocyanurate Insulation Manufacturers Association

⁵ See [H.R. 1273](#) (114th Congress).



June 12, 2019

The Honorable Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Michael Bennett
261 Russell Senate Office Building
Washington, DC 20510

Dear Senators Gardner and Bennett:

The American Public Power Association (APPA) and National Rural Electric Cooperative Association (NRECA) write to express support of your bill, the Enhancing Grid Security through Public-Private Partnerships Act.

APPA is the national service organization for the not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide. Public power utilities account for over 15 percent of all electric sales to over 49 million customers in every state but Hawaii. There are 28 community-owned electric utilities in Colorado that provide power to over 400,000 customers, or about 17 percent of Colorado's electricity consumers. NRECA is the national trade association representing more than 900 local electric cooperatives. From growing suburbs to remote farming communities, electric co-ops serve as engines of economic development for 42 million Americans across 56 percent of the nation's landscape. There are 22 electric cooperatives in Colorado, covering over 70 percent of the landmass in Colorado and serving nearly 1.5 million electric consumers.

The Enhancing Grid Security through Public-Private Partnerships Act directs the Secretary of Energy to establish a program to facilitate and encourage public-private partnerships to promote and advance the physical and cybersecurity of electric utilities. The bill is modeled upon an existing, successful public-private partnership funded by the Department of Energy's (DOE) Office of Cybersecurity, Energy Security, and Emergency Response (CESER) Cybersecurity for Energy Delivery Systems program (CEDSS) between the department, APPA, and NRECA to bring greater resources, training, and tools for cyber and physical security to small- and medium-sized electric utilities.

Protecting the electric grid from threats that could impact national security and public safety is a responsibility shared by both the government and the electric power sector. Public-private partnerships like those between DOE, APPA, and NRECA are vital to help needed resources reach the smaller utilities in the sector in the most useful manners. We applaud your efforts to continue and build on the successful partnerships APPA and NRECA have built with DOE on these issues.

Sincerely,

American Public Power Association

National Rural Electric Cooperative Association

Senate Committee on Energy & Natural Resources
Subcommittee on Energy Legislative Hearing
September 11, 2019
Statement for the Record by Senator Tammy Duckworth on S. 1739

Thank you to this Committee, particularly Chairman Murkowski and Ranking Member Manchin, for its leadership in supporting our National Laboratories, crown jewels of innovation and scientific discovery. I am honored that the *Department of Energy National Labs Jobs Apprenticeships for Complete and Committed Employment of Specialized Skills (ACCESS)* is part of the Committee's business and to be working in a bipartisan manner with Senator Crapo.

As members of this Committee are well aware, ensuring that the Department of Energy's (DOE) National Laboratories and the National Nuclear Security Administration (NNSA) National Laboratories have access to the Nation's top talent is an important priority because many of these employees are retiring or nearing retirement age. A 2017 NNSA report indicated that over 50 percent of the workforce in key technician positions is within five years of retirement age and less than 7 percent are under 30 years old.

Passing this bill is a critical step in guaranteeing that our National Laboratories and NNSA production sites have strong workforce pipelines. Building a successful workforce pipeline requires strategic and sustained collaboration between local educational institutions, the laboratories and NNSA sites, and intermediaries that can assist in enabling the delivery of effective and accelerated training. I am proud that this bill makes those sensible investments.



Thomas R. Kuhn
President

June 19, 2019

The Honorable Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Michael Bennett
261 Russell Senate Office Building
Washington, DC 20510

Dear Senators Gardner and Bennet:

The Edison Electric Institute (EEI) writes to express support for your two bills, the Enhancing Grid Security through Public-Private Partnerships Act and the Enhancing State Energy Security Planning and Emergency Preparedness Act of 2019.

EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for more than 220 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports more than 7 million jobs in communities across the country and contributes \$865 billion annually to U.S. gross domestic product, about 5 percent of the total. EEI's member companies invest more than \$100 billion each year to make the energy grid stronger, smarter, cleaner, more dynamic, and more secure; to diversify the nation's energy mix; and to integrate new technologies that benefit customers.

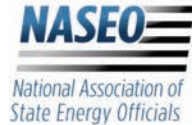
The Enhancing Grid Security through Public-Private Partnerships Act directs the Secretary of Energy to establish a program to facilitate and encourage public-private partnerships to promote and advance the physical and cybersecurity of electric companies. The Enhancing State Energy Security Planning and Emergency Preparedness Act of 2019 would amend the Energy Policy and Conservation Act to provide federal financial assistance to states to implement state energy security plans.

Protecting the energy grid from threats that could impact the economic and national security of the nation, as well as public safety, is a shared responsibility between the electric power industry and all levels of government. EEI member companies work across the industry and the government to strengthen information sharing, planning, preparation, response, and recovery activities, as well as drills and exercises to regularly test our postures and capabilities.

These bills would be a welcome addition to the electric power industry's security practices. We appreciate your leadership and efforts to help improve the security posture of our nation, including the energy sector, and we look forward to working with you and your colleagues to keep the energy grid reliable, resilient, and secure.

Sincerely,

Thomas R. Kuhn



The Honorable Senator Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Senator Michael Bennet
261 Russell Senate Office Building
Washington, DC 20510

June 10, 2019

Dear Senators Gardner and Bennet:

The National Association of State Energy Officials (NASEO) would like to express our strongest support for the bipartisan *Enhancing State Energy Security Planning and Emergency Preparedness Act of 2019*, and the *Enhancing Grid Security through Public-Private Partnerships Act*. Together, these bills substantially improve the cyber and physical security of the nation's energy system and leverage the expertise of the State Energy Offices, Public Utility Commissions, private sector energy providers, and Federal Government.

The 56 State and Territory Energy Directors and their offices – our members – lead energy emergency preparedness, planning, response, and recovery efforts across all energy sectors. Ensuring that electric utilities (investor and consumer owned) and their vendors have increasingly robust cybersecurity assistance and information is essential to maintaining the reliability of our electric grid. Similarly, the “all hazard” and “all fuels” approach of the energy emergency functions of the U.S. Department of Energy and the State Energy Offices would be significantly bolstered by the *Enhancing State Energy Security Planning and Emergency Preparedness Act of 2019*. In particular, we thank you for recognizing the importance of reauthorizing the U.S. State Energy Program as the critical element of the state-federal partnership.

Coordination among state, private and federal partners, which is catalyzed and strengthened by both of these bills, is among our organization's top priorities. We greatly appreciate the continued leadership you both have demonstrated on national security and energy issues, and your attention to state-federal cooperation.

Best Regards,

David Terry

1300 North 17th Street
Suite 1275
Arlington, Virginia 22209
Telephone: 703.299.8800
www.naseo.org

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Executive Director
DAVID TERRY

General Counsel
JEFFREY C. GENZER



September 25, 2019

The Honorable Lisa Murkowski
522 Hart Senate Office Building
Washington, DC 20510

The Honorable Joe Manchin
306 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Murkowski and Ranking Member Manchin:

Thank you for your efforts to advance a series of bills to address important needs in the energy industry. Delivering affordable and reliable energy are the core objectives for America's Electric Cooperatives, but as not-for-profit entities, we have unique perspectives and challenges. Many of the bills being considered will help cooperatives continue to achieve our core mission by promoting innovative technologies, enhancing cybersecurity and improving aging energy infrastructure. On behalf of the more than 900 rural electric cooperatives represented by NRECA, I write to express support for the following legislation under consideration by the committee:

S. 2137 - The "Energy Savings and Industrial Competitiveness Act," which includes an important provision, often referred to as "Section 433," that would remove the uncertainty surrounding ways to meet future energy needs at federal facilities and promote increased energy efficiency.

S. 1602 - "To amend the U.S. Energy Storage Competitiveness Act of 2007" will help rural electric cooperatives overcome technical barriers deploying energy storage technologies by providing technical assistance grants and establishing a pilot demonstration program.

S. 2095 - The "Enhancing Grid Security Through Public-Private Partnerships Act" will build upon partnerships to ensure small providers have the needed resources to enhance their cybersecurity systems.

S. 1931 - The "Western Area Power Administration Transparency Act," will help WAPA customers access information about rates, amount of energy or capacity and capital expenditures by requiring WAPA to publish this information online.

S. 2044 - The "Water Supply Infrastructure Rehabilitation and Utilization Act" will ensure federally-owned facilities have the tools needed to maintain and improve aging infrastructure.

Again, thank you both for your leadership on these issues. I commend the Committee for taking up these bills and look forward to working with you to advance these important pieces of legislation through the Senate.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Matheson", with a stylized flourish at the end.

Jim Matheson
Chief Executive Officer
National Rural Electric Cooperative Association

cc: The Honorable Michael Bennett
The Honorable Susan Collins
The Honorable Cory Gardner
The Honorable Amy Klobuchar
The Honorable Martha McSally
The Honorable Jerry Moran
The Honorable Rob Portman
The Honorable Jeanne Shaheen
The Honorable Tina Smith
The Honorable Kyrsten Sinema