

**United States House of Representatives
Select Committee on the Climate Crisis**

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**“Solving the Climate Crisis: Drawing Down Carbon and Building Up the
American Economy”**

Questions for the Record

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The Honorable Kathy Castor

- 1. In your testimony, you said, “We need to accelerate our investments in energy efficiency with a special priority on those regions of the country negatively impacted by declining use of fossil fuel.” Can you provide more detail on the types of energy efficiency investments we should make in these communities?**

Fossil fuel production is concentrated in those states with readily accessible resources. Currently, 73% of all coal production jobs are located in just 10 states; 74% of all oil production jobs are also located in just 10 states; and 84% of all natural gas production jobs are similarly concentrated in 10 states. Compounding this problem is the fact that two states, Texas and Pennsylvania, are in the top ten in all three fossil fuel production jobs while eight others—West Virginia, Louisiana, Oklahoma, Illinois, Wyoming, Colorado, New Mexico, and California—are in the top 10 in two fossil fuel resources.

While jobs in oil and natural gas fuels production rose in 2018 by over 50,000 jobs and have increased significantly from a decade ago, the opposite is the case for coal fuels’ production. As a result, the states and communities impacted by the loss of coal fuels’ jobs, along with those states and communities with the most coal power generation jobs, should receive special attention in economic development resilience planning. There are four ways that energy efficiency investments can benefit these highly impacted communities.

The four response areas are energy infrastructure, the industrial sector, commercial buildings, and residential buildings. Energy efficiency investments are needed to meet carbon emissions reduction targets in every part of the country and in each of these sectors. However, by targeting those communities whose employment has been adversely impacted by the decline in coal production first, jobs can be provided in labor markets already suffering from higher than average unemployment. Given the demonstrated hiring crisis in energy efficiency (especially in its largest sector—construction—where a majority of employers reported that it was very difficult to hire new employees in 2018), a focus on introducing energy efficiency technologies into these communities is a sensible response to worker dislocation.

A four-pronged energy efficiency initiative in these communities and regions provides the added benefit of reducing residential consumer energy costs and making businesses and real estate more economically competitive.

In the first edition of the Quadrennial Energy Review focused on Transmission, Storage and Distribution and released in April, 2015, the Department of Energy recommended that DOE should,

Provide state financial assistance to promote and integrate TS&D infrastructure investment plans for electricity reliability, affordability, efficiency, lower carbon generation, and environmental protection. In making awards under this program, DOE should require cooperation within the planning process of energy offices, public utility commissions, and environmental regulators within each state; with their counterparts in other states; and with infrastructure owners and operators and other entities responsible for maintaining the reliability of the bulk power system.

Implementation of such a program, focusing first on Appalachia and other coal-impacted communities, would provide immediate economic support, job creation, and greater efficiency and resilience.

In many of the communities that were originally built around the availability of coal resources, manufacturing also plays a more significant role in local economies. A focus on industrial energy efficiency would preserve the competitiveness of the existing manufacturing ecosystem while also creating demand for energy efficiency industrial products, particularly electrical motors, one of the largest consumers of energy in manufacturing. Many of the top 10 coal producing states—PA, OH, IL, IN, KY, and WV—have significant manufacturing employment in both energy intensive industries such as steel and aluminum, but also in the production of energy efficiency products. These kinds of industrial energy efficiency investments, thus, have the twin benefit of reducing costs while increasing product demand. Programs such as DOE’s Industrial Assessment Centers which provide energy efficiency assessments to small and medium sized manufacturers could be expanded in these communities.

Commercial and residential energy efficiency building retrofit programs could also be significantly expanded in the target areas, financed through federally guaranteed revolving loan programs with the loans paid back through energy savings.

This kind of focused investment on energy efficiency in multiple sectors of the economy provides affected communities with the skills training needed for the jobs of the future. Increased deployment of energy efficiency technologies is going to be needed for at least the next 30 years to meet carbon reduction targets. Perfecting the model for concentrated investment in energy efficiency in coal communities today will provide a model for similar investments in other geographies where unemployment levels are endemically high.

- 2. In your testimony, you said: “Carbon performance should be a universal procurement standard for government spending in the U.S., similar to what California recently did with its Buy Clean standard.” Can you provide more detail**

on what a federal “buy clean” procurement standard would entail and how it would work?

The California legislation amended state contracting provisions as follows, “The **Buy Clean California Act**, ([Public Contract Code § 3500-3505](#)), states the Department of General Services (DGS) is required to establish and publish the maximum acceptable Global Warming Potential (GWP). It targets embedded carbon emissions of structural steel (hot-rolled sections, hollow structural sections, and plate), carbon steel rebar, flat glass, and mineral wool board insulation. These materials must have a GWP that does not exceed the limit set by DGS.” <https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act>

Industrial emissions make up approximately 21% of all global greenhouse gas emissions with 2/3 of industrial energy consumption coming from five key sectors, commonly known as “energy intensive, trade exposed” industries or EITE’s. A federal “buy clean” procurement standard would require that all prospective bidders for federal government projects provide a life cycle assessment of the direct and indirect emissions associated with all materials proposed for use in an awarded contract that fall within the definition of EITE products. By limiting the coverage of the “buy clean” standard to those products that produce the majority of industrial greenhouse gas emissions, the standard will achieve maximum effectiveness with a minimum of regulatory oversight.

A “buy clean” standard would play a dual role, reinforcing carbon reduction policies in the industrial sector, while, at the same time, promoting the economic competitiveness of high performing, energy efficient US businesses which are already among the lowest emitting producers of energy intensive products in the world. That is why a broad coalition of California stakeholders supported passage of this legislation including environmental organizations, unions like the United Steelworkers, and California steel producers such as Gerdau Steel.

3. In your written testimony, you say: “sequencing and timing of how we solve a problem can ultimately determine the support it achieves from our fellow Americans.” As we look how to decarbonize the electricity sector, how would you recommend we sequence policy implementation to maximize emissions reduction and public support?

There are several policies that I think would increase public support for decarbonizing the electricity sector. The first would be the enactment of a federal clean energy standard (CES) such as was recently introduced by Senator Smith (MN) and Representative Luján (NM). A CES that uniformly provides incentives for carbon reductions, even partial ones such as achieved by high efficiency natural gas or carbon capture sequestration technologies, removes any doubt from the public mind about the actual goal of decarbonization. It’s not about rewarding one technology over another such as wind or solar; it’s about finding the most cost efficient, secure, and reliable approach to decarbonizing over a 30 year glide path.

Second, I would recommend a national initiative to modernize the electrical grid to achieve significant efficiencies by reducing current power loss. Such an initiative, focused first on those regions and states suffering from job loss in coal communities, would demonstrate the federal

government's commitment to use our energy transition to promote economic opportunity, job creation, and skills' training for high unemployment regions. Initial funding for such an infrastructure program could come from the US Department of Energy's Loan Program Office. See the analysis on this issue from the Energy Futures Initiative at: https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5b4e7494758d463f2a81294a/1531868312531/Leveraging+the+DOE+Loan+Program_SG_v4_TB+CLEAN.pdf

Third, I would recommend a special initiative on reducing industrial emissions and building domestic clean energy supply chains to demonstrate that federal policy is focused on making the U.S. the global leader in clean energy manufacturing. Components of such a policy would include restoring the 48C Advanced Energy Manufacturing Tax Credit, passing a "buy clean" federal procurement policy, establishing an industrial energy efficiency tax credit, and integrating carbon-based border adjustments for EITE's. Implementation of an EITE border adjustment policy could be done as part of the current USMCA or the original NAFTA and would provide an initial global mechanism for encouraging reductions in industrial emissions while also rewarding existing American companies in these critical sectors—iron and steel, aluminum, pulp and paper, chemicals, cement, brick, and glass—for their relatively high environmental performance.

Manufacturers and their employees have played a critical role in resistance to decarbonizing the electrical sector out of concern for competitiveness in global markets. Addressing these concerns directly by providing economic incentives to decarbonize manufacturing would turn this resistance into support.

Fourth, I would recommend making energy efficiency investments, particularly in negatively impacted coal communities and in high unemployment pockets whether in rural or urban areas, the center piece of a national effort to reduce carbon emissions by the creation of energy efficiency jobs. Since this sector exists in virtually every county in America and has already produced over 2.3 million jobs, this positive focus on new job creation presents the public with a powerful reason to support the transition to a low carbon economy. In addition, the majority of energy efficiency jobs are in construction, and pay better than similar jobs in the economy at large because of higher unionization rates and skills' requirements. They also rely on skills that are readily transferable to other sectors of the economy. There are many local examples of how to fund energy efficiency investments such as green banks, revolving loan funds, etc., but the federal government should adopt a complete menu of tax credits, supports for utility-funded programs, and grant programs to bring energy efficiency investments to scale.

Finally, I would recommend reauthorizing the Energy and Advanced Manufacturing Workforce Initiative (EAMWI) started by the US Department of Energy in 2016 to coordinate the workforce development efforts of the Departments of Energy, Labor, Commerce, Education, Defense and the National Science Foundation. EAMWI activities would insure maximum success in energy efficiency job training curriculum development, realization of job training activities in the field, and successful deployment of new energy efficiency and energy technologies.

- 4. In your written testimony, you say: "We need to focus on the manufacturing supply chains that our new energy technologies are creating. Nothing is more frustrating than looking back over the years of American technological innovation and recording**

the history of American applied research being handed off to other countries for commercialization.” What can Congress do to ensure U.S. workers manufacture the components needed to build a cleaner energy economy?

There are several pieces of legislation that Congress could consider to address this issue. First would be the restoration of the 48C Advanced Energy Manufacturing Tax Credit which was significantly oversubscribed when it was first introduced and successfully created tens of thousands of new jobs before it expired.

Second would be the creation of a collaboration between the Advanced Manufacturing Office (AMO) of the DOE, National Institute of Standards and Technology (NIST), and the Manufacturing Extension Partnership (MEP) that would be required to perform periodic supply chain analyses of all new energy technologies, prepare qualification assessments of OEM’s for parts production, and deliver workshops on the qualification process and standards for small manufacturers at the state level.

Third would be the creation of domestic content standards for the production of critical energy equipment similar to the rules that exist for other products of national security importance under the Buy America Act.

Fourth would be the restoration of funding for Mission Innovation, the pledge to double government investments in clean energy research and development in five years, led by the U.S. and announced at the time of the Paris climate agreement. The maintenance of high levels of R&D funding is critical to a healthy manufacturing economy.