Subcommittee on Energy
Hearing on
"Reviving our Economy: COVID-19's Impact on the Energy Sector"
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The Honorable Tom O'Halleran (D-AZ)

1. In your testimony you discuss certain supply chain disruptions as one of the many impacts felt by the renewable energy sector due to the COVID-19 pandemic.

    a. Given the uncertain future we face in a world ravaged by a global pandemic, can you comment on to what extent global supply chains that support the growth of renewable energy and carbon capture sectors have begun to resume manufacturing?

    RESPONSE:

    COVID-19 severely disrupted the global supply chain for renewable manufacturing in the first half of 2020, and it is only partially on the road to recovery. Starting in February, factories in China paused or reduced production of solar panels because of coronavirus-related lockdowns in several key provinces.[1] Europe, a major manufacturing hub for wind turbines, saw factory closures in mid-March due to strict confinement measures.[2] These closures in turn impacted the U.S. renewable sector, with the wind and solar industries seeing some project developments slowed or halted as a result.[3],[4]

    Manufacturing has slowly begun to return to normal operation in some areas, but the outcome remains uncertain. Most Chinese solar manufacturers who had shut down their facilities resumed production by the end of last month.[5] Major disruptions remain in shipping and transportation across countries with domestic and international travel restrictions. Truck drivers

[1] International Energy Agency. https://www.iea.org/commentaries/the-coronavirus-pandemic-could-derail-renewable-energy-s-progress-governments-can-help
[2] Ibid.
[3] American Wind Energy Association. https://www.awea.org/getattachment/Resources/Publications-and-Reports/Market-Reports/2020-U-S-Wind-Industry-Market-Reports-(1)/Q12020_Public/WPA_Q1_PublicDownload/1Q-2020-WPA-Report_Pubic-Version.pdf.aspx?lang=en-US
[4] Solar Energy Industries Association. https://www.seia.org/sites/default/files/2020-05/SEIA-COVID-Impacts-National-Factsheet.pdf
[5] Global Wind Energy Council. https://gwec.net/wp-content/uploads/2020/04/20200408-Wind-Industry-COVID19-Update-Impact-in-China.pdf

and the transportation sector at large have been significantly affected by social distancing measures and border controls.[6] Furthermore, with the virus peaking in the United States several months after it did in Asia, foreign manufacturing is restarting precisely as American demand is falling, with the potential for reduced demand continuing into the future.[7],[8] This may cause suppliers that were otherwise ready to resume sales to instead permanently cease operations and be unavailable when demand returns. Supply chain disruptions have dampened forecasts for renewable installations in the United States for the remainder of the year. Net additions of renewable electricity capacity in 2020 may decline by 21% compared with analysts' estimates at the beginning of the year.[9]

b. How can the Department of Energy play a greater role in promoting domestic supply chain resiliency for the renewable energy materials sector?

RESPONSE:

Continued American leadership in science and technology development, as well as a stable regulatory landscape, are critical to realizing a robust domestic supply chain and the economic growth it produces. The Department of Energy (DOE) has played an important role in domestic supply chain development through research and development in renewable technology, lowering the cost of renewable energy for American consumers. Congress must ensure that DOE continues to do so.

DOE's Office of Energy Efficiency and Renewable Energy (EERE) helps to promote a multitude of clean energy technologies. EERE and the National Renewable Energy Laboratory (NREL), which it largely funds, work to address gaps in technology development pathways by making targeted investments and conducting necessary research to develop technologies at scale. For example, the Wind Energy Technologies Office supports industry partnerships and targeted investments that integrate new designs, materials, and processes into wind turbines, while the Solar Energy Technologies Office funds early-stage research and development in photovoltaics, concentrating solar-thermal power, and other systems integration technologies. The Advanced Research Projects Agency-Energy (ARPA-E) advances high-potential, high-impact energy technologies that are too early for private-sector investment with the ultimate goal of commercialization.

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[6] BNEF. https://www.bnef.com/core/insights/22745; https://www.bnef.com/core/data-hubs/7/43?tab=Capacity%20(historic)
[7] International Energy Agency. https://www.iea.org/reports/global-energy-review-2020/context-a-world-in-lockdown#abstract
[8] UtilityDive. https://www.utilitydive.com/news/covid-19s-untimely-hit-on-china-boosts-us-ranking-as-most-attractive-count/578490/
[9] International Energy Agency. https://www.iea.org/reports/renewable-energy-market-update

EERE recently prioritized some initiatives that would further support a strong domestic supply chain. These include the Grid Modernization Initiative (GMI), which works to develop the technologies needed to measure, analyze, predict, protect, and control the grid of the future, while the Energy Storage Grand Challenge is working to create and sustain global leadership in energy storage utilization and exports, with a secure domestic manufacturing supply chain. DOE's new Critical Materials Institute is an effort to create a broad National Laboratory-led consortium tasked with developing and implementing a multi-year program plan to diversify both supply and substitutes for critical minerals, which are of increasing importance as energy storage grows.

Earlier this year, the Administration proposed a 74 percent cut to EERE's budget and the elimination of ARPA-E. Fortunately, the House Appropriations Committee recently passed an FY 2021 Energy and Water Development bill that would maintain or modestly increase funding for these important initiatives. Congress should work to ensure that these vital and historically bipartisan clean energy innovation investments become law.

In May, the White House issued an Executive Order (EO) that places a ban on transactions involving unspecified bulk power system equipment from "foreign adversaries," including China. DOE is charged with implementing the EO. As the renewable industry awaits guidance due in September, the EO is already disrupting supply chains by freezing investment decisions over uncertainty regarding the scope of the final rule. A rapid decision of limited scope that is narrowly tailored to protect the operational security of the grid would best serve the continued resiliency of the renewable supply chain.

2. You testified that Congress should provide temporary refundability for energy-related investment and production tax credits (ITC and PTC, respectively). Such an approach could help project developers at a time when demand for tax equity is quite low. It could also benefit public power utilities and electric cooperatives- which collectively serve nearly 30 percent of all retail customers, but as tax-exempt entities cannot currently claim either the ITC or PTC.

    a. In your view, is making non-refundable tax credits such as the ITC or PTC available through direct pay or other refundable mechanisms a policy lever that could benefit customers of all electric power utilities?

    RESPONSE:

    Yes. Much of the nation's energy policy resides in the tax code where incentives like the Production Tax Credit (Internal Revenue Code Section 45) and the Investment Tax Credit (Internal Revenue Code Section 48) have

worked to facilitate tens of billions of dollars in annual U.S. investment and promote the ongoing transformation of the nation's power grid. While these incentives do not expressly exclude any power providers, tax credits cannot as a practical matter be directly used by public power utilities, which are exempt from federal taxes as units of state and local government. Refundability could be crafted to allow electricity providers not subject to federal taxation to nevertheless benefit from renewable tax credits, as long advocated by the American Public Power Association.[10]

The creation of a temporary refundability mechanism would also address serious concerns regarding the growing scarcity of tax equity critical for monetizing renewable tax credits. Just last week, Bloomberg projected a tax equity shortfall of $23 billion over the next 18 months, representing as much as 31 GW of renewable projects.[11] During the last economic downturn in 2009, Congress addressed the lack of tax equity by establishing Section 1603 of the American Recovery and Reinvestment Act that allowed for monetization of renewable tax credits through a Treasury grant program. The $25.7 billion invested through the Treasury 1603 grant program ultimately leveraged an additional $93.8 billion that funded 105,972 projects representing 34.5 GW of pollution-free renewable energy, or enough electricity to power more than 8.4 million homes.[12]

b. Could you describe the implications of provisions within the ITC and PTC excluding certain types of utilities, and in turn, their customers?

RESPONSE:

As described above, while the PTC and ITC do not expressly exclude public power, such utilities are exempt from federal taxes as units of state and local government and are therefore unable to directly benefit from tax credits under current law. As a result, customers of these tax-exempt entities may not able to benefit from the cost-savings associated with these credits in the same way as customers purchasing their electricity from for-profit power providers.

[10] American Public Power Association. https://www.publicpower.org/policy/need-comparable-incentives-public-power
[11] Bloomberg Green. https://www.bloomberg.com/news/articles/2020-07-15/covid-likely-created-23-billion-shortfall-for-u-s-clean-energy
[12] Treasury Department. https://www.treasury.gov/initiatives/recovery/Documents/STATUS%20OVERVIEW.pdf

The Honorable A. Donald McEachin (D-VA)

1. COVID-19 has had a significant impact on every sector of the U.S. economy, including the clean energy sector. Nationally, approximately 600,000 clean energy workers have lost their jobs during the pandemic, while many others have been furloughed or underemployed. This total represents an approximately 17.4 percent decrease in clean energy employment, and unfortunately, workers of color have been hardest hit. For example, Hispanic workers make up roughly 14 percent of the clean energy workforce, but represent nearly a quarter of all clean energy job losses.

    a. What accounts for the disparities in job losses for communities of color, and what actions should Congress take to ensure the clean energy sector rehires and rebuilds in a stronger and more inclusive way?

    RESPONSE:

    The following correlations may help explain some of the drivers behind these observed disparities:

    1. **States that lost the most clean energy jobs correlate with states with higher concentrations of Latinx/Hispanic populations (e.g. CA, TX, FL, NY).[13]**

    2. **Hispanic clean energy workers being disproportionately hit by job losses parallels the nationwide trend of Latinx/Hispanic workers experiencing a large proportion of COVID-related job losses in general. According to the Pew Research Center, 49% of Hispanics say someone in their household has lost a job, taken a pay cut, or both, due to COVID-19 compared to 33% of U.S. adults.[14]**

    3. **Many workers of color are employed in positions that have been most impacted by social distancing measures in response to the pandemic. According to The Solar Foundation, the highest proportion of Latinx/Hispanic solar workers are in construction, followed by general repair and maintenance. Both positions require onsite work for which demand plummeted after shelter-in-place orders and social distancing measures were implemented.[15]**

[13] U.S. Census. https://www.census.gov/quickfacts/fact/map/US/RHI725219
[14] Pew Charitable Trusts. https://www.pewresearch.org/fact-tank/2020/06/09/hispanic-women-immigrants-young-adults-those-with-less-education-hit-hardest-by-covid-19-job-losses/; https://www.pewresearch.org/fact-tank/2020/04/03/u-s-latinos-among-hardest-hit-by-pay-cuts-job-losses-due-to-coronavirus/
[15] The Solar Foundation. https://www.thesolarfoundation.org/wpcontent/uploads/2020/03/SolarJobsCensus2019.pdf

The following are examples of proposals and policy approaches that Congress can consider to help build a more diverse and inclusive renewable energy workforce:

- **The Blue Collar and Green Collar Jobs Development Act (HR 4601)**
- **Elements of the Clean Power Plan calling for a Clean Energy Incentive Program and other measures to reward investments in low-income and minority communities**
- **Using frameworks akin to Opportunity Zones to further incentivize clean energy projects (including distributed energy resource installations) in low-income and minority communities**
- **Authorization and funding for DoE's Energy Efficiency and Conservation Block Grant Program, State Energy Program, and Weatherization Assistance Program, all of which support Black and Latinx workers in the clean energy sector.**

b. We know that even before the coronavirus hit, diversity in the renewable energy sector was a place of much-needed growth and opportunity. What barriers exist to training and hiring people of color for these family-sustaining, green collar jobs, and what solutions could Congress provide to address these challenges?

RESPONSE:

A study conducted on the inclusiveness of Western North Carolina's local green-collar workforce revealed that the most common barriers to hiring women of color in green-collar jobs include lack of targeted recruitment (where women of color were not being targeted to apply for jobs in the first place), lack of relevant skills, workforce discrimination (including sexual and physical harassment), and a lack of networking and mentorship opportunities.[16]

An influential report by the Center for American Progress recommended embedding green-collar job training and workforce development in existing, funded programs – rather than creating new programs alone for green-collar jobs. Through these programs, the report suggests specifically targeting entry points to those unemployed and underemployed. Training programs

[16] Green Opportunities. https://greenopportunities.org/wp-content/uploads/2012/11/GO-YWCA-Inclusiveness-Study-FINAL.pdf

should consist of strong links to employers in the form of apprenticeships so that the training is targeted to jobs that are actually in demand.[17]

According to the Green-Collar Jobs Campaign by the Ella Baker Center, green-collar jobs can be supported by prioritizing green-collar job training in workforce development and government environment programs, and then providing adequate funding for these programs.[18]

Thank you again for the opportunity to testify. I hope my testimony and responses to your follow-up questions are helpful to the Committee's deliberations over how best to respond to the impact that COVID-19 is having on the renewable energy industry, as well as forward-looking policies that can help the renewable sector drive our nation's economic recovery.

[17] The Center for American Progress. https://www.americanprogress.org/wp-content/uploads/issues/2008/03/pdf/green_collar_jobs.pdf
[18] The Ella Baker Center. https://ellabakercenter.org/sites/default/files/downloads/making-green-work.pdf