House Select Committee on the Climate Crisis
Solving the Climate Crisis: Ramping Up Renewables
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Chairwoman Castor, Ranking Member Graves, Members of the Select Committee, good morning. It is my privilege to be here today on behalf of the 114,000 men and women working in the U.S. wind industry. I look forward to discussing the tremendous contributions American wind power is making, and how we can continue growing as part of the solution to the climate crisis. As the President and CEO of the American Wind Energy Association, I am proud to represent our 1,000+ member companies with a common interest in encouraging the expansion of wind energy in the United States. Our members include wind turbine manufacturers, component suppliers, project developers, project owners and operators, financiers, researchers, utilities, marketers, customers, and their advocates. Today wind energy is lowering the cost of electricity for American families and businesses, enhancing rural economies, and actively reducing U.S. emissions. Wind energy is an American success story, providing jobs, investment, manufacturing and economic and environmental benefits across the country. A few highlights:

- Today a record 114,000 Americans spread across all 50 states have jobs supporting the wind industry.
- Over 500 American factories in 42 states build many of the 8,000 parts found in a modern wind turbine.
- The industry is proud to hire America's veterans at a rate 67 percent higher than the national average.
- At least 69 percent of U.S. congressional districts have either an operating wind farm or wind-related factory, or both.
- The U.S. now has 97,223 MW of installed wind capacity, enough to power over 30 million homes. Wind supplied 6.5 percent of the country's electricity in 2018.
- At the state level, six states now generate at least 20 percent of their electricity using wind.
- In 2018, the U.S. wind industry invested $12 billion in new projects and paid over $1 billion in state and local taxes and landowners lease payments.
- As wind technology advances we're experiencing previously unseen levels of productivity. Wind farms built over the last five years have seen average annual capacity factors of 40 percent, with some individual projects in more recent years achieving over 50 percent, on par with certain types of conventional power plants.
- The U.S. offshore wind industry is primed to scale up. At the end of 2018, the U.S. had a potential offshore wind pipeline of over 25,700 MW spanning 10 states in the Northeast, Mid-Atlantic and Great Lakes regions.

Policies that have helped deploy renewables

Federal and state policies-- such as the production tax credit (PTC), state renewables portfolio standards, state procurements for offshore wind, and funding for Department of energy R&D-- have helped to spur wind energy development.

Production Tax Credit

Just as tax treatment for other energy sources has enabled growth and development, the PTC is an incentive that helped wind developers access the capital needed to build new wind projects. This incentive is phasing out this year. The PTC helped launch the wind industry as we know it. However, at times a lack of policy certainty around the PTC hampered the growth of American wind power. For many years, Congress cycled through the tax credit in one or two-year stints and allowed it to expire multiple times. This cyclical pattern resulted in boom-bust cycles of development. In December 2015, with strong bipartisan support, Congress agreed to an orderly phaseout of the PTC. This multi-year policy certainty created a business environment primed for growth, where investments in people, infrastructure, and manufacturing took hold.

State Renewable Portfolio Standards

State renewable portfolio standards (RPS), policies that require electric utilities to gradually increase the amount of renewable energy that they deliver to their customers, have also helped spur the development of this robust industry. By design, an RPS does not hand pick a technology; rather all renewables are able to compete, incentivizing cost reductions and efficiency gains. As a result, RPS policies encourage the growth of additional homegrown electricity sources that diversify our energy portfolios, spur local economic development and job creation, reduce pollution, cut water consumption, and save consumers money.

Today, 29 states plus the District of Columbia have RPS policies in place, while another eight states have non-binding renewable energy goals. State RPS targets range widely from 10 percent to 100 percent renewable energy. Many states have been expanding their targets in recent years and several others are considering future increases, showing the success of RPS programs to date. Historically, wind energy has been the top renewable energy technology of choice to meet RPS targets, accounting for 64 percent of all RPS-related renewable capacity additions to date.

Most importantly, the impact of RPS policies on consumers has been minimal, with many actually seeing lower electric bills because of them. Because wind's costs have fallen by 69 percent since 2009, it's the cheapest source of new electric generating capacity in many parts of the country.

State procurement for offshore wind

The U.S. has a vast offshore wind energy resource, possessing a power potential of more than 2,000 gigawatts (GW), nearly double the nation's current electricity use. This potential presents an enormous opportunity to deliver large amounts of clean and reliable electricity to the country's largest population centers, where it's needed most.

With world-class wind resources on the East and West Coasts and in the Great Lakes, infrastructure, and offshore energy expertise, the U.S. is primed to scale up offshore wind power. The U.S. Department of the Interior is charting a path forward for additional offshore wind lease areas. That will transform offshore wind's enormous potential into a concrete pillar of American energy dominance while spurring new manufacturing and shipbuilding.

State policies that require the purchase of offshore wind in Maryland, Massachusetts, New Jersey, New York, Rhode Island, and others are vital drivers for the offshore wind industry. These policies will help achieve scale and develop an American supply chain. With stable policy in place, the Department of Energy found that the U.S. could install a total of 22,000 megawatts (MW) of offshore wind projects by 2030 and 86,000 MW by 2050, creating thousands of well-paying jobs in coastal communities. A recent study by the University of Delaware's Special Initiative on Offshore Wind projects America's growing offshore wind industry represents a $70 billion capital expenditure revenue opportunity for businesses in the offshore wind power supply chain over the course of the next decade. And according to a study from the Workforce Development Institute, 74 different occupations are needed to build, operate and maintain an offshore wind farm.

Impediments to growth in wind energy industry

The difficulty in building transmission, the lack of a level playing field for all renewables, and the introduction of tariffs on the wind energy industry are impediments to the continuation of a robust industry.

Transmission

Electricity is the lifeblood of the modern U.S. economy. The ability to get electrons from where they are generated to where they are consumed is essential to virtually everything Americans do. Yet, our electricity grid is aging and needs sustained attention and investment in order to provide reliable, affordable service to families and businesses. Consumers currently pay approximately $6 billion in annual transmission congestion costs. In fact, the American Society of Civil Engineers rates the country's electric grid an unacceptable D+.

Transmission provides dozens of quantifiable benefits, such as facilitating access to lower-cost electricity generation, reducing the need to build additional generation to hold in reserve, facilitating robust electricity markets, providing economic development and jobs, and helping meet public policy requirements, among other benefits. In short, expanding transmission access provides consumers with lower cost electricity while enhancing the reliability and resiliency of our power system.

Fortunately, dozens of studies from across the country show that transmission line investments pay for themselves many times over by reducing electric bills, and real-world examples bear this out:

- SPP found that the transmission upgrades it installed between 2012 and 2014 created over $16 billion in gross savings – 3.5 times greater than the cost of the transmission upgrades.
- MISO found that recent transmission investments will provide $12 to $53 billion in net benefits over the next 20 to 40 years, or between $250 and $1,000 for each person currently served by MISO – 2.2 to 3.4 times greater than the cost of the transmission.

Wind energy continues to be the lowest-cost source of new generation in many parts of the country, even compared to rooftop solar. Wind is also one of the most cost-effective means to reduce carbon emissions, and cut 43 million cars' worth of carbon emissions in 2018 alone. Transmission is critical to accessing this reliable, low-cost, location-constrained zero-carbon resource. When congestion occurs on the transmission system, wind generators are sometimes curtailed, which means that more expensive

and dirtier generation is dispatched to meet customers' demand. With a robust transmission grid, regional grid operators can cost-efficiently and reliably balance variable resources across diverse geographic areas, allowing carbon reduction to be more cost-effective.

The key to expanding and upgrading the transmission grid is workable policies for how transmission is planned, paid for, and permitted. In 2011, the Federal Energy Regulatory Commission (FERC) took an important step in the right direction with Order No. 1000, which established further requirements and principles related to how transmission is planned and paid for on a regional and interregional basis. While Order No. 1000 made some strides, more must be done to ensure efficient and cost-effective transmission solutions are available. Congress should encourage FERC to take steps to better deliver on Order 1000's promise and ensure a regulatory environment that incents transmission infrastructure, aligning it with the future needs of the grid, such as meeting climate goals.

The cost of carbon emissions is not reflected in markets

The societal cost of emitting carbon is not currently captured in today's markets. Pricing carbon dioxide, especially on the national level, would remedy this market failure. Society faces a dual energy challenge: we need to expand energy supplies to support economic growth and improve living standards, and we must do so in a way that addresses the clear risk posed by carbon emissions contributing to climate change. Fortunately, these goals are not mutually exclusive because of the rapid decline in zero-emitting technology's costs, in particular renewable energy.

Strong and consistent policy signals at the national, regional and state levels that internalize the cost posed by carbon emissions can promote a smooth and affordable transition to a cleaner, more sustainable, economy.

Unlevel playing field

In absence of broad federal policy, the U.S. tax code has been a de facto source of energy policy for the last century, but the numerous energy-related incentives in the tax code have made the energy tax landscape unnecessarily complex. Different energy technologies still receive varying levels of support across divergent time periods without a unifying public policy rationale and fairness across the technologies. Congress should further simplify energy tax policy and create a level playing field by providing a widely applicable, transferable technology neutral tax incentive, based on carbon emissions, that thereby puts an implicit or explicit price on carbon to build our economy and lower prices for consumers. There are multiple legal and regulatory approaches that can accomplish this goal. This approach would create a more level playing field among energy generation technologies. Further, the clear goal of greenhouse gas reductions forming the basis of the credit would provide a stable incentive that increases business certainty.

Tariffs

The U.S. wind industry supports 114,000 high-paying jobs spread across all 50 states, many at more than 500 factories that build wind-related parts. While AWEA appreciates the administration's actions to remedy unfair trade practices and increase American competitiveness, the enacted high and sweeping tariffs on products and component parts used in wind energy development will substantially increase

the cost of doing business for U.S. wind energy developers. This hurts U.S. manufacturers and makes energy less affordable for the millions of Americans who rely on wind power to provide affordable energy. It also hampers the administration's progress on goals concerning U.S. economic development, energy dominance, infrastructure improvements, job creation, and support for rural communities. The potential increase in wind energy's costs and, in turn, the potential reduction of future wind deployment, if the Section 301 and Section 232 steel and aluminum tariffs are not soon lifted, will:

1. Eliminate thousands of American jobs, mostly in rural America where these jobs are desperately needed; including the loss of domestic manufacturing jobs as the wind industry reduces U.S. manufacturing of wind components in states like Colorado, Texas, and Ohio; and

2. Devastate already struggling farming and ranching families in states like Iowa, Kansas, Oklahoma, North Dakota, and South Dakota, who count on turbine land-lease payments as a drought-resistant cash crop.

I appreciate the opportunity to participate in the conversation on how to continue the growth of wind energy and contribute to addressing the climate crisis.