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Chairman Manchin, Ranking Member Barrasso and distinguished members of the committee, thank you for the opportunity to testify on behalf of the Department of Energy (DOE) on the role of energy infrastructure in achieving the Biden-Harris Administration clean energy and jobs goals, the Department's authorities and capabilities, and the Department's initial evaluation of the infrastructure discussion draft from this committee.

We all know that 21st Century modern infrastructure is critical to a prosperous America and our future. Infrastructure is the backbone of our society. It is roads and bridges; the electrical grid that keeps the lights on; ports, airports, and trains; the pipes that pump water into our homes; schools and buildings; and the broadband that both brings the world and learning to our children and brings opportunity to our businesses. Infrastructure is expansive, it creates jobs, and it improves the economic vitality in all pockets of America.

Affordable, clean, reliable, and secure energy plays an essential role in the U.S. economy. In addition to advancing our core science and security missions, DOE has wasted no time to jump-start efforts to create jobs and build the clean energy economy of the future, an economy that works better for American families and an economy that works for all kinds of communities with jobs for all kinds of workers. We set ambitious new goals to cut solar costs by more than half and add 30 gigawatts of offshore wind capacity by 2030. We must deliver these goals while addressing long-standing and persistent racial and environmental injustice and taking action to benefit disadvantaged communities who have for too long borne the disproportionate share of environmental and health impacts or who are at risk of being left behind during energy transitions. We have worked with other agencies to identify nearly $38 billion in existing federal resources to help the hardest-hit areas as they shift their reliance on fossil fuels. We are, in addition, leading the interagency working group on coal and power plant communities to promote job-creating investments in communities already impacted by the energy transition. With droughts, heat waves, and wildfires plaguing the West and straining our energy system, we face the need to enhance our power grid, making it more resilient against all forms of extreme weather. Additionally, the ransomware attack on Colonial Pipeline underscores the urgent need for greater investment in cybersecurity across all critical infrastructure sectors. We have engaged

the private sector on strategies for hardening our critical infrastructure against these evolving threats as well as strengthening our energy security through a multiagency effort to bolster domestic supply chains for key components of our energy system such as the lithium batteries we need for both energy storage and electric vehicles.

While we are encouraged by the discussion draft introduced by Senate Energy and Natural Resources Committee and the visible alignments with key parts of the American Jobs Plan, we firmly believe that the challenge will not be met without an effort on the scale of the American Jobs Plan. We look forward to working with you throughout the legislative process.

American Jobs Plan

In March, President Biden released the American Jobs Plan. This represents the biggest investment in America since World War II and is a once-in-a-generation investment in our nation's economy and especially in our energy infrastructure and our ability to win the global energy market. This plan will put millions of Americans to work and lay the foundation for economic growth for decades to come. The ambitious investment outlined in the American Jobs Plan properly recognizes the urgency not only for us to address critical infrastructure needs, but also to address head on the challenges posed to our security and our economy by the climate crisis. We need no more warning bells—our carbon emissions reductions are not yet close to the levels needed to avoid the worst impacts of climate change. The American Jobs Plan recognizes the urgency of the climate problem and the importance of building a stronger and more equitable foundation for economic growth by proposing an ambitious investment in building a new clean energy economy. That includes accelerating our global leadership in clean energy R&D and climate science, boosting innovation by standing up the full range of demonstration projects envisioned by this committee in the Energy Act of 2020, and committing the resources necessary to actually deploy zero-carbon technologies that can deliver clean affordable energy to every community. Most critically, it includes the resources to rebuild our manufacturing base, to stand up the factories that will make America a global leader in manufacturing the clean energy technologies that will be the foundation of this century's economy. Through the American Jobs Plan, our country will lead global markets in manufacturing clean energy technologies, providing good-paying jobs to the American people and allowing them to support their families and strengthen their local economies. A priority of the American Jobs Plan and of Secretary Granholm's is leaving no community behind: the proposal specifically prioritizes energy transition communities, including coal communities, as well as disadvantaged communities who for too long have borne the disproportionate share of environmental and health impacts.

President Biden's plan will mobilize private investment to modernize our power sector. This starts with proposing a ten-year extension and phase down of an expanded direct-pay investment tax credit and production tax credit for clean energy generation and storage. These credits will be paired with strong labor standards to ensure the jobs created are good-quality jobs with a free and fair choice to join a union and bargain collectively. It will support state, local, and Tribal governments choosing to accelerate this modernization through complementary policies – such as clean energy block grants that can be used to support the zero-carbon energy programs and projects that best fit their local needs and that promote high-quality jobs, and environmental justice. It also will use the federal government's purchasing power to procure 24/7 carbon-free

electricity for federal buildings and transition to a zero-emission federal fleet. It ensures that the combination of investments both leverages private-sector action and meets our goals for zero-carbon energy in a way that can be customized for each state with a clean electricity standard, like those that have been adopted in a wide range of states on a bipartisan basis as proven tools for delivering low-cost zero-carbon energy.

The American Jobs Plan also recognizes the need to modernize and make resilient our electric transmission system to better withstand extreme weather, to be more secure against attempts at cyber intrusion, and to move cheaper, cleaner electricity to where it is needed most. It creates a targeted investment tax credit that incentivizes the buildout of at least 20 high-voltage capacity power lines and mobilizes tens of billions in private capital off the sidelines – right away. Additionally, it establishes a new Grid Deployment Authority at DOE that would coordinate existing authorities and support creative financing tools to spur additional high priority transmission lines to meet state, regional, and national needs.

Reports estimate that the race for clean energy technologies that reduce carbon emissions constitutes a $23 trillion global market – in emerging markets alone – over the next decade. The size of America's share will depend on smart manufacturing investments that give our workers and companies the tools they need to compete. The American Jobs Plan will invest $300 billion to retool American manufacturers and small businesses including extending the 48C tax credit program which supplies clean energy projects with American-made parts and equipment and $52 billion for existing access-to-capital programs to support modernizing supply chains for electric vehicles and other clean energy and grid technologies.

The American Jobs Plan also recognizes the need to invest in demonstrating next generation technologies and doing so in a way that ensures distressed communities are not left behind in the energy transition. It will invest in 15 hydrogen demonstration projects and demonstrate carbon capture retrofits on 10 industrial facilities. It will invest $15 billion in demonstration projects across these and other technologies authorized in the Energy Act of 2020, including utility-scale energy storage, advanced nuclear, floating offshore wind and others.

These examples give a sense for the breadth, depth, and necessary scale of the American Jobs Plan. In addition, DOE has many existing authorities and capabilities that position it to take on this once-in-a-generation challenge and lead us through the next decade. DOE, with the support of Congress, has been given a robust set of tools to leverage strategically across the entire research, development, demonstration and deployment value chain. These tools have already driven dramatic advancement in many of the clean energy technologies we need to achieve a zero-carbon future, such as setting a solar energy cost target and achieving it nearly four years earlier than expected and we are ready to do so much more. With these tools and the additional tools included in the American Jobs Plan, DOE has the power to achieve the goals set by this administration.

The Department has and is using its Congressionally provided tools to build infrastructure that will power a modern, resilient, clean economy. And with additional tools, and DOE can build on that foundation to accelerate job creation, economic competitiveness, and decarbonization.

Infrastructure Discussion Draft

The Department is pleased to see many pieces in the Senate Energy and Natural Resources infrastructure discussion draft inspired by the American Jobs Plan and taking important steps to advance the Energy Act of 2020.

Under this committee's leadership, the bipartisan Energy Act of 2020 laid out a roadmap for our research, development, demonstration, and deployment of advanced nuclear technology, carbon capture, geothermal, wind, solar, critical materials, and so much more. The infrastructure discussion draft builds on the Energy Act of 2020 and appropriates critical funding towards many of the demonstrations authorized in that Act, including energy storage demonstration projects, advanced reactor demonstration projects, direct air capture technology prize competitions, industrial emissions demonstration projects among others. Demonstrations are a key step in scaling technology solutions and can create good-paying jobs with a choice to join a union and collectively bargain. The infrastructure discussion draft goes beyond the Energy Act of 2020 in key areas like hydrogen hubs and manufacturing, scaling carbon transportation and storage, and cybersecurity. We see these areas as consistent with the American Jobs Plan.

The infrastructure discussion draft builds on the Critical Minerals title in the Energy Act of 2020 and establishes a grant program for battery material processing and manufacturing as well as a recycling and second life application program for electric vehicle batteries and other advanced energy products. Advanced, lithium-based batteries play an integral role in 21st-century technologies such as electric vehicles and grid-scale storage that will be critical to securing American's clean energy future. Today, the U.S. relies heavily on importing advanced battery components from abroad, exposing the nation to supply chain vulnerabilities that threaten to disrupt the availability and cost of these technologies as well as the workforce that manufactures them. Demand for EVs and stationary storage alone is projected to increase the size of the lithium battery market five- to- ten-fold by the end of the decade, underscoring the need for strong and swift policy action to support a robust domestic supply chain, as well as the opportunity to establish leadership in a market that will be expanding globally. The discussion draft provides essential funding aligned with the critical areas recently outlined in the Federal Consortium for Advanced Batteries' National Blueprint for Lithium Batteries, which DOE released. When it comes to expanding supply chains, we think an even greater and broader investment is warranted, both in terms of the scale of investment appropriate to securing supply chains and expanding manufacturing in the battery and vehicles space, as well as in other sectors. These investments must ensure sustainable production, refining, and recycling capacity domestically, while ensuring strong environmental, environmental justice, and labor standards and meaningful community consultation, including with Tribal Nations. U.S. workers could have major opportunities in new manufacturing to support a range of zero-carbon technologies, from steel manufacturing for offshore wind and solar support structures in Appalachia to shipbuilding in the Gulf states. The American Jobs Plan proposes a broader approach, including resources to help retool factories and transition existing workforces.

The discussion draft also includes a number of provisions that will help upgrade our nation's electricity transmission system to build the modernized, resilient and efficient grid that the country so clearly needs. The provisions are consistent with the President's vision for a Grid

Deployment Authority at the Department of Energy. The draft would enable DOE to provide needed funds to states and utilities to invest in hardening, expanding, and modernizing the grid, including through the State Energy Program. The draft proposes an innovative financing tool that could allow DOE to help address the "chicken and egg" problem in which transmission customers may be unwilling to sign up before a project is built despite the project financing's contingency on customer commitments. By authorizing DOE to serve as an "anchor customer" on new lines and resell its capacity once a line is built, the Transmission Facilitation Program proposed in the discussion draft could reduce some of the risks of building interregional transmission. Additional financing tools, such as the ability to engage in public private partnerships, an authority we already have in certain geographies, and to seek cost recovery for investments, could unlock billions in additional, critical interregional projects. I also want to highlight the discussion draft's proposals to improve transmission planning, cost allocation and siting. With additional resources and authorities as proposed in the American Jobs Plan, DOE and its National Laboratories could also play a key role in assisting states, regional grid operators, and the Federal Energy Regulatory Commission identify and help to address interregional transmission needs.

When it comes to modernizing the nation's power grid for the net-zero economy that is our future, the American Jobs Plan of course goes further, with bigger investments that we believe will deliver greater benefits, including jobs and energy affordability. The discussion draft includes a number of promising clean energy grant programs for entities including states, schools and nonprofits. The American Jobs Plan proposes a more flexible state block grant program that would enable the Department to work with states to address these needs and more, tailoring programs to create jobs and address energy needs customized for each state. The American Jobs Plan also proposes a clean energy standard that would further leverage private-sector investment, creating jobs and delivering a locally tailored mix of clean energy. The discussion draft also includes a program to retain the existing nuclear fleet, a critical priority the American Jobs Plan also supports. A clean energy standard would also support this goal. Additionally, the committee could consider extending the credits for longer than the five years in the discussion draft.

One key tool the Department has to unlock investments in clean energy technology is the Loan Programs Office. The draft makes important revisions to the existing authority including clarifying the eligibility of the Title XVII program to include projects that increase domestic supply of critical minerals and expanding the ATVM program to include medium- and heavy-duty vehicles, trains, and marine transportation.

This draft proposal also provides critical funding to help enhance the energy efficiency of our homes, buildings, and schools and to spur local jobs and industries by providing $550 million for the Energy Efficiency and Conservation Block Grant Program (EECBG), and $3.5 billion for the Weatherization Assistance Program (WAP).

DOE stands ready to work with the committee on these programs and expanding their reach. For example, as currently authorized, 98 percent of the EECBG funding would be allocated by

formula, and only 2 percent would be available for competitive grants. Given the varying needs and interests of communities across the country, a more targeted approach may be warranted, including giving greater consideration for communities going through energy transitions and those that have been historically disadvantaged. WAP is a foundational building block of DOE's vision for a clean energy future for all, delivering on a national objective to increase the energy efficiency of dwellings owned or occupied by low-income persons, reduce total residential energy costs, and improve health and safety. Expanded weatherization funding could allow addressing repairs that typically delay weatherization by, for example, patching a roof. The American Jobs Plan proposes a significantly larger investment in weatherization and in modernizing our homes and building stock with both rebates and, as discussed earlier, flexible state block grants.

Conclusion

As a nation, we stand poised at a generational opportunity to invest in our infrastructure, capitalize on a $23 trillion global clean energy market, and create millions of good-paying careers that make our grid, our homes, our communities safer, cleaner, and more resilient. This opportunity requires us to invest at the scale required to meet the climate crisis, and ensure opportunities for the communities who have built this country and who have long been left behind.

The Senate Energy and Natural Resources infrastructure discussion draft is an important step in advancing the dialogue to help modernize and protect critical aspects of our grid, unlock additional capital and resources, and help launch some of the key technologies needed to transform our economy. But in order the fully realize this generational opportunity to Build Back Better, we believe Congress must enact the American Jobs Plan.