May 20, 2021

Chairwoman Kathy Castor
House Select Committee on Climate Crisis
H2-359 Ford House Office Building
Washington, DC 20515

RE: POWERING UP CLEAN ENERGY: INVESTMENTS TO MODERNIZE AND EXPAND THE ELECTRIC GRID

Dear Chairwoman Castor,

On behalf of the Solar Energy Industries Association (SEIA), I first want to thank you for your leadership on behalf of the American people and the aggressive work you have already undertaken during the beginning days of this 117th Congress to get us on a trajectory to a 100% clean energy economy by 2050. As the House Select Committee on Climate Crisis discusses policy solutions at a hearing titled *"Powering Up Clean Energy: Investments to Modernize and Expand the Electric Grid,"* I wanted to give you some specific details on how the solar+storage industry continues to work aggressively towards your goals and President Biden's goal of a 100% clean energy future, which the nation so desperately needs and deserves.

SEIA has set a goal of solar+storage energy comprising 20% of the U.S. electricity mix by 2030. We have denominated the upcoming 10 years as the "Solar+ Decade" to represent not just the immense amount of solar and energy storage that must be deployed for the U.S. to reach both the committee's goal and those stated in the Intergovernmental Panel on Climate Change (IPCC) goal for climate mitigation. If we achieve this goal, the solar industry will have generated hundreds of billions of dollars in investment and created hundreds of thousands of American jobs.

First, we want to commend you for advancing the Transmission Siting Assistance Program and the Interconnection Cost Allocation Bill. These bills advance exactly the kind of policy needed to meet our clean energy future.

As this Congress progresses towards a clean energy future, investment in infrastructure, particularly transmission, will be paramount to achieving America's path to 100% clean electricity. In its 2021 Infrastructure report card, the American Society of Civil Engineers gives the U.S. a grade of "C-" for its energy infrastructure. We continue to under-invest in our grid, and that costs customers, both in terms of dollars paid for electricity (more transmission reduces congestion, allowing access to cheaper generation) and wages/economic output lost due to outages. Additional transmission investment could save customers $50 billion annually and reduce electricity bills by 10%.[1] Transmission investments often provide benefits two to four times greater than their costs. As we transition to a renewable-based electric system, transmission is needed to access renewable resources and deliver clean solar power to customers. And we need to replace aging infrastructure and build new grid infrastructure that meets the needs of our electrifying economy.

The Federal Energy Regulatory Commission's (FERC) Order No. 1000 did not achieve the goals of smoother inter-regional transmission planning and opportunities for competitively built transmission, in part because it required states to commit to paying for proposed projects before it could be approved. Some states do not have clear mechanisms through which to do this, and cost-sharing between states on what was public purpose, what was reliability, and what was market efficiency were not easily resolved.

In general, SEIA believes that competition has the dual benefits of lowering costs and increasing innovation. FERC, state policymakers, and planning regions should revisit Order No. 1000 to see if

[1] *WIRES Report: Well-Planned Electric Transmission Saves Customer Costs: Improved Transmission Planning is Key to the Transition to a Carbon-Constrained Future*. The Brattle Group, Johannes Pfeifenberger and Judy Chang (June 2016).

modifications are warranted to better attain its goals. Even better, Congress should provide the necessary incentives and policies necessary to encourage FERC, states, public utilities, and wholesale markets to drive needed transmission investment.

In many areas, transmission upgrades will be needed to interconnect new renewable generation, a challenge which every solar and storage developer faces. Solar projects can often be sited relatively close to population centers, making interconnection and localized transmission critical to scaling solar deployment.

Interconnection is the act of mechanically connecting a distributed generation project (solar, energy storage, wind) to the local distribution electric grid. Interconnection can require electrical improvements to existing infrastructure or require construction of brand-new facilities. Such upgrades range in complexity from erecting new poles and wires to replacing an area substation or even upgrading transmission equipment.

Utilities typically charge solar developers the full cost to upgrade their systems to accommodate the new generation source. Interconnection rules define how a generation system, such as solar photovoltaics (PVs), can connect to the grid. In some areas of the United States, the interconnection process lacks consistent parameters and procedures for connecting to the grid or is unnecessarily complex. This drives up costs and causes delays, which can be significant barriers to project development. The ability to interconnect to the grid in a cost-effective and timely manner may determine whether a project moves forward or not.

Beyond interconnection, the replacement of aging transmission assets coupled with transmission expansion to strengthen the grid and decrease congestion will be big drivers of new transmission investment. But we also need to focus on the effects of regional transmission planning. As of today, for SEIA's goal for solar+storage to power 20% of the nation's electricity needs by 2030, no wholesale market in this country has run a transmission planning scenario that puts solar generation at 20% of their anticipated load in the next decade – except for California. With this lack of foresight, we will always be behind on our transmission investments.

Further, state renewable energy portfolio (RPS) policies vary in their implementation – some have higher in-state requirements, some allow wholesale market wide renewable energy credits, so the impact on transmission is a function of how the policies are designed and not simply the headline renewable requirement.

There are transmission success stories. Texas's Competitive Renewable Energy Zone (CREZ) and MISO's Multi-Value Projects (MVPs) were successfully planned and have built transmission to interconnect expected areas of renewable energy build-out (primarily wind). However, these success stories are few and far between and we cannot rely on existing policy to deliver the investment that we will need to meet the climate crisis. In order to achieve deep decarbonization, we need policymaker commitment to transmission and solutions to cost allocation, along with new incentives for renewable generation.

We have an opportunity unlike ever before to plan the transmission build-out for what the next 100 years will look like. Transmission Planners need to take into consideration the growth in renewables (20% or more for solar), the need for distributed solar, storage, and other technologies too. We must not also forget that as the transportation sector is further electrified, grid planners need to anticipate consumers using electricity to power their vehicles, both at home and at distinct infrastructure points like the communal charging stations which will take automation of building systems and greater electrification of the economy overall. While no one can predict the future with accuracy, being visionary as we approach transmission investment will yield better outcomes.

Lastly, we must address the important need for energy storage. When combined with other technologies, energy storage systems add value to the total system. Distributed energy systems with energy storage extend grid reliability to both sides of the meter. Paired with renewable

energy generation, the technology makes the renewable electricity dispatchable and able to be used with demand management systems to shift peak loads. Energy storage, when merged with aging infrastructure, improves performance, and extends the service life of equipment.

Battery storage will also empower the grid in multitude of ways; similar to a Swiss Army knife, it can offer solutions depending on the need. It is important to not box storage into a category of transmission or generation. For utilities, energy storage can deliver reduced operating costs, increased renewable integration, and decreased dependence on fossil-fuel generation. For grid operators, storage can provide a more efficient balance between supply and demand, avoid system upgrades, and improved reliability. Commercial consumers see reduced electricity bills, generated revenue, and control of power disruptions. To the residential consumer, it provides the security of backup power during blackouts and the benefit of reduced electricity bills.

Important legislation is being considered that, constructed correctly, will push us towards a decarbonized future, such as clean energy standard and extending the ITC. We also encourage complementary policy that encourages competitive markets to exist which provide access to more renewables and to minimize hurdles to interregional planning and new transmission development.

SEIA is proud of our industry's contribution to decarbonizing the electricity system, but we know we still have a long way to go. Thank you for your consideration of these policies and continued dialogue with the solar and storage industry.

Sincerely,

Sean Gallagher
Vice-President
State & Regulatory Affairs