Congress of the United States
Washington, DC 20510

April 29, 2022

The Honorable Marcy Kaptur
Chairwoman
Energy & Water Appropriations
2362-B Rayburn House Office Building
Washington, D.C. 20515

The Honorable Mike Simpson
Ranking Member
Energy & Water Appropriations
1001 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairwoman Kaptur and Ranking Member Simpson:

We write to request that Fiscal Year 2023 Energy and Water Appropriations provide robust funding for high-voltage transmission deployment and research through the U.S. Department of Energy's (DOE) Grid Deployment Office (GDO), Loan Programs Office (LPO), and Office of Electricity (OE).

The expansion and modernization of our national power grid is central to meeting our urgent climate and energy security goals. Through the recently enacted Infrastructure Investment and Jobs Act (IIJA), the federal government invested $2.5 billion in direct spending for new transmission projects. However, studies demonstrate that deep decarbonization of our economy will require between $200 or $300 billion in investments for new interregional transmission to meet our climate goals.[1,2,3,4] A study of recent severe weather events also demonstrates the importance of added transmission to energy security, finding that greater transmission between the Texas power grid (ERCOT) and the Southeastern U.S. could have provided $1 billion in savings per GW of transmission and supplied electricity for approximately 200,000 homes.[5]

Given that federal investment in transmission infrastructure would adapt the grid to withstand the effects of climate change, lower electricity costs for consumers, and provide greater access to clean and reliable electricity, we also encourage the Subcommittee to consider the following:

- **Additional Funding for Deployment of Technologies to Enhance Grid Flexibility:** The IIJA expanded the GDO Smart Grid Investment Matching Grant Program to enhance electric systems resilience. We request additional federal funding of at least $600 million to the Office of Electricity, particularly through its Transmission Reliability and Resilience; Resilient Distribution Systems; and Applied Grid Transformation Solutions programs, to increase grid flexibility nationwide and improve resiliency to extreme weather, disasters, and cyber-attacks. This funding would also support grants that enable the purchase and installation of advanced transmission

[1] https://acee.princeton.edu/rapidswitch/projects/net-zero-america-project/
[2] https://www.evolved.energy/post/sdsn-zcap
[3] https://www.cell.com/joule/fulltext/S2542-4351(20)30557-2
[4] https://cleanenergygrid.org/publications-news/publications/
[5] https://acore.org/transmission-makes-the-power-system-resilient-to-extreme-weather/

technologies that will increase the operational transfer capacity of a transmission network and improve responsiveness to changing system conditions.

- **Funding for Title XVII—Loan Guarantees**: Full decarbonization of the electric sector will require significant new investments in transmission and scaling up loan guarantees will support this necessary expansion. Given that the IIJA did not increase funding for the DOE LPO Title XVII program, we request that action be taken to enable several billions in additional lending authority to support projects such as new and improved advanced grid integration and storage, transmission lines, and offshore wind infrastructure.

- **Moonshot for Converter Stations:** High voltage direct current (HVDC) converter stations are the costliest component of long-distance transmission that will increase access to affordable and reliable clean energy. With this in mind, we request $100 million in funding for an HVDC moonshot initiative to support R&D to bring down HVDC technology and long-distance transmission costs, including for nascent superconducting technology. These cost reductions would allow for more "pick-up" and "drop-off" stations, which would enable more local connections to the grid and expand benefits to communities along transmission corridors. Additionally, advanced HVDC technologies can potentially provide services, such as Black Start capability, that support reliability and security. The Office of Electricity's Transformer Resilience and Advanced Components program should work collaboratively across the Office of Electricity and Grid Deployment Office to implement an HVDC moonshot initiative.

Additionally, we are supportive of language asking DOE to conduct a study on the benefits of establishing an energy conservation standard for overhead electricity conductors. Advanced conductors are high-voltage, modernized power lines that can help reduce line losses by 25-40%, which increases energy efficiency and reduces harmful carbon pollution. By replacing legacy conductors with advanced conductors on existing system structures at constrained points on the grid, we would quickly and cost-effectively add greater reliability, resiliency, and flexibility to the grid. Currently, DOE has the authority to establish efficiency standards for industrial equipment. However, requesting DOE conduct a study on the environmental, energy, and renewable energy benefits of establishing an energy conservation standard for overhead conductors would be a necessary step forward to ensure advanced conductor technologies are widely utilized and facilitate the decarbonization of our grid.

We understand the Committee is facing many competing priorities and limited resources, but we respectfully request that you continue to support the progress that has already been made through investments in transmission and grid infrastructure in the Fiscal Year 2023 Energy and Water Appropriations Bill.

Thank you for your consideration.

Sincerely,

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Washington, DC 20510

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