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Thank you Chair Castor, Ranking Member Graves, and members of the Committee for inviting me to speak today.

My name is John Larsen, and I am a director at Rhodium Group, an independent research firm whose research informs decision-makers in the public, private, and philanthropic sectors. I lead Rhodium Group's US energy systems research, where we focus on analyzing clean energy policies, emerging clean technologies, and market trends. I am also a non-resident senior associate in the energy security and climate change program at the Center for Strategic and International Studies.

I appreciate the opportunity to speak with you today about how Congress can create financial incentives and investments to accelerate clean energy technologies and create good-paying jobs. To tackle the challenge of climate change, the US needs to rapidly deploy clean energy technologies across the energy system and quickly cut carbon pollution. There are a variety of policies that can accelerate this transition. Recent Rhodium research shows that updating and enhancing clean energy tax credits have the potential to increase the average annual rate of wind and solar installations on the grid by more than double last year's record of 30 gigawatts. An enhanced clean energy tax credit framework can drive electric power CO_2 emissions down as much as 73% compared to 2005 levels and save or create up to 600,000 jobs on an annual average basis. All this can be done with little impact on national average electric bills while cutting harmful SO_2 and NO_x pollution in half from today's levels in just five years.

While electric power CO_2 emissions have dropped in the US by 40% since 2005, our research shows that under current policy, including the current tax credit regime, this progress will stall out in the next few years. At best, the electric power sector maintains emissions in the range of 46%-50% below 2005 levels in 2030 without new federal action.[1]

Modernizing clean energy tax credits for the decade ahead can cut US electric power sector CO_2 emissions to 64-73% below 2005 levels in 2031.[2] This is up to eight times more emission reductions than simply extending the current clean energy tax credit framework. To achieve these outcomes, Rhodium Group identified five critical improvements to the current tax credit framework. They are:

[1] (Larsen, King, Kolus, & Herndon, Pathways to Build Back Better: Investing in 100% Clean Electricity, 2021)
[2] (Larsen, King, Kolus, Dasari, & Herndon, Pathways to Build Back Better: Maximizing Clean Energy Tax Credits, 2021)

- One, extend the investment tax credit (ITC) and production tax credit (PTC) over a long-term period, such as ten years.

- Two, increase the value of tax credits back to their initial levels of 30% of project costs for the ITC and $25/megawatt hour for the PTC.

While these first two points are essential, alone, they cut US electric power emissions down to as low as 55% below 2005 levels in 2031. Adding more enhancements can amplify these reductions.

- Three, provide flexibility to allow developers of any clean generating technology to claim the ITC or PTC, whichever makes the most sense in each situation.

- Four, provide a direct pay or refundability provision to prevent financing bottlenecks that could constrain clean energy deployment.

All four of these enhancements together can drive emissions down to as low as 61% below 2005 levels in 2031.

- The US can double these gains by including a fifth enhancement: incentivizing existing clean energy resources to stay on the grid. Retaining economically distressed existing clean generators such as nuclear plants helps to make sure that all new clean energy additions to the US grid only displace uncontrolled fossil generation, accelerating progress towards clean energy goals.

These five enhancements combined can slash emissions and save or create hundreds of thousands of jobs. Even after accounting for declines in fossil fuel jobs, enhanced tax credits can create or retain up to 600,000 jobs on an annual average basis from 2022 through 2031. Clean energy tax credits have the potential to establish renewable energy as the largest energy sector employer in America over the next decade, surpassing oil and natural gas.[3] Enhanced tax credits can also serve as a foundation to complement other policy actions such as a clean electricity standard and pollution regulations. Congress can also tailor tax credits to help achieve other policy goals, such as supporting emerging clean technologies and directing investment toward disadvantaged communities.

Rhodium Group recently published research that explores how tax credits can accelerate clean energy deployment in the transportation[4] and industrial[5] sectors of the energy system as well. Thank you again for the opportunity to testify today. I look forward to your questions about our research and findings.

References

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[3] (Larsen, Mohan, & Houser, Pathways to Build Back Better: Jobs from Investing in Clean Electricity, 2021)
[4] (Larsen, King, Kolus, & Wimberger, Pathways to Build Back Better: Investing in Transportation Decarbonization, 2021)
[5] (Larsen, King, Hiltbrand, & Herndon, Capturing the Moment: Carbon Capture in the American Jobs Plan, 2021)

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