

**Statement by Michael Skelly**

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Good morning Chair Castor, Ranking Member Graves, and members of the Select Committee, and thank you for the opportunity to testify before you today.

My name is Michael Skelly and I am founder and CEO of Grid United, an early stage transmission development company. I have spent the last 25 years developing a wide variety of energy projects. I got involved in the US wind industry in the late 90's, and helped put together thousands of megawatts of new wind projects. In 2009 I started a company called Clean Line Energy which focused on interstate power lines to move renewable energy around the country. We successfully permitted a three-state high voltage, direct current transmission line. We sold off our projects several years ago to other developers who are carrying them forward. Indeed, our Western Spirit project is now under construction in New Mexico.

I live in Houston, Texas, which is fast becoming a national center for renewable energy development. The combination of an entrepreneurial ethos, abundant wind and solar in Texas' wide open spaces, an open access grid, and policy innovation that began with then Governor George Bush and continued with Governor Rick Perry's push to expand Texas' transmission system, has made Texas a leader in wind and solar, and we are now witnessing an explosion in energy storage installations.

The recent outages of winter storm Uri are not the subject of today's hearing, but must be mentioned. As we all know, for four days in February, 4.5 million Texans became harshly aware of the grid and its critical importance to everything we do. Importantly, Texas' high voltage grid itself held up quite well and few outages were attributed to transmission problems, but generators, including gas, nuclear, coal and wind generators all had problems. No generation source covered itself in glory. One key lesson from the Texas experience is that the transmission investments initiated by Governor Perry made a bad situation less awful. Another key lesson is that networked systems perform better than isolated systems. Personally, while I believe Texas' electrical independence serves the state well and has enabled us to build more generation quickly, we would be well served by more asynchronous DC ties to neighboring states. Those interregional transmission ties would allow Texas to export its energy bounty in times of surplus, help our neighbors when their supplies are tight, and enhance our reliability by importing when we need it. All regions need to perform scenario planning for extreme weather, and if they do, they will all find significant benefit to such interregional ties. Anything Congress can do that simultaneously recognizes Texas' independent streak while facilitating connections to adjacent control areas will serve us all well.

In April of this year, I co-authored a study identifying 22 shovel-ready high voltage transmission projects around the country that would begin construction in the near term if more workable transmission policies, like the tax credit, were enacted. These projects would create over 1.2 million jobs across the

transmission, wind, and solar sectors; interconnect 60,000 MW of new renewable capacity; and increase America's solar and wind generation by 50% from current levels. A decade ago, we as a country did not have such a fantastic opportunity set in front of us. However, in the ensuing years, both utilities and independent developers have been sorting through the nettlesome siting, permitting, cost allocation and grid connection challenges. I am firmly convinced that success will beget success in transmission, and pushing these 22 projects over the top will invigorate efforts across the country – resulting in more jobs, enhanced domestic supply chains, and big construction jobs, especially in our hard hit rural areas.

Aside from the economic benefits these projects embody, they also represent improved health outcomes for residents of population centers living near fossil-burning power plants. Transmission plays a role in replacing the carbon and other pollution in these population centers with renewable sources of energy, thereby improving air quality for residents, and addressing long-standing environmental injustices.

Before I talk about policy mechanisms that can help us improve reliability and get more clean energy on the grid, I'd like to first address the critical importance of getting as much bang for the buck for the investments we have made in the existing grid. Over the last decade, a number of exciting companies, in some cases with public R&D support, have developed "Grid Enhancing Technologies". These companies harness the power of situational awareness and ultrafast processing of information to adjust the throughput of existing wires, allowing them to get more power to market more efficiently. A number of these technologies were not mature a decade ago, but now they are, and most of the promising companies in this space are based here in the United States.

Forward thinking utilities like Xcel, MidAmerican and National Grid are deploying them already. FERC Chair Richard Glick and his predecessor have taken an active interest in encouraging utilities and system operators to adopt these technologies. Congress could play a critical role by appropriating funds to share in the cost of their deployment – an approach that will save customers money, enable more renewable power, and enhance reliability.

But better use of the existing grid alone won't do the job alone.

We have largely solved the problem of producing wind and solar electricity in a cost effective fashion. Now we need a better grid to pull it all together.

The Investment Tax Credit for Regionally Significant Electricity Transmission Lines, would be an essential tool in developing American grid infrastructure. The proposed 30% tax credit would unlock new merchant transmission lines as well as rate regulated ones, ultimately unlocking investment and reducing costs to consumers.

As Congress considers an investment tax credit for transmission lines, it's perhaps helpful to dive into the mechanics of how transmission lines get paid for today and why we aren't getting all the grid we need to combat climate change. In this context, one must look at the two business models that support the financing and construction of new transmission lines.

The great majority of transmission projects built in the US come about as a result of regional grid planning exercises. System operators project growth in demand, make assumptions about plant retirements, and project what new projects might get built. Individual transmission lines or groups of lines are looked at on a "benefit to cost" ratio. If new lines will benefit the system, say on a 1.5 to 1.0

benefit to cost test, the system operators, working with state regulators, see to it that the lines get built. If the projects don't pass that test, they don't get built. The rub lies in the fact that in almost all cases in the US, carbon externalities are not factored into the grid planning process. Sometimes carbon is included in scenario planning, but rarely is carbon used in the benefit to cost tests. Not surprisingly, this means that we are not planning the grid around a carbon constrained world. While not a perfect policy tool, an Investment Tax Credit can make up for this deficiency in the planning process. The ITC would have the effect of lowering the denominator in the benefit to cost test. More lines would make it through the planning process, and we will end up with a lower carbon grid.

The other type of transmission lines that get built are called "merchant" lines. These are typically built outside the conventional planning process, and their economics rely on generators paying the developers of merchant lines to deliver their power across long distances to get to market. An ITC will help reduce the cost of the transmission service, and therefore more lines would get built, and more renewable energy projects will follow. Importantly, merchant lines often provide reliability and other services to the grid for which they do not get paid – despite the fact that such services can be extremely valuable. An ITC will help make up for this market failure.

In both the merchant and regionally planned approach, the ITC is passed through to consumers.

While the tax credit is beneficial to unlocking these shovel-ready projects, the timeline for new interregional transmission can take a decade to complete. The Federal Energy Regulatory Commission has the authority to break the planning and cost allocation logjams that are preventing high voltage interregional projects from being built. Among other reforms, the Commission should consider directing regional planning authorities to evaluate future system needs based on a range of plausible scenarios, including high renewable penetration; link the interconnection and transmission planning processes; and consider non-transmission alternatives to costly local replacement projects that don't move the needle on bulk power flows. Research has shown incorporating non-transmission such as Grid Enhancing Technologies can yield significant returns and unlock previously untapped capacity, efficiency, and resilience.

High voltage transmission lines are the ties that bind regional grids and build resiliency. With renewed effort, we can enhance and modernize grid infrastructure, create the jobs of tomorrow, improve health outcomes for the most vulnerable, and reduce the costs of running one of the world's most complicated technological wonders. We should take the forewarnings of recent regional grid failures as a national call to action to rebuild our infrastructure along an interregional framework with the tools, technology, and policy delivery mechanisms we have at our disposal today.

Thank you for the opportunity to testify, and am happy to answer any questions you may have.