



A Macro Grid Vision to Achieve the Nation’s Climate Goals and “Charge Up” the Economy

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Testimony to the House Select Committee on the Climate Crisis

July 28, 2020

Good afternoon and thank you for the opportunity to testify on this extremely important topic. I am honored to appear before the Select Committee to bring thoughts and ideas from the Midwest - America’s renewable energy heartland.

My name is Beth Soholt. I’m the Executive Director of the Clean Grid Alliance, and I am testifying today in support of the Macro Grid Initiative (MGI), a national effort led by the American Council on Renewable Energy and Americans for a Clean Energy Grid committed to expanding and upgrading the nation’s transmission network to deliver job growth and economic development, a cleaner environment, and lower costs for consumers.

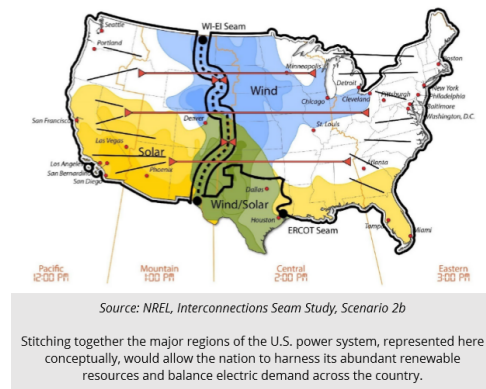
The pursuit and achievement of a Macro Grid – an interregionally connected backbone for the nation’s transmission grid - is essential for the United States to achieve its climate goals and “charge up” the economy. A Macro Grid can deliver renewable energy from the resource to load, enhance grid resiliency, and dramatically reduce carbon emissions by spurring a large amount of renewable energy development.

Over the last 20 years, I have seen firsthand the multiple benefits new grid infrastructure – like high voltage transmission lines – brings to a region rich in renewable energy resources. Communities that host wind and solar farms receive new and needed revenue in their counties and townships; engineers, electricians, and local labor folks are put to work in good-paying jobs; customers get clean, affordable power in their homes, businesses, farms and factories; and electric utility companies have infrastructure investment opportunities and a variety of renewable energy projects to choose from.

I will cover three points in my testimony and take them in order:

1. The Macro Grid vision
2. Benefits of an expanded, upgraded transmission system
3. How Congress can advance policies for grid infrastructure to meet climate goals and stimulate the economy

First, the Macro Grid vision.¹ The Macro Grid endeavors to take advantage of the vast renewable energy resources across the country and deliver the clean energy to locations where it is needed.



The Macro Grid vision includes expanding interregional high voltage transmission, tightening up the “seams” that exist between the various transmission operators, and adding a network of High Voltage Direct Current (HVDC) lines that could deliver significant carbon emissions reductions. A Macro Grid enables carbon emissions reductions of nearly 80² percent while saving consumers up to \$47 billion annually³ and returning more than \$2.50 for every dollar invested.⁴ The Macro Grid vision builds upon the success we have had expanding and updating the grid in certain US regions including MISO,⁵ SPP,⁶ CAISO, and ERCOT⁸.

Achieving the Macro Grid vision will require a modernized policy and regulatory environment at the federal, regional, and state levels that recognizes the substantial nationwide benefits of new regional and interregional transmission. We urge the Select Committee to make achieving the Macro Grid vision a priority as you craft climate change and stimulus legislation.

Second, what are the benefits to expanding the high voltage transmission system? In addition to spurring robust renewable energy development that would yield significant carbon reductions, there are major economic benefits to grid expansion.

Job Creation - Constructing transmission lines creates a lot of good paying jobs. Transmission is generally built using organized labor, Project Labor Agreements and prevailing wage standards. As an example, to build 100 GW worth of transmission delivery capacity, about \$75 billion in transmission infrastructure would be needed. That would create **around 600,000 direct jobs and 1.5 million direct, indirect and induced jobs.**⁹ These jobs are in addition to jobs created

¹ https://acore.org/macro-grid-initiative/?mc_cid=f0936965a0&mc_eid=%5BUNIQID%5D

² MacDonald, Clack, et al. *Future cost-competitive electricity systems and their impact on US CO2 emissions*, <https://www.nature.com/articles/nclimate2921>

³ MacDonald, Clack, et al. *Future cost-competitive electricity systems and their impact on US CO2 emissions*, <https://www.nature.com/articles/nclimate2921>

⁴ National Renewable Energy Laboratory, *Interconnection Seam Study*, <https://www.nrel.gov/analysis/seams.html>

⁵ <https://cdn.misoenergy.org/2011%20MVP%20Portfolio%20Analysis%20Full%20Report117059.pdf>

⁶ <https://cdn.misoenergy.org/2011%20MVP%20Portfolio%20Detailed%20Business%20Case117056.pdf>

⁷ <https://www.spp.org/engineering/transmission-planning/priority-projects/>

⁸ <http://www.ettexas.com/Projects/TexasCruz>

⁹ <https://gridstrategiesllc.com/2020/07/27/transmission-and-jobs/>

from wind and solar project development, manufacturing wind turbines and component parts, and supply chain for wind and solar projects.

Economic Growth and Development – Constructing new transmission lines provides an economic engine for the nation’s economy. For example, the 11 Midwestern electric utilities that were part of the CapX2020¹⁰ initiative built 5 major 345kV transmission lines located in North and South Dakota, Minnesota, and Wisconsin with the last line just finished a few years ago. Altogether, the 800 miles of new transmission was a \$2 billion project that resulted in \$4 billion of economic impact in the region, \$150 million paid in state and federal taxes, 8,000 jobs at the peak of construction, and returned \$1.93 worth of benefit to electric utility customers for every dollar invested.¹¹ Developing transmission is truly an economic engine that drives business here in the United States.

Competitiveness – Manufacturers and energy-intensive technology industries such as data centers can locate their operations anywhere in the world. The technology firms have been telling utilities and policymakers across the Midwest that they want a low-cost, carbon-free electricity supply. Responding to their customers and state policy, a number of utilities have put in place ambitious 80 to 100 percent de-carbonization goals. Renewable energy with transmission enables the demands of these corporate energy users and utilities to be met. In addition, the U.S. is competing globally with countries who have also figured out that building big infrastructure to tap domestic resources is a path to economic growth and security. China, for example, recently jumped past the American grid buildout successes with their own much higher voltage DC superhighways connecting their resource areas to major population centers.

Finally, as this Committee and your colleagues discuss and debate upcoming legislation, I urge you to make electric grid infrastructure policies a bipartisan priority. In that regard, I commend the Select Committee Majority Report for its recommendations to create a national policy on transmission and an “American Supergrid,” encourage FERC to develop an infrastructure strategy and improve regional and interregional planning, remove barriers to transmission development in the current state-by-state permitting regime, support federal financial resources to help right-size lines for the long term, and provide DOE funding and technical assistance for transmission planning.

As I’ve seen firsthand in my work in the Midwest, transmission enables electric utilities, businesses, manufacturers, residential customers, workers, rural and urban communities and the environment to not only survive but thrive. Most importantly, building a Macro Grid can help the nation address the climate crisis AND bring the multiple benefits I’ve outlined in my testimony.

Thank you and I look forward to answering any questions you may have.

¹⁰ <http://www.capx2020.com/>

¹¹ <http://www.capx2020.com/Gallery/movies/economic-benefits.html>