Grow a Greener Grid

In August of 2003, a high-voltage power line in northern Ohio brushed against some overgrown trees setting off a series of line failures and overloads resulting in the largest blackout in the Northeast. For days 50 million people lost power, the outage saw 11 deaths and cost an estimated $6 billion.

The two government agencies responsible for regulating the nation's power supply, Federal Energy Regulatory Commission (FERC) and the North American Electricity Reliability Council (NERC), had previously set voluntary standards for maintenance which included regularly scheduled tree clearing near high voltage lines. FirstEnergy Corporation, the Ohio-based utility company whose power lines failed, chose not to follow the guidelines. But after the 2003 blackout, FERC made industry reliability standards mandatory and legally enforceable.

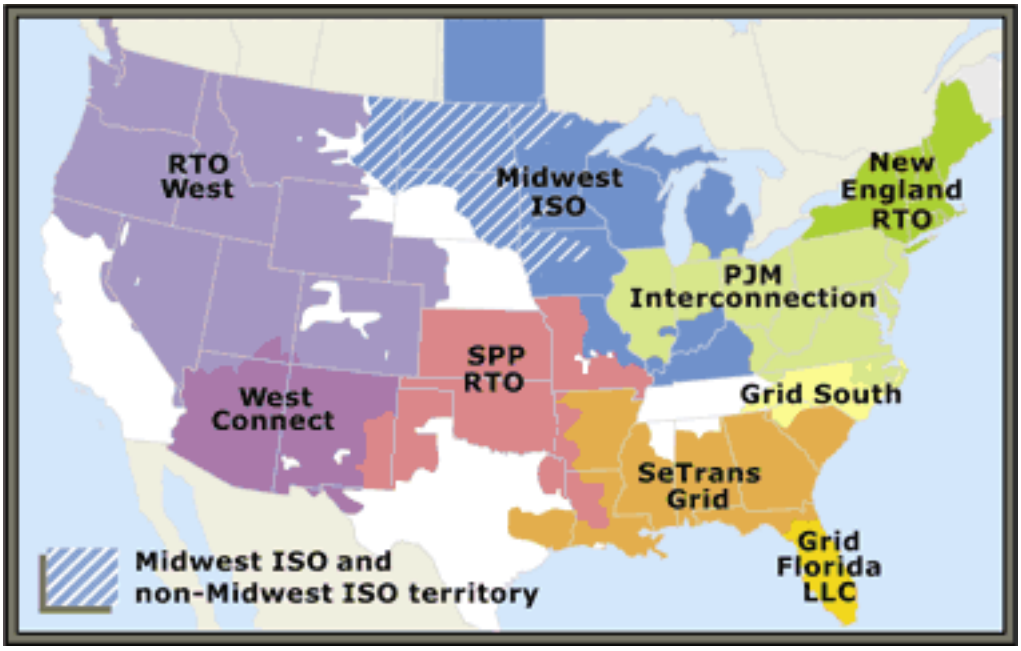
However, in the years since tightening the rules, FERC and NERC let their oversight of the energy utilities slip. Today FERC must reestablish their authority to enforce federal laws. Firm Federal energy regulation is needed not only to strengthen our aging electrical grid but to restructure it to accommodate energy from renewable resources.

A new report makes several strong arguments for expanding the grid two- or three-fold. Titled "*Planning for the Future: FERC's Opportunity to Spur More Cost-Effective Transmission Infrastructure*," It argues persuasively that current rules and regulations governing the U.S. grid impede the planning, permitting, construction, and deployment of projects worth hundreds of billions of dollars that could be invested in a bigger, more resilient grid over the next decade. Current state and local regulations are the biggest obstacles to a greener grid. In 2011 FERC called for more interregional planning to connect renewable energy resources to the grid but once again, the agency didn't mandate those connections, thus

undermining efforts to move renewable energy from where it's abundant to where it's needed, i.e., wind power from the Great Plains to major metropolitan areas.

There's a new administration in Washington, and the moment to update and streamline energy regulations and introduce new permitting policies may be right now. The new report, sponsored by clean-energy groups who have long demanded a major overhaul of federal transmission policies, now see the Biden-Harris administration and a Democratic-controlled Congress as a pathway to build a stronger, greener grid.

Biden wants the country's electricity to be produced carbon-free by 2035 as part of his ambitious plans to confront climate change. Achieving that will entail replacing about 60% of the country's fossil-fuel based energy with emission-free green energy such as wind, hydro, and solar. Many states, cities, utilities and companies have already set zero-carbon goals but many other states demand stringent siting and permitting processes that make moving forward difficult if not unachievable.



http://www.geni.org/globalenergy/library/national_energy_grid/united-states-of-america/americannationalelectricitygrid.shtml

Another problem is the lack of a national grid. Now we have a patchwork of three regional grids that cooperate but operate independently. For instance, New York State's grid can handle increasing amounts of electricity from renewable sources. People choosing to use solar panels can get a credit for using less electricity than their system produces. The excess electricity is exported to the grid and the customer receives a credit for it. Not all

regional power companies in this country allow that to happen. But if given new regulatory power, FERC could mandate that all utilities have to accept and distribute renewable energy, and such control would no longer be in the hands of those companies. FERC could set the rules for all states.

A final crucial reason to expand the grid is to make it less vulnerable to extreme weather events. Hurricanes, severe storms, floods, wildfires, as well as cybersecurity breaches and domestic terrorism attacks, have all become more frequent in the last decade. With those objectives in mind, in 2017 the Climate Institute launched its North American Supergrid initiative, a proposal to construct a largely underground high voltage direct current (HVDC) electric grid along existing rights-of-way in the contiguous United States. Buildout of this underground transmission network would start in areas of the country most prone to natural disasters – the East, Gulf, and West coasts, the Mid-West and, lately, California and the Pacific North West --, and then extend throughout the lower 48 states and eventually expand to Alaska and Hawaii, and even perhaps to Canada and Mexico.

For FERC to mandate and oversee a national energy transmission grid, President Biden could grant it the power to do so by Executive Order, but ultimately Congress would have to establish that authority in law. Biden's announced plans for decarbonizing the energy sector would allocate $2 billion to achieve that goal by 2035, but few details of his ambitious proposal have been specified in detail. Certainly, establishing a national transmission grid that enables system-wide decarbonization with broad federal oversight is essential. Building a 21st century energy system from production through distribution to usage in homes, businesses, and factories is an appropriate mission for the country to undertake as it seeks to recover from the economic ravages of the Covid-19 pandemic. This country, beset by the pandemic and worn out and divided by the political turmoil of the last administration, seems ready to embrace a spirit-lifting moon-shot-like challenge to undertake the design and construction of a clean, powerful, reliable, and computer-controlled electric transmission grid; the building, maintaining, and upgrading of solar and both onshore and offshore wind farms; and the installation of solar panels on millions of roofs, all activities that will create many new lasting jobs. Upgrading and nationalizing the nation's electric transmission grid while at the same time decarbonizing our entire electrical system is a once in a century opportunity. We must not squander it.

Many thanks for Energy Reporter Roger Witherspoon of SEJ (Society of Environmental Journalists) for sharing a wealth of information about energy and the grid.

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