

Transmission Policy for Solar Generation

Green Power Superhighways: A 21st Century Solution

Overview

The United States is home to vast quantities of clean energy resources like solar power. Yet it lacks a modern interstate transmission grid to deliver carbon-free electricity to customers in highly-populated areas of the country. In order to meet our national climate, energy security, and renewable energy goals, we need to invest in Green Power Superhighways now.¹

Problem

America's electricity needs are growing, as is the need to generate electricity from carbon-free technologies. In addition to distributed solar resources like rooftop PV and solar water heating, expanding and upgrading the transmission grid is the key to bringing vast quantities of renewable power to customers. Renewable portfolio standards and climate goals cannot be met without a dramatic shift in where and how transmission is planned and built.

Green Power Superhighways – key to a robust transmission grid – will allow plentiful domestic sources of renewable energy to power our homes and even our transportation sector, reducing carbon dioxide emissions as well as volatility in energy prices. Tapping the massive quantities of renewable resources that are currently stranded in our country's most remote areas will also cultivate economic development in regions where it is sorely needed. A major expansion of the interstate renewable transmission system will also reduce electricity costs for consumers, improve reliability, and link solar-rich parts of the nation to the transmission grid.

Over the last 100 years, the transmission grid in the United States has been built as a patchwork collection of local systems, designed and planned to meet local needs. As the needs of customers have changed, so has the way the electric industry does business. What haven't changed are the rules in place for planning, building, and paying for the transmission grid. Solar generators are stuck playing by the rules crafted in an era of coal-fired power plants. What we need now is an investment in infrastructure to connect areas rich in solar resources with major population centers. A new, solar-friendly transmission grid will only be possible if significant changes are made to transmission policy in this country.

Proposed Solution

Develop Green Power Superhighways. The structural barriers to transmission development that exist today must be overcome. Federal leadership from the President and Congress will be required to pass legislation and provide new mandates, adequate resources, and specific timelines for action for federal agencies, such as the Federal Energy Regulatory Commission, the Department of Energy, and federal lands agencies.

The core elements of the Green Power Superhighways plan are:

- Interconnection-wide transmission planning;
- Interconnection-wide transmission cost allocation and certainty of cost recovery; and
- Streamlined siting processes.

This structure would apply only to new extra high voltage transmission lines and the renewable energy feeder lines that connect generators to the transmission grid.

Interconnection-Wide Transmission Planning

- Each interconnection should develop a comprehensive plan to identify where new transmission lines (or increased capacity on existing lines) are necessary to connect renewable energy resources to the grid.
- The plans should include both extra-high voltage transmission lines and the lower voltage feeder lines that are necessary to facilitate the development of Green Power Superhighways.
- Congress should provide FERC with adequate authority to establish a process for developing and approving these plans.

Interconnection-Wide Transmission Cost Allocation

- Ratemaking and cost recovery certainty should be provided to address the question of who should pay. Since all users benefit from a robust transmission grid and new supplies of carbon-free renewable power, regulatory policies must reflect that.
- Facilities identified in the interconnection-wide plan as necessary for the development of Green Power Superhighways should be eligible for broad, regional cost allocation. Specifically, FERC should allocate, based on electricity usage, the capital and operating costs of these transmission lines across all load-serving entities on an interconnection-wide basis.

Streamlined Siting Processes

- Substantial reform of the transmission siting process is required. The most effective model for siting is the full siting authority that is given to FERC over interstate natural gas pipelines.
- For Green Power Superhighways, the extra-high-voltage facilities defined in the regional plans would be subject to FERC approval and permitting. Separate siting approval at the state level would not be required.
- FERC would act as the lead agency for purposes of coordinating all applicable federal authorizations and environmental reviews with other affected agencies. As is the case for natural gas pipeline and hydroelectric facility permitting, FERC would be required to consider siting constraints based on habitat protection, environmental considerations, and cultural site protections identified by state agencies.

About the Solar Energy Industries Association

Established in 1974, the Solar Energy Industries Association is the national trade association of the U.S. solar energy industry. As the voice of the industry, SEIA works with its 1,000 member companies to make solar a mainstream and significant energy source by expanding markets, removing market barriers, strengthening the industry and educating the public on the benefits of solar energy.

For a referenced version of this factsheet and more information, please visit www.seia.org.



¹ Information contained in this fact sheet is derived from "Green Power Superhighways: Building a Path to America's Clean Energy Future," a joint publication of the American Wind Energy Association and the Solar Energy Industries Association. February 2009, <http://www.seia.org/cs/transmission>.