

Power Transmission

Fourth in a series

Most experts agree that the U.S. grid will need thousands of miles of new and upgraded transmission in order to meet skyrocketing electricity demand and connect new generation sources while ensuring that power remains reliable and affordable. The ability to site and build this critical infrastructure, however, is being weighed down by supply chain bottlenecks and clouded by new federal regulations that could lead to a more rigid, less equitable planning, permitting and cost-allocation process, among other challenges.

New Generation

Increased Load

What's needed

- The U.S. grid has about 240k circuit miles of transmission (>230kV).
- Capacity would need to more than double by 2035 to meet expected demand.

Why it's needed

- **Increasing Demand**
Manufacturing, electrification and data centers are driving a nationwide spike in electricity use.
- **Renewables Integration**
Transmission is needed to bring wind and solar power from where it's produced to where it's needed.
- **Reliability**
The grid must balance supply/demand issues with factors like intermittent renewables and more extreme weather.
- **Distributed Generation**
Future aggregation of regional DG will create a need for more transmission.
- **Aging Grid**
~70% of the grid was built 25+ years ago and is in need of upgrade/replacement.

Challenges

- **Permitting**
The average time from proposal to start of construction is 10 years.
- **Project Bottlenecks**
At least 500 GW of generation is waiting to connect to the grid over the next 10 years.
- **Supply Chain**
Higher costs and delays due to shortages of materials and qualified labor.
- **Policy**
New federal transmission rules undermine the regional flexibility needed to provide reliable, affordable power.