

Transmission Capacity & Reliability Summary of Comments - May 21st, 2025

On May 21st, 2025, OurEnergyPolicy hosted a discussion on developments in transmission capacity and reliability covering interregional issues, stakeholder engagement and infrastructure. Find the audio recording [here](#).

SPEAKERS



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OurEnergyPolicy is a non-partisan organization. The following represents a summary of comments from the panelists.

Key Takeaways

- Major challenges to the U.S. grid include aging infrastructure, extreme weather events, and diversifying energy sources while meeting unprecedented increases in energy demand.
- Interregional transmission can reduce the need for regional generation capacity by leveraging load diversity and variations in peak demand.
- Stakeholder engagement should occur early and often to optimize community relationships and prevent the spread of misinformation.

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Challenges to the Grid

- Major pressures on the grid today include the dual goals of transitioning to more renewable and low-carbon energy sources while simultaneously meeting demand that has not increased this fast since the invention of electric air conditioning.
- Another escalating concern for the grid is aging infrastructure.
 - 25% of transmission lines in the U.S. are reaching the end of their utility.
- Furthermore, extreme weather events increase year after year, threatening physical infrastructure and generation supply.
 - What was previously extreme is increasingly treated as normal weather conditions.
 - Accurate forecasting of weather is becoming more difficult as weather becomes less predictable based on past patterns.
- With each region of the U.S. comes a diversity of typical extreme weather events, geography, and potential solutions to grid reliability and capacity.

Opportunities in Transmission

- Different regions of the country have different demand peaks by the day and season.
- Transmission capacity provides an opportunity to reduce the need for as much generation capacity, but it still receives far less attention.
- Interregional transmission serves as a possible way to share resources and leverage load diversity.
- The North American Electric Reliability Corporation (NERC) Interregional Transfer Capability Study gives a national perspective of existing transfer capabilities and how future weather stressors would impact infrastructure and transfer capabilities.
- Both the 2023 National Transmission Needs Study and 2024 National Transmission Planning Study released by the U.S. Department of Energy found that regional transmission capacity needed to at least double and interregional transmission capacity needed to quadruple.
- Transmission planning based on a static view of systems should be replaced with planning based on dynamic modeling.
- When it comes to siting physical transmission infrastructure, stakeholder and community engagement should occur early and often to develop benefits plans for impacted communities.