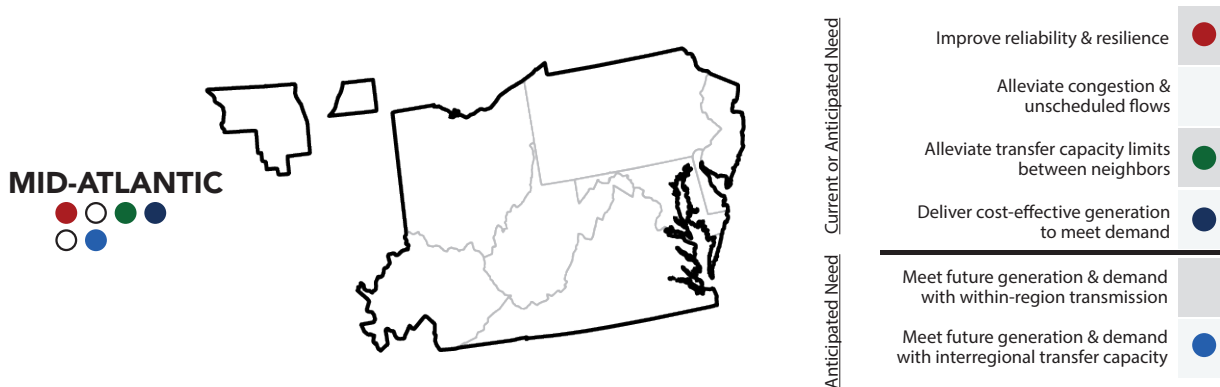


FACT SHEET

2023 NATIONAL TRANSMISSION NEEDS STUDY MID-ATLANTIC REGION

The U.S. Department of Energy's Grid Deployment Office (GDO) released the National Transmission Needs Study ("Needs Study") in October 2023. The Needs Study is the Department's **triennial state of the grid** report. The Needs Study identifies transmission needs and provides information about current and anticipated future capacity constraints and congestion on the Nation's electric transmission grid. In this fact sheet, we highlight the transmission needs of the Mid-Atlantic. The Needs Study provides further detail on the benefits of transmission that could be realized throughout the country.



FINDINGS OF TRANSMISSION NEED IN THE MID-ATLANTIC REGION

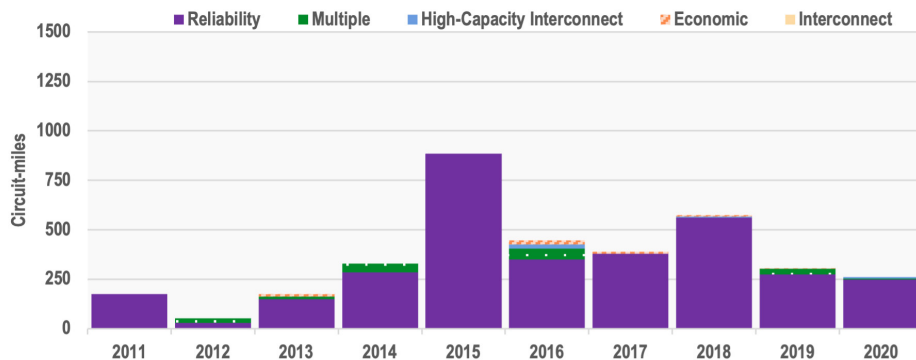
- › **Improve reliability and resilience.** Reliability risks are anticipated to arise in the near-term due to electricity demand growth, thermal generator retirements, and increases in intermittent and limited-duration resource interconnection requests. Additional transmission additions and upgrades in the near-term would help maintain resource adequacy and accommodate generation loss. Additionally, stronger transmission ties with neighboring regions would help support reliability and resilience of the Mid-Atlantic system during extreme weather events, such as the recent 2018 bomb cyclone and 2020 Winter Storm Elliott events.
- › **Alleviate transfer capacity limits between the Mid-Atlantic region and New York.** High congestion value of interregional transmission from 2012–2020 exists between the Mid-Atlantic region and New York, with an average marginal value of transmission equal to \$18/MWh. A high congestion value indicates that additional transmission between the regions would reduce system congestion and constraints.
- › **Deliver cost-effective generation to meet demand.** High-priced areas persist in eastern Maryland, eastern Virginia, and both Maryland and Delaware portions of the Delmarva Peninsula; additional transmission to bring cost-effective generation to demand would help reduce these prices.
- › **Meet future generation and demand with additional interregional transfer capacity.** It is anticipated that the Mid-Atlantic region will need between 28 and 51.7 GW of additional transfer capacity with the Midwest in 2035 (median of 33.8 GW, a 156% increase relative to the 2020 system) to meet moderate load growth and high clean energy growth future scenarios. Smaller additional transfer capacity between the Mid-Atlantic and the Southeast (median value of 6.9 GW) and New York (median value of 2.4 GW) may also be required.

HELPFUL LINKS

- › Read the full study at www.energy.gov/gdo/national-transmission-needs-study
- › Contact GDO with additional questions: transmission@hq.doe.gov

FINDINGS AT A GLANCE

Circuit-miles of new or rebuilt transmission lines ($\geq 100\text{kV}$) energized between 2011–2020 by project driver.

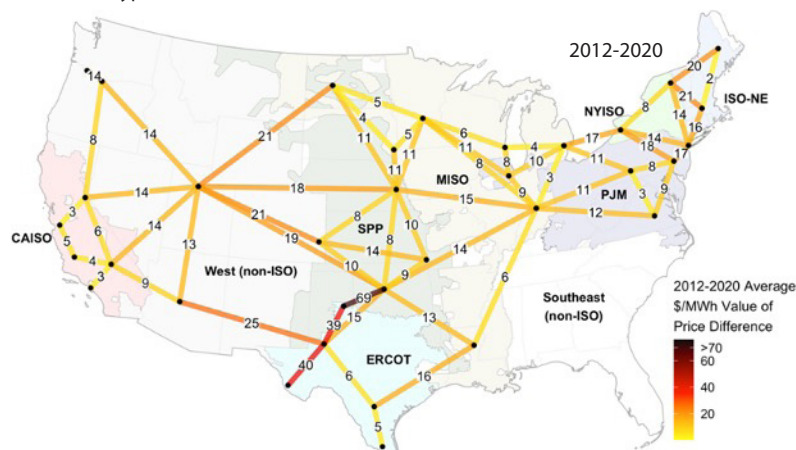


Transmission projects energized over the last decade in the Mid-Atlantic region were predominantly installed to **address reliability concerns**.

Congestion value of hypothetical transmission links between select zonal nodes within and across regions.

Wholesale market price differentials demonstrate a **high value of new interregional transmission exists between the Mid-Atlantic region and New York**.

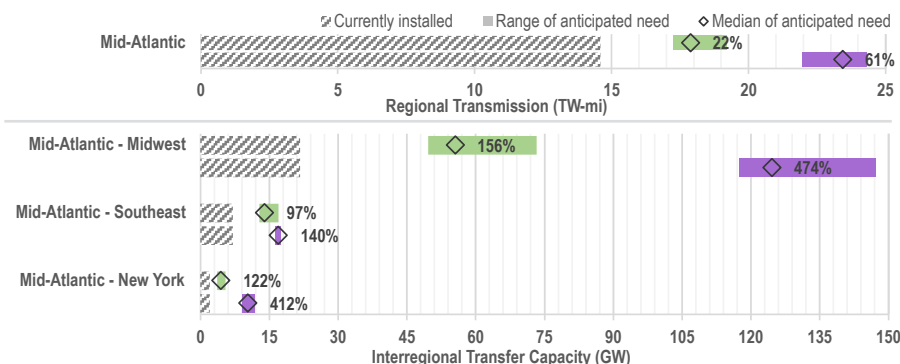
The average marginal value of transmission between the Mid-Atlantic region and New York from 2012–2020 is equal to \$18/MWh.



Note: Wholesale market price data is limited for non-RTO/ISO regions. Absence of data does not necessarily indicate that there is no need for transmission to alleviate congestion and/or unscheduled flows in non-RTO/ISO regions. Findings organized using geographic region nomenclature as described in the Needs Study.
Source: D. Millstein, et al. (2022)

Within-region transmission and interregional transfer capacity need for Mid-Atlantic in 2035

Range of new transmission need for future scenarios with **moderate load and high clean energy growth** (green, top for each region) and **high load and high clean energy growth** (purple, bottom). Median % growth compared to 2020 system shown.



Capacity expansion modeling results for the Moderate/High scenario group suggest an anticipated need of **3.3 TW-miles of new within-region transmission by 2035** (22% growth relative to 2020) and **33.8 GW of new interregional transfer capacity with the Midwest region by 2035** (156% growth relative to 2020).

Median 2035 capacity expansion modeling results for Moderate/High scenario group.