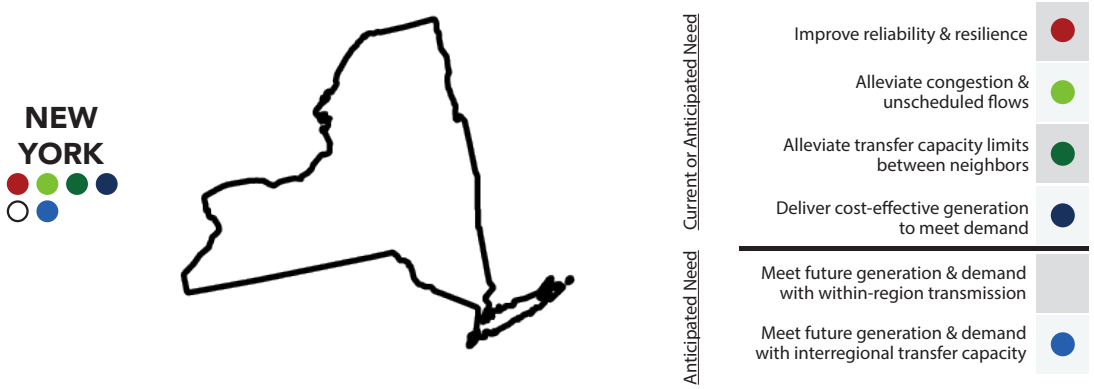
GRID DEPLOYMENT OFFICE

FACT SHEET

2023 NATIONAL TRANSMISSION NEEDS STUDY

NEW YORK

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 New York. The Needs Study provides further detail on the benefits of transmission that could be realized throughout the country.



FINDINGS OF TRANSMISSION NEED IN NEW YORK

› **Improve reliability and resilience.** Reliability risks are anticipated to increase during winter months by mid-2030 as the grid is becoming winter-peaking. Expanding transmission to access geographically diverse energy resources would reduce resource future adequacy risks. Increased interregional transmission provides resilience and consumer saving benefits during extreme weather events, as experienced by New York in the January 2018 bomb cyclone event.

› **Alleviate congestion and unscheduled flows.** High congestion values exist within New York, indicating that additional transmission deployment would reduce system congestion and constraints. Long-term planning scenarios with a significant portion of renewable generation would exacerbate existing transmission congestion with a 23% increase statewide by 2030.

› **Alleviate transfer capacity limits between New York and its neighbors.** The highest congestion value of interregional transmission in the Eastern Interconnection from 2012–2020 exists between New York and New England, with an average marginal value of transmission ranging from $16–21/MWh. Similarly high congestion values exist between New York and the Mid-Atlantic ($18/MWh) and Midwest ($17/MWh) regions. A high congestion value indicates that transmission between the regions would reduce system congestion and constraints.

› **Deliver cost-effective generation to meet demand.** High-priced areas in Long Island persist and additional transmission to bring cost-effective resources to demand would help reduce these prices.

› **Meet future generation and demand with additional interregional transfer capacity.** It is anticipated that New York will need between 3.4 and 6.3 GW of additional transfer capacity with New England in 2035 (median of 5.2 GW, a 255% increase relative to the 2020 system) to meet moderate load growth and high clean energy growth future scenarios. Smaller additional transfer capacity between New York and the Mid-Atlantic region (median value of 2.4 GW) may also be required.

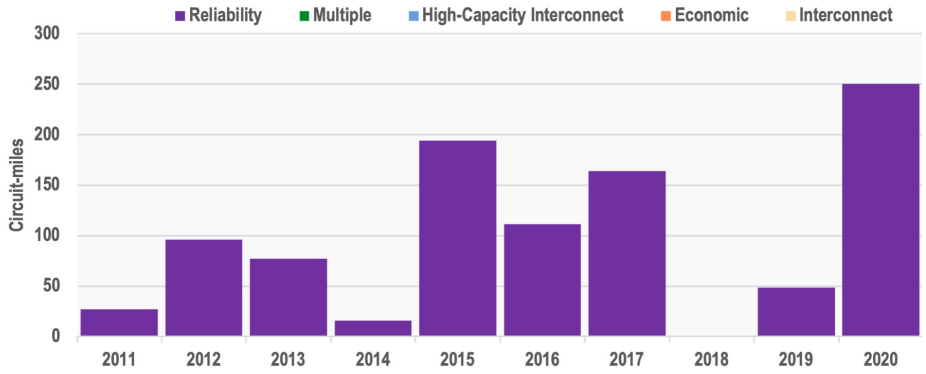
HELPFUL LINKS

› **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 (≥100kV) energized between 2011–2020 by project driver.

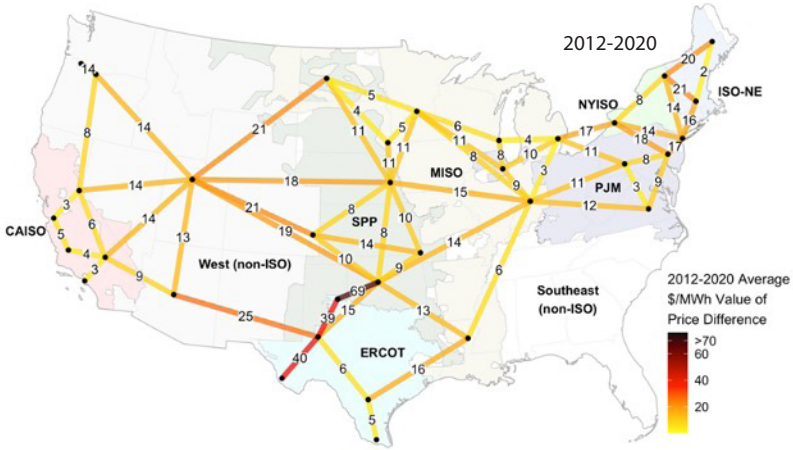


Transmission projects energized over the last decade in New York were installed exclusively to **address reliability concerns**.

Wholesale market price differentials demonstrate a **high value of new interregional transmission** exists **between New York and New England**.

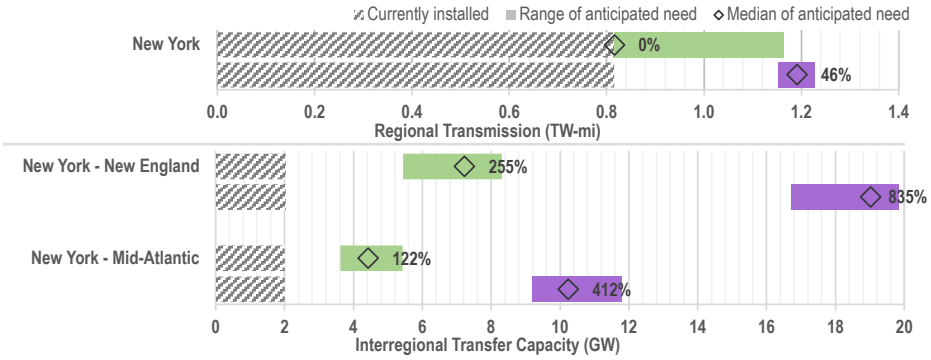
The average marginal value of transmission between New York and New England from 2012–2020 is equal to $19/MWh.

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



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 New York 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 **5.2 GW of new interregional transfer capacity with New England by 2035** (255% growth relative to 2020) and **2.4 GW with the Mid-Atlantic region by 2035** (122% growth relative to 2020).

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

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