

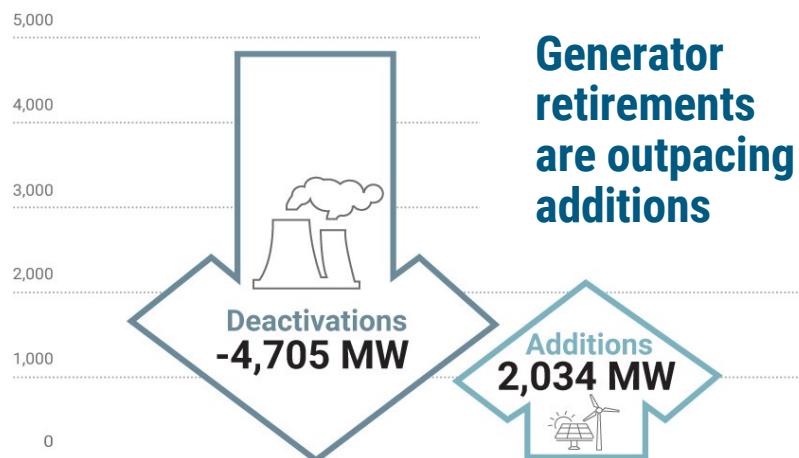
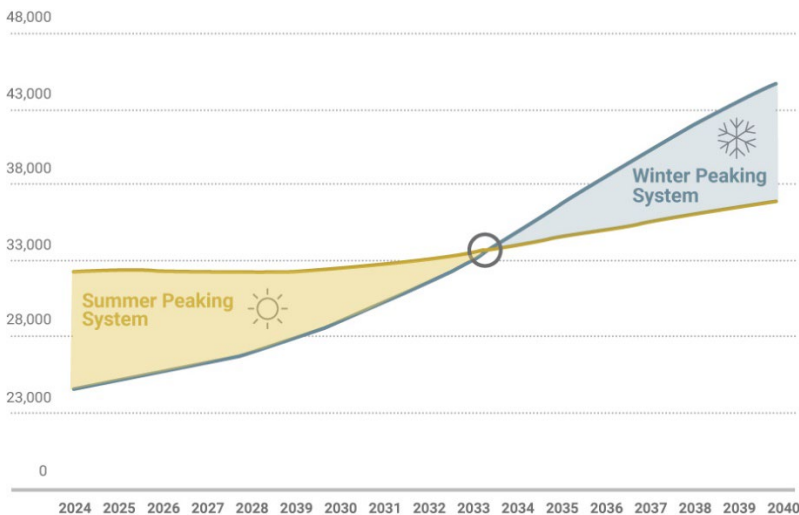
# New York's Winter Grid Reliability Challenges

Changing conditions impacting supply and demand

Our *Comprehensive Reliability Plan* outlines a number of emerging reliability challenges as electrification shifts the grid from summer-peaking to winter-peaking over the next decade. We are focused on managing these challenges, using planning studies to identify emerging needs and market incentives to attract resources to meet those needs.

## Shifting supply and demand

The grid is shifting from a summer-peaking system when consumer demand for air conditioning spikes, to winter-peaking which is driven primarily by electrification. At the same time policies are driving the retirement of fossil fuel generation. Extreme winter weather and potential fuel constraints will present new reliability challenges that markets will need to address.



**Generator retirements are outpacing additions**

“Transitioning to a winter-peaking system is a challenge we must start to address now.”

**Zach Smith**

Senior VP System and Resource Planning

## Growing electricity demands

- ✓ If electrification of building heat, cooking, and vehicles outpaces the build-out of generation and transmission, deficiencies could arise. 10% of New Yorkers heat their homes with electricity today compared with 90% expected by 2050.
- ✓ Electric vehicles could add more than 5,500 MW of new demand during winter peak hours by 2040.
- ✓ Demand on the grid is on the rise from new industrial customers including microchip fabrication and data centers, primarily in western New York.

We must thoroughly evaluate the reliability contributions of each generating asset throughout the transition to a clean energy grid.

# New York's Winter Grid Reliability Challenges

## Recent winter storms underscore concerns

✓ **Polar Vortex January 2024.** Tens of millions of residents across North America were affected when temperatures dropped 20-30 degrees below average. Several U.S. grid operators issued reliability warnings and conservation appeals to avoid "load shedding," the deliberate shutdown of power that avoids larger, more wide-spread blackouts.



✓ **Winter Storm Elliott December 2022.** 1.6 million U.S. customers lost power and utilities in several states issued public appeals to turn down thermostats. The ability of downstate generators to burn either natural gas or oil proved crucial to maintaining power.

Extreme weather events highlight the importance of controllable, flexible generation that is available to meet challenging conditions.

## Competitive markets: The key to bringing balance to the grid

Competitive wholesale electricity markets produce real-time price signals that allow power suppliers to respond instantly to the grid's changing needs. Competitive markets also shift investment risks from consumers to developers and investors, where they should be. **With ever-increasing intermittency, extreme weather, and demand from electrification and economic development, these markets will be essential to maintain the balance between supply and demand.**

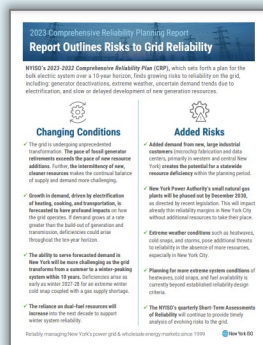
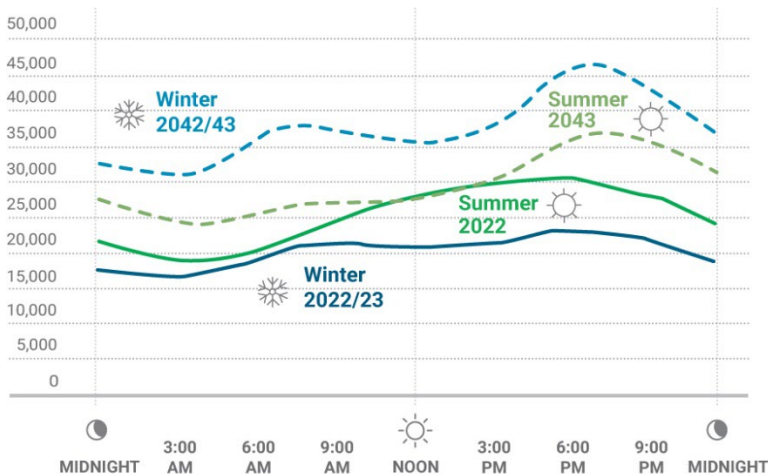
### Winter Reliability Capacity Enhancements

More than half of NY's generating capacity relies on fossil fuel. The prospect of a winter-peaking system introduces new reliability challenges driven by the inability to secure fuel on the coldest days. **Incentives must be established to compensate suppliers for firm and reliable supply.** We are working with stakeholders to identify the emerging winter risks and reliability rules to determine what market changes are needed.

## NYISO reliability reporting

- ✓ The **2023-2032 Comprehensive Reliability Plan (CRP)** outlines changing conditions and added challenges to reliability in the coming years
- ✓ In 2024, the NYISO will issue the next **Reliability Needs Assessment (RNA)**

Projected vs. Current Seasonal Loads (MW)



CRP FACT SHEET

### Learn more

NYISO electricity market initiatives that support grid reliability.

>> [MARKETS FACT SHEET](#)