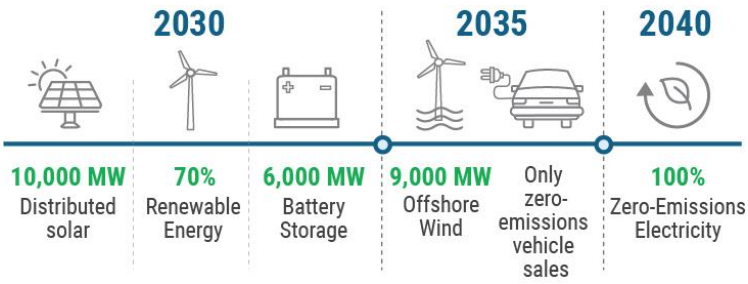
NYISO Market Initiatives to Support a Reliable, Greener Grid

New York ISO

State clean energy policy goals



"To meet state goals, we need to attract **investment in clean resources and incent suppliers to respond in real-time to balance intermittency.** That is what markets do."

Rich Dewey
President & CEO, New York ISO

NYISO market design innovations underway

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.

STATUS: The NYISO is working with stakeholders to identify the emerging winter risks and reliability rules to determine what market changes are needed.

Dynamic Reserves to Balance Intermittency

Operating reserves ensure sufficient supply in unexpected circum-stances such as unplanned generator outages. **As intermittent renewable capacity grows, dynamic reserves will support renewable energy integration** reliably by addressing load forecasting uncertainty.

STATUS: Initial improvements are expected in 2026 with ongoing stakeholder discussions for future enhancements.

Advanced Storage Modeling

Coordinating the growing fleet of storage resources requires **advanced modeling techniques in energy markets. This will improve tools for grid operators** to optimize the ability of storage to meet reliability needs.

STATUS: Efforts are underway with stakeholders to develop these capabilities for potential deployment in 2027 in advance of 2030 goals calling for 6,000 MW of storage capacity.

Protecting consumers from investment risk while reinforcing reliability

For 25 years, competitive electricity markets have provided New Yorkers with reliable, least-cost power. Since markets launched, CO_2 emissions in the power sector decreased by 42% according to the EPA.

Competitive markets produce real-time price signals that allow power suppliers to respond instantly to the grid's changing needs. With ever-increasing intermittency, extreme weather, and demand from electrification and economic development, the balancing force of markets is essential. They also shift investment risks from consumers to developers and investors, where risk should be.

Our market design team has led the nation in creating market rules and structures that enhance renewables' participation in markets, support grid reliability services, and support environmental goals.

Market Initiatives to Support a Reliable, Greener Grid (Cont.) ▶

NYISO Market Initiatives to Support a Reliable, Greener Grid

Attracting needed resources at the least cost to consumers

The NYISO is leading the way in innovating market design to drive and incentivize:

- **New technologies** such as: advanced nuclear, long-duration storage, hydrogen-fueled generators, and other emissions-free resources.
- **Grid reliability services** such as operating reserves, ramping, and regulation.
- **Balancing the intermittency** of renewable generation.
- **Increased energy efficiency** and programs that reduce demand, especially when it is most critical for system reliability.

2024 Markets Initiatives – V2 – 08.26.24

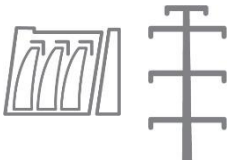
The road to 2040 reliability

Competitive wholesale electricity markets are an important, proven tool to mitigate risks by leveraging appropriate price signals for new market entry and retention of resources that assist in maintaining reliability.

Significant public and private investment in research and development will be required to identify the most efficient, cost-effective, emissions-free technologies.

Significant resource development will be required to achieve CLCPA energy targets. The installed capacity to meet policy objectives is projected to triple by 2040, while the system will need to be more resilient to the impacts of severe weather.

111-124 Gigawatts
NEEDED BY 2040



The reliability of the grid is heavily dependent on the timely completion of planned transmission projects, chiefly the Champlain Power Hudson Express (CHPE) project, which will bring 1,250 MW of clean power from Hydro Quebec to NYC beginning in 2026. Without the CHPE project in service or other offsetting changes, reliability margins would be deficient for the ten-year planning horizon.

In addition to supplying energy, many fossil generators provide reliability services that are essential to keep the grid in continuous balance. To maintain reliability, the clean energy resources that replace fossil fuels must, in the aggregate also provide the reliability attributes of the retiring fossil-based generation.

Reliably managing New York's power grid & wholesale energy markets since 1999

FOLLOW US

LEARN MORE: www.nyiso.com/policymakers

New York ISO
Independent System Operator