KEY TAKEAWAYS

Power Trends 2022:

The Path to a Reliable, Greener Grid for New York

New York ISO

New York's climate policies are driving profound changes on the electric system. The NYISO is at the forefront of this transition, working to achieve state emissions mandates with a balanced approach that maintains electric system reliability. It's critical we prepare the power system for risks to reliability as we build the grid of the future, advance our economy, and support the health and safety of consumers.

Key Messages

- ✓ **The NYISO has established new market rules that advance the state's clean energy policies.** Wholesale electricity markets are open to significant investment in wind, solar and battery storage.
- ✓ The transition to a cleaner grid in New York is leading to an electric system that is **increasingly dynamic, decentralized, and reliant on weather-dependent renewable generation.**
- ✓ **Reliability margins are shrinking.** Generators needed for reliability are planning to retire. Delays in the construction of new supply and transmission, higher than expected demand, and extreme weather could threaten reliability and resilience in the future.
- ✓ **A successful transition of the electric system requires replacing the reliability attributes of existing fossil-fueled generation** with clean resources with similar capabilities. These attributes are critical to a dynamic and reliable future grid.
- ✓ New transmission is being built but more investment is necessary **to support the delivery of offshore wind energy to connect new resources upstate to downstate load centers where demand is greatest. Planning for new transmission to support offshore wind is underway.**

> "The energy industry is undergoing an exciting transition. At the NYISO, we're bold about the future, working closely with stakeholders, developing new rules and products to support innovation, and performing the studies necessary to maintain reliability during this time of change."
>
> **— Rich Dewey, CEO, New York ISO**

Shrinking Reliability Margins

New York has historically seen strong levels of resources on the grid to meet peak loads, which support the reliability and resilience of the system. Those reliability margins are narrowing as fossil-fueled resources are retiring at a faster pace than clean energy resources are entering the electric system. While the bulk electric system meets current reliability requirements, the margins of needed resources are tightening. For instance, while the closure of the Indian Point Energy Center did not create an immediate reliability need, it is part of a broader loss of capacity that is thinning reliability margins.

Transitioning to the grid of the future must proceed carefully. **Deactivating existing generation without having in place resources capable of providing comparable reliability services risks the ability to maintain a reliable electric system.**

Zonal Resource Adequacy Margins

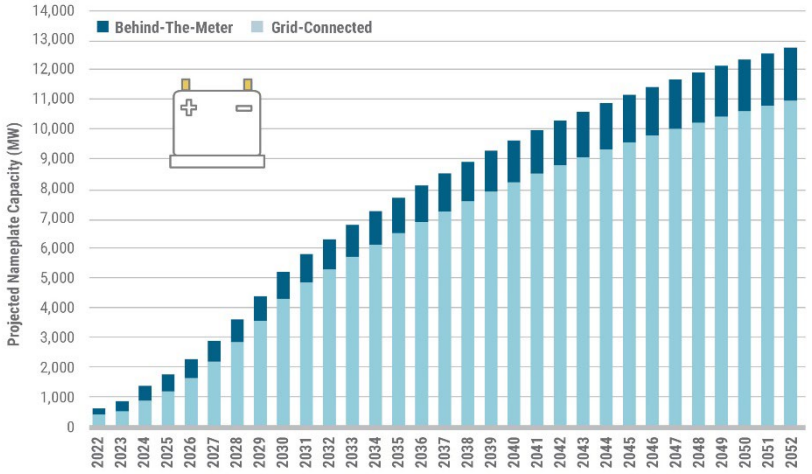
Power Trends 2022: Key Takeaways

Wholesale Markets Incentivize Investment and Innovation

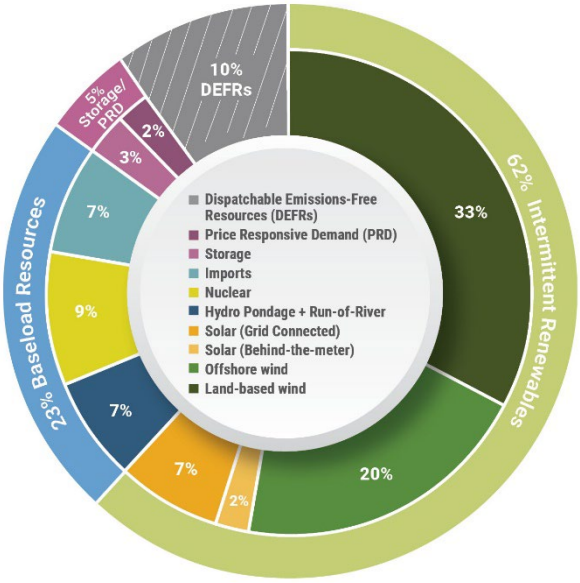
Wholesale power markets stimulate the investments necessary to meet the state's clean energy objectives, maintain reliability of the grid, and minimize costs for consumers.

New rules are expected to encourage battery storage resources, which will help balance the intermittent nature of solar and wind power. But more investment and innovation in new energy technologies is essential. **Electricity production from dispatchable resources is key to meeting future demand and avoiding system interruptions witnessed elsewhere in the U.S. recently.**

Energy Storage Nameplate Capacity



Projected CLCPA
Winter Energy Production by Resource Type



The Resource Mix of a 2040 Grid

The future grid, increasingly reliant on wind and solar, will require **flexible resources that can rapidly adjust energy output and balance supply with demand.**

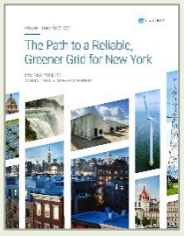
Known as **Dispatchable Emission-Free Resources (DEFRs),** these technologies are not yet commercially available at the scale necessary to fill in reliability gaps of retiring fossil resources.

Offshore wind will be critical going forward. Success in meeting CLCPA emissions goals is dependent on the timely completion of offshore wind projects and associated transmission networks.

Delivering the Grid of the Future

Through expert system operations, planning, and wholesale electricity market design, the NYISO is working to identify the reliability needs of the future grid envisioned by the CLCPA. We will continue to engage stakeholders and policymakers to design and implement the operations, planning and market enhancements necessary for the grid in transition.

Get the full report



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New York ISO
Independent System Operator