

# Session 3 Panel

## Mission Critical: Ensuring Reliability

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**Northeast Gas Association: 2023 Regional Market Trends Forum**

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# NYISO Grid Status: Overview

# A Powerful Purpose

We are dedicated to a reliable, sustainable power grid and competitive markets.

- ✓ **Maintaining** and enhancing regional reliability
- 💰 **Operating** open and fair wholesale electricity markets
- 🗺️ **Planning** the bulk power system for the future
- 🔍 **Providing** factual information to policymakers, stakeholders and investors.

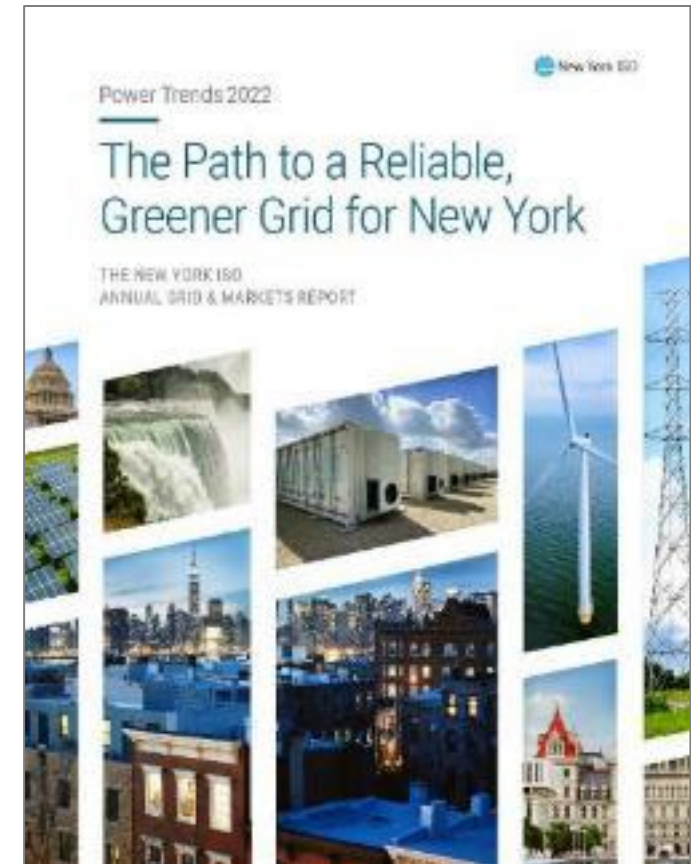


# Power Trends 2022: The Path to a Reliable, Greener Grid for New York

Current and emerging trends transforming the grid and electricity markets

## Key Themes:

- 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.**
- New transmission is being built but more investment is necessary to **support the delivery of offshore wind energy and connect new resources upstate to downstate load centers where demand is greatest.** Planning for new transmission to support offshore wind is underway.
- 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.

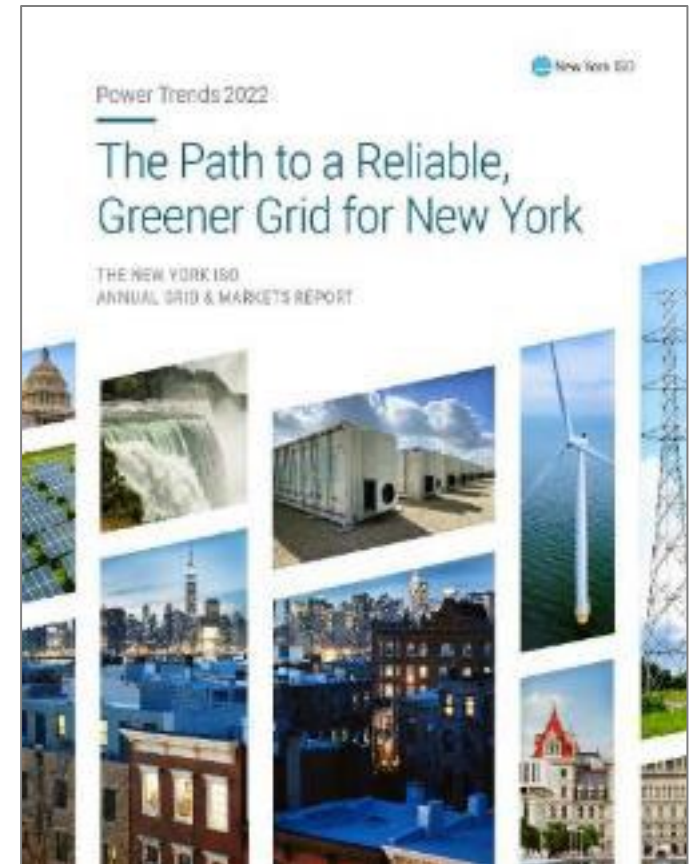


# Power Trends 2022: The Path to a Reliable, Greener Grid for New York

Current and emerging trends transforming the grid and electricity markets

## Key Themes:

- **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 contributions of existing fossil-fueled generation.** These capabilities are critical to a dynamic and reliable future grid.

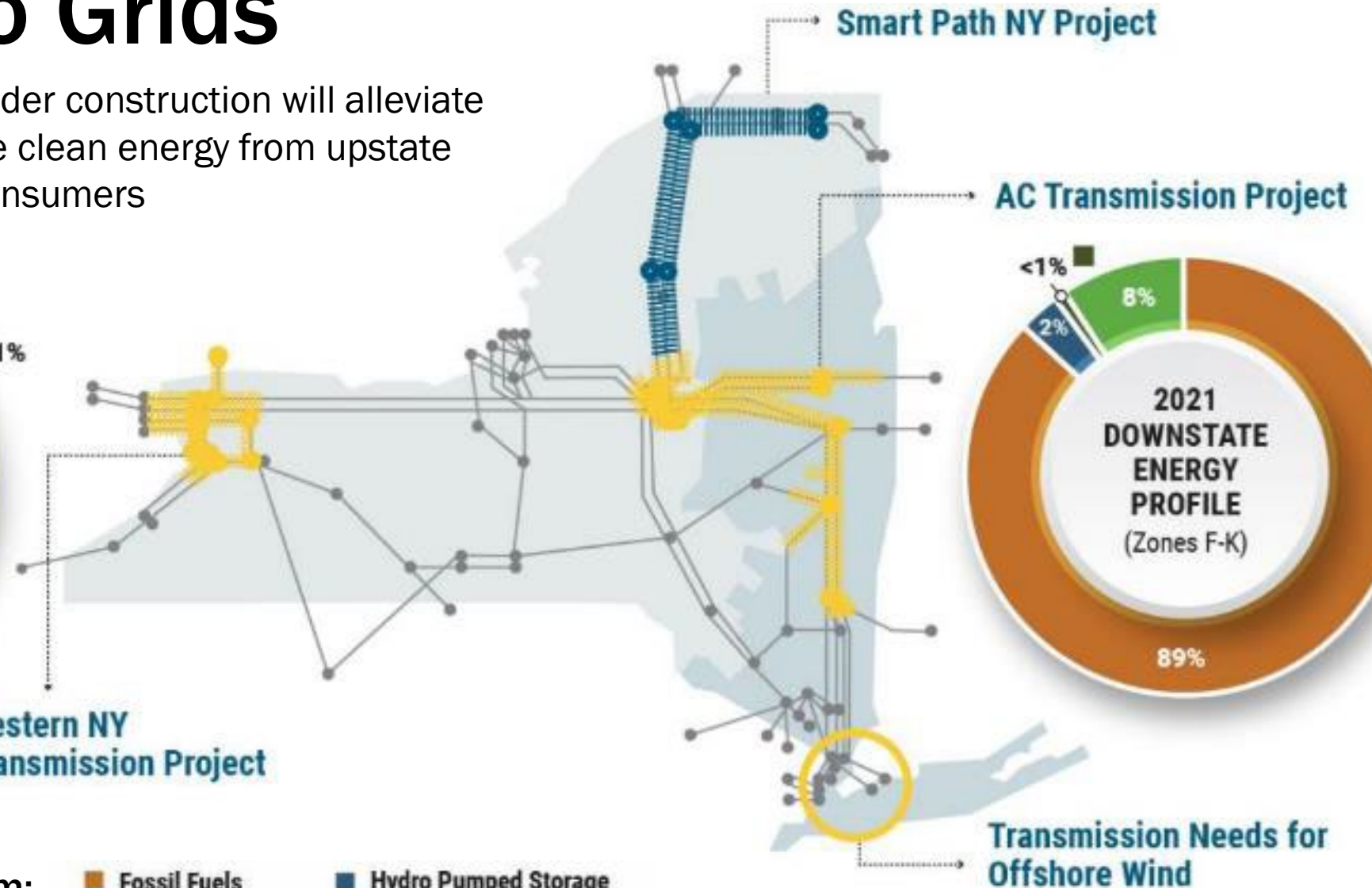


# Tale of Two Grids

Transmission upgrades under construction will alleviate constraints to deliver more clean energy from upstate resources to downstate consumers



**Western NY Transmission Project**



**Transmission Needs for Offshore Wind**

2021 energy production from:

- Fossil Fuels
- Hydro Pumped Storage
- Zero-Emissions
- Other Renewables

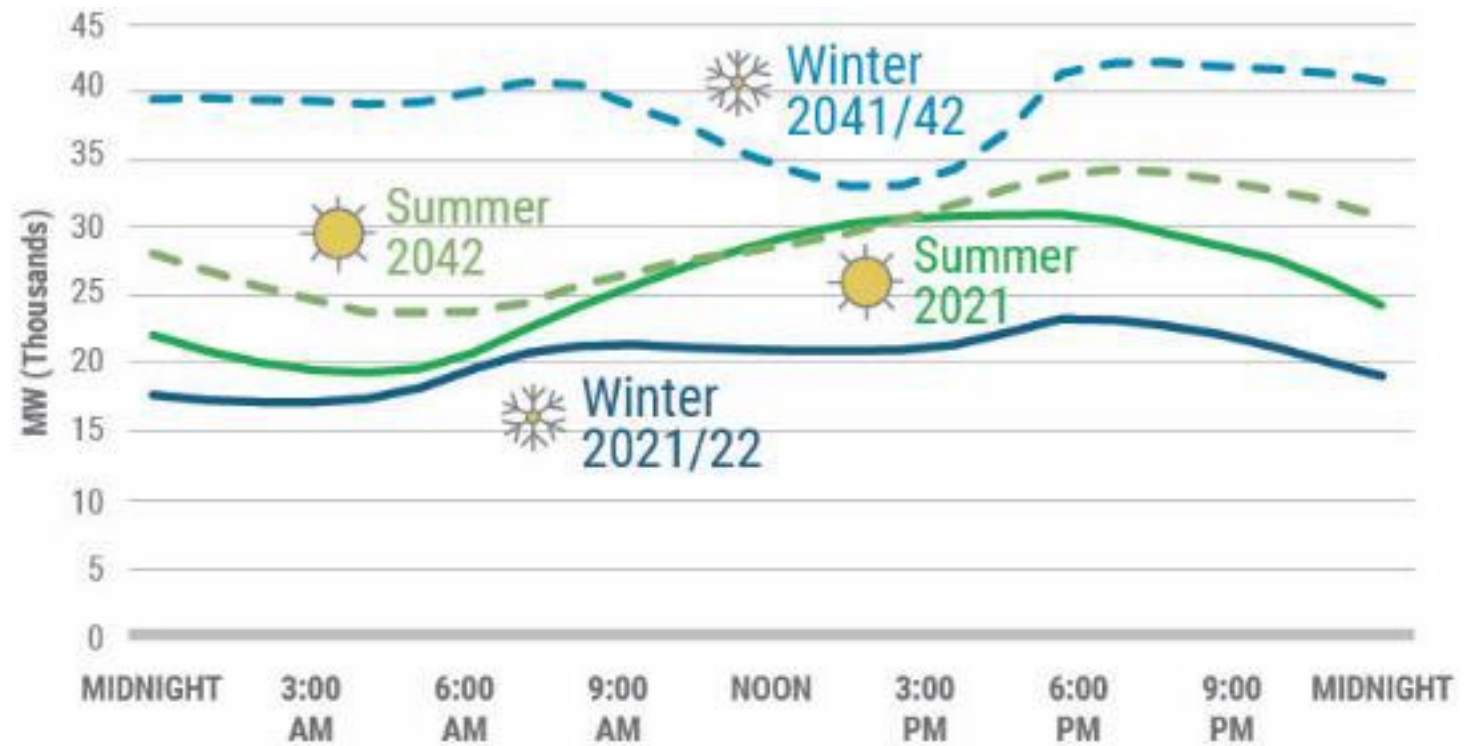
# NYISO Grid Status: Demand Patterns and Resource Adequacy

# High-Demand Patterns: Current & Forecast

**Load shapes for high-demand days** are expected to shift in the future.

- Electrification will lead to increased overall demand
- BTM solar resources will likely push peak demand to later in the day

Actual & Projected Hourly Demand: Winter-Summer

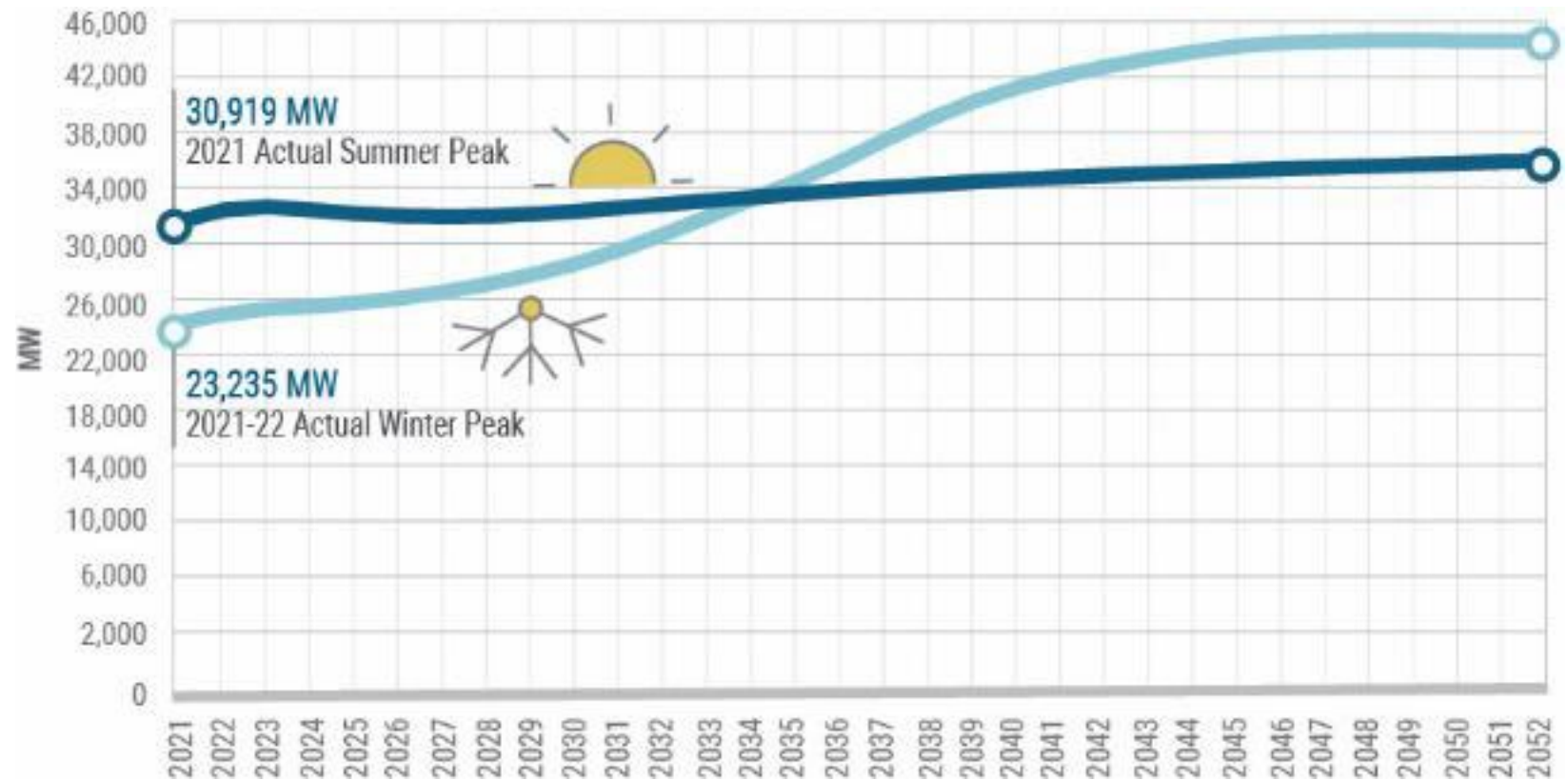




# Demand Trends: Peak Demand Forecast

- The NYISO winter and summer peak load forecasts suggest that electrification will drive a shift in NY from a summer-peaking system to a winter-peaking system.
- The timing and degree of this shift will be influenced by EV and heat pump technology adoption.

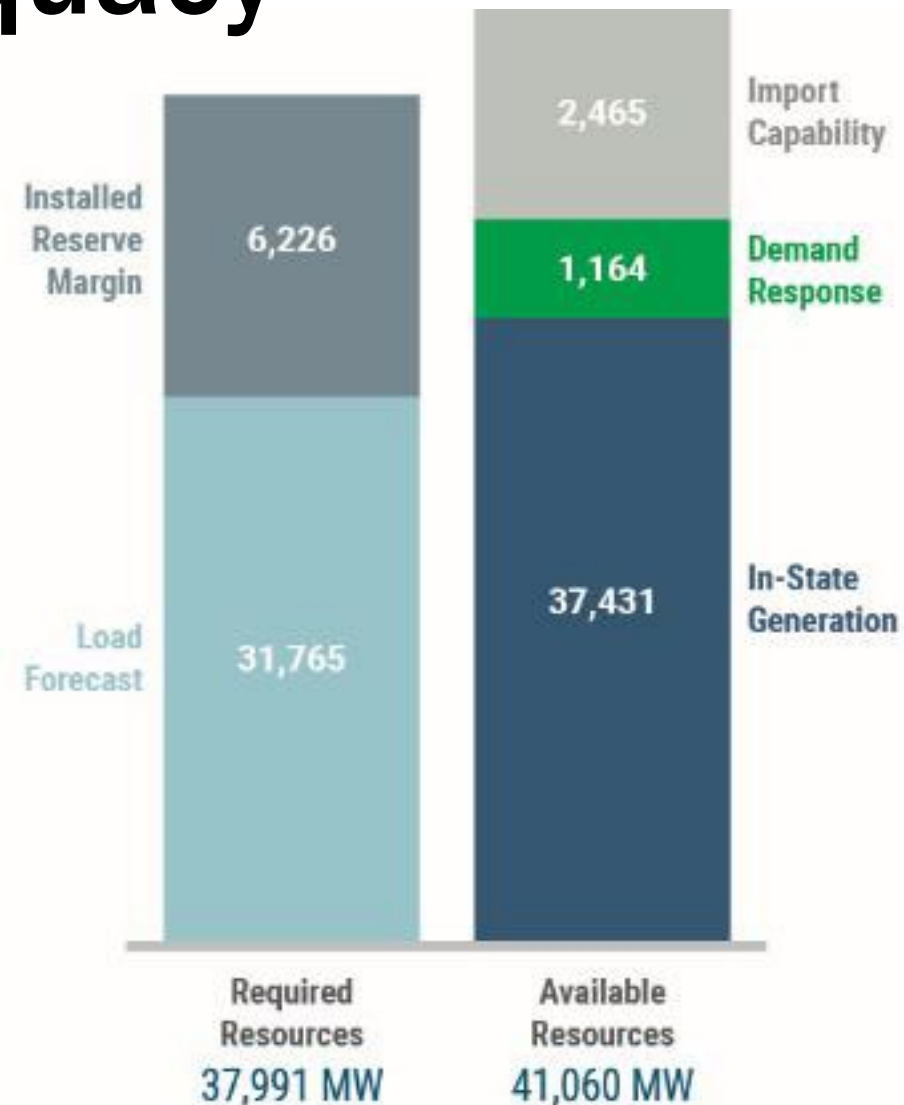
## Electric Summer & Winter Peak Demand: 2021-2052



# 2022 Resource Adequacy

## Statewide Resource Availability: Summer 2022

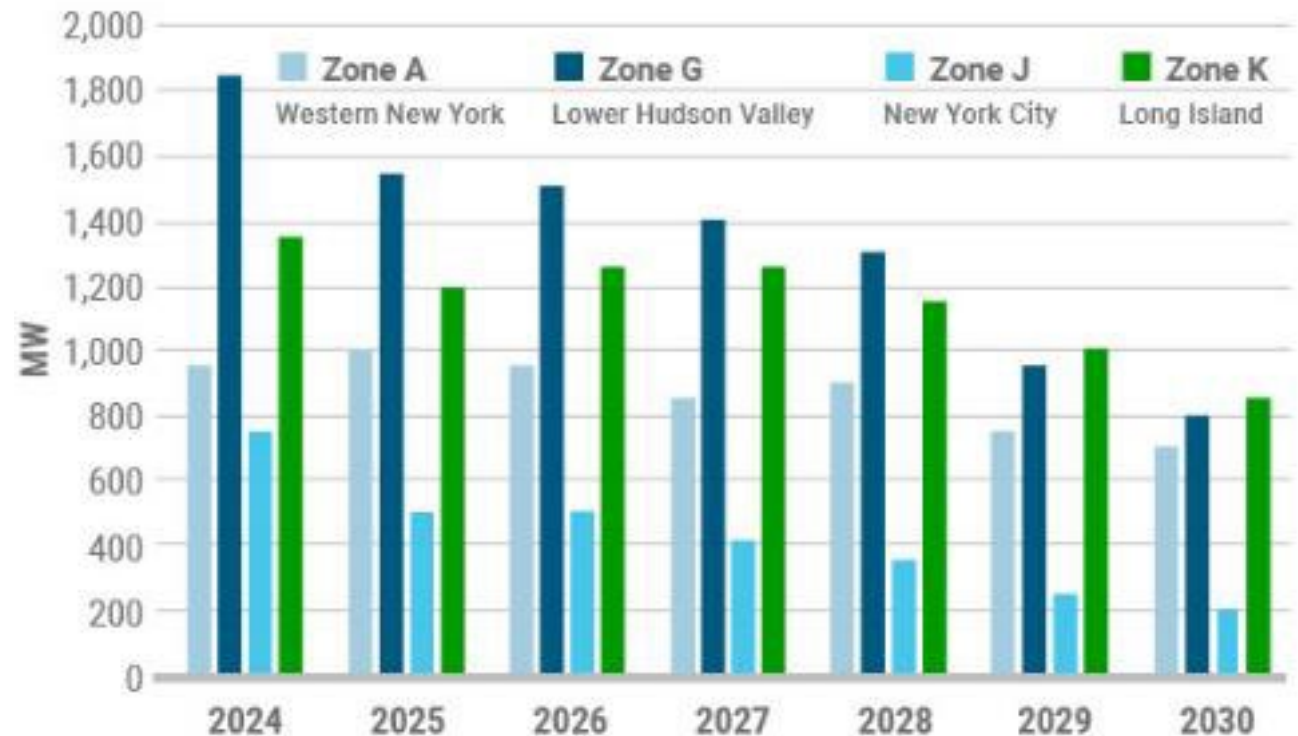
- Installed Reserve Margin is 19.6%
- Requires utilities, energy service companies, and other load-serving entities to purchase capacity equal to 119.6% of forecasted peak summer load
- Established by NYSRC annually



# Resource Adequacy Margins

- Reliability margins will shrink in upcoming years due primarily to the planned unavailability of simple cycle combustion turbines that are impacted by the NYSDEC's Peaker Rule.
- Risk factors that could potentially lead to deficiencies in reliable electric service include:
  - Delayed completion of generation and transmission projects;
  - Additional generator deactivations that are not anticipated;
  - Unplanned outages due to equipment failures; and
  - Extreme weather

## Zonal Resource Adequacy Margins: 2024-2030

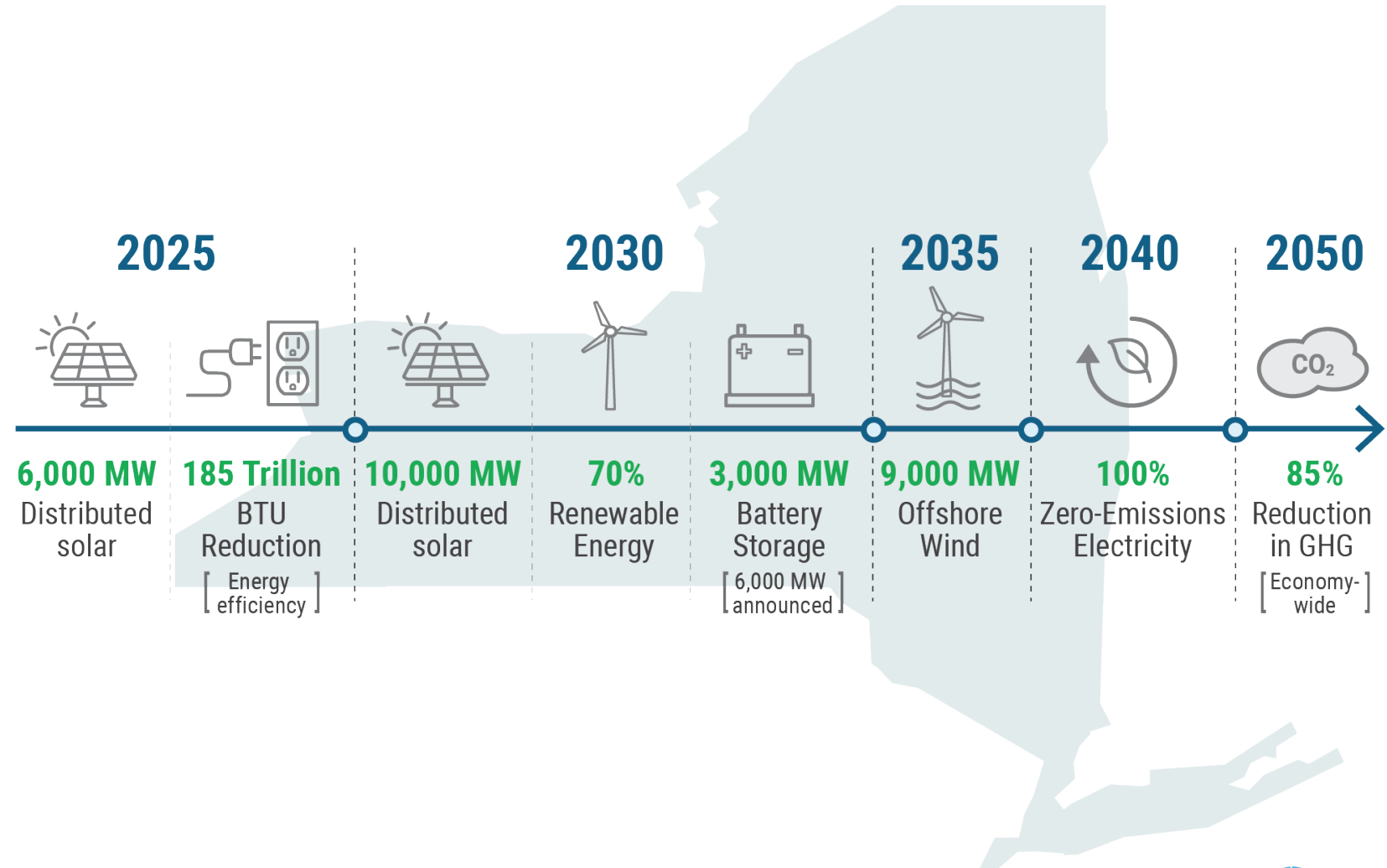


Source: 2021-2030 Comprehensive Reliability Plan

# NYISO Grid Status: Policy and Climate Change Considerations

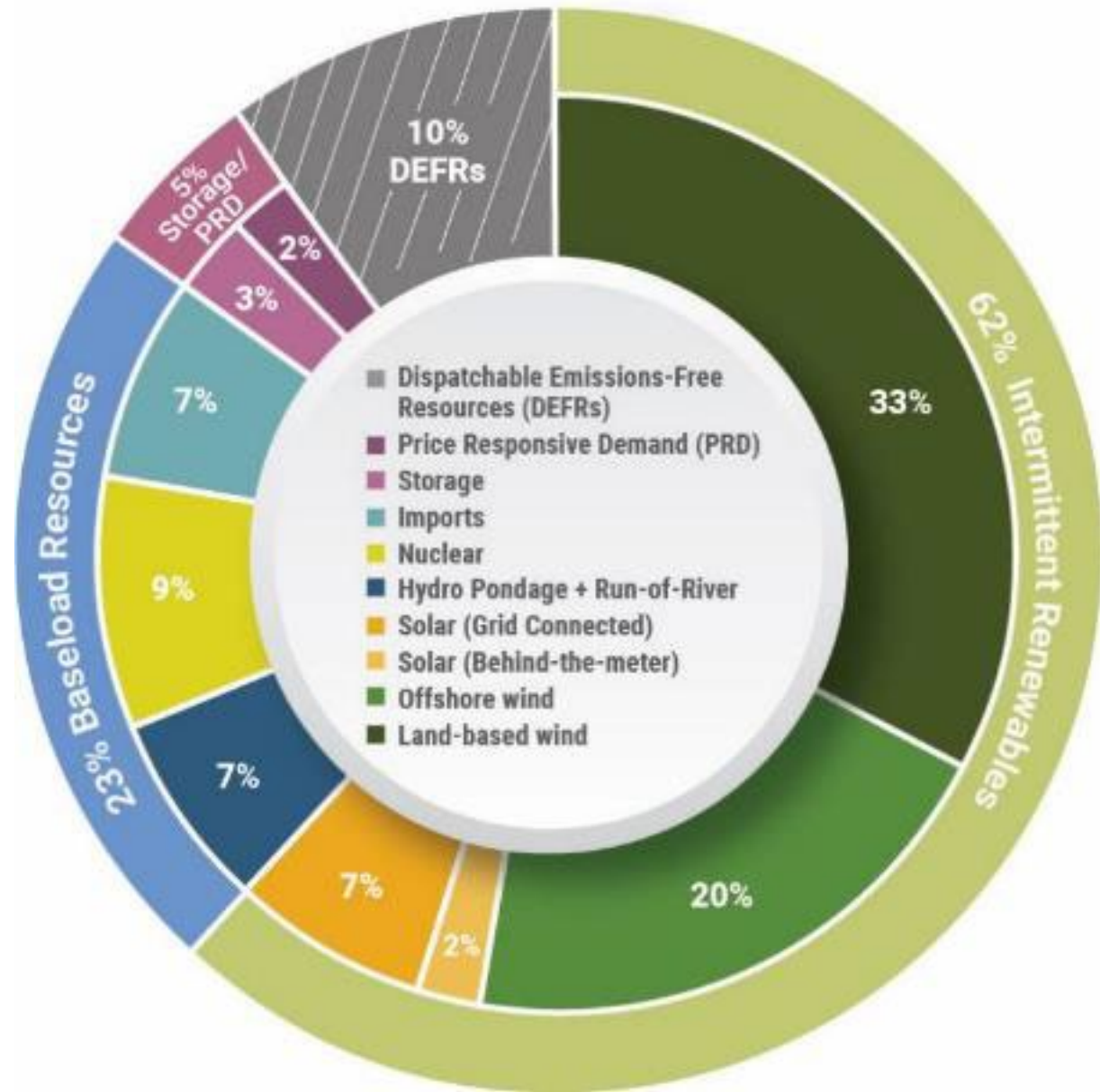
# Public Policy Influence on Resource Mix

- Public policies are shaping investment on the grid, particularly the CLCPA
- Competitive markets will channel investment to achieve these goals while maintaining reliability at the lowest possible cost



# NYISO's Climate Change Impact & Resilience Study

Projected  
CLCPA Winter  
2040 Energy  
Production by  
Resource Type



# Our Mission & Vision



## Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



## Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation