

172nd New England Electricity Restructuring Roundtable

Storage and/or Green Hydrogen:
Holy Grail(s) in Fully Decarbonizing
the Northeast?

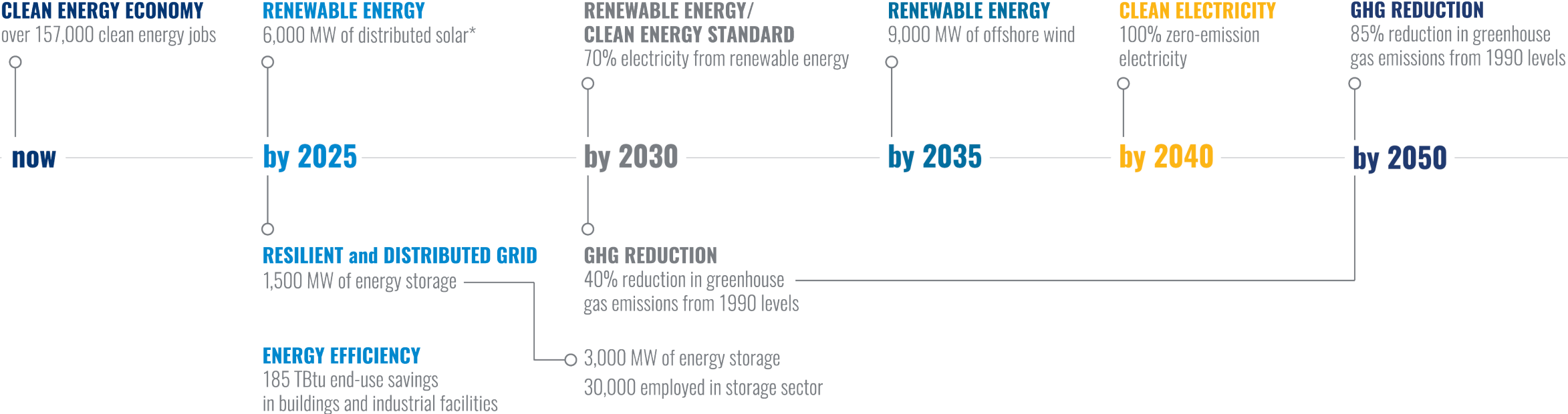
December 10, 2021

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NYSERDA

New York State Clean Energy Goals

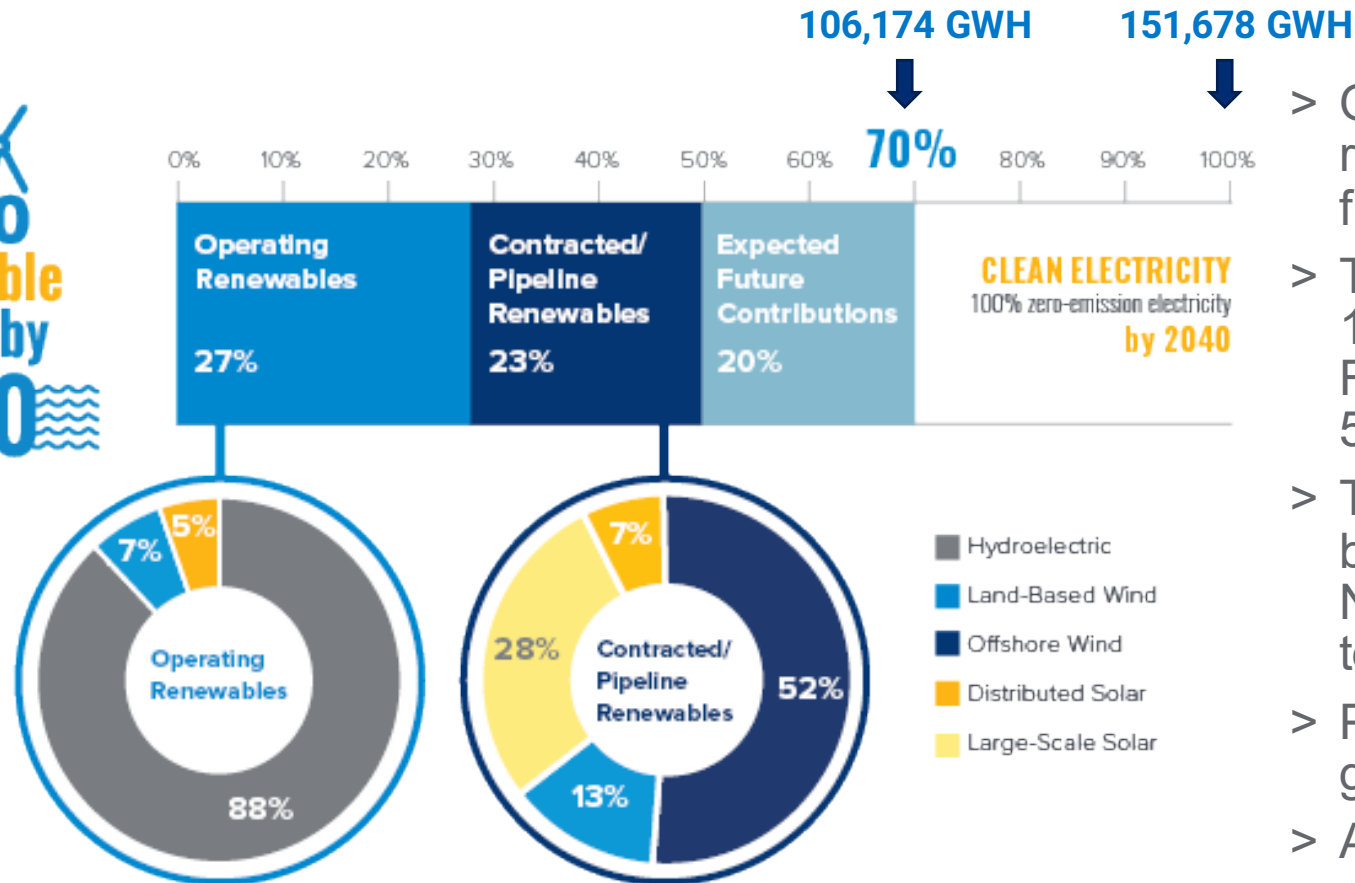


As announced by Governor Hochul during Climate Week 2021, New York State has now set a successor distributed solar goal of at least 10 GW of solar by 2030; NYSERDA and DPS Staff are now in the process of charting the path to 10 GW and beyond via a Whitepaper before the Public Service Commission (PSC).

Renewable Energy

70% Renewable Electricity by 2030

70%
renewable
energy by
2030



- > Operating, contracted and pipeline renewables represent 50% of NY's forecasted electric use in 2030
- > Tier 1 RES solicitations developing 13,700 GWH through 89 projects, with REC prices coming down approximately 50% 2017-2020
- > Tier 4 announced in September will bring 18,000 GWH to demand center - NYC Zone J (bringing total renewables to >60%)
- > Projects can take years to build and generate electricity
- > Additional industry supports critical to goal attainment: Build Ready Program, workforce, port infrastructure, etc.

Electricity Generation

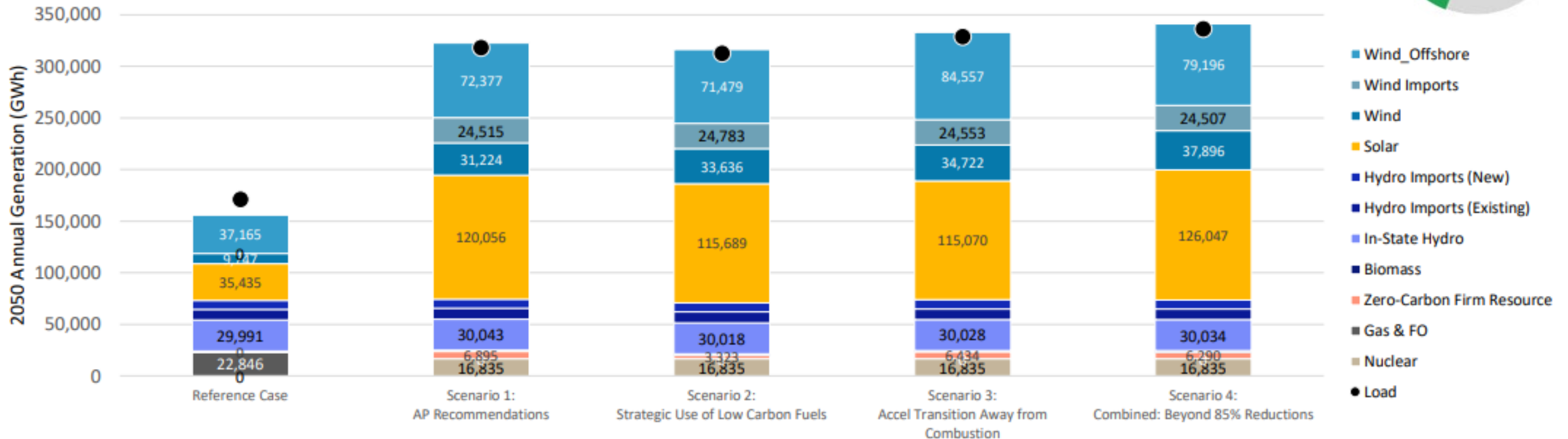
Comparison of 2050 Annual Generation

Share of annual generation across mitigation scenarios:

> Solar: 35-38%

> Wind: 40-44%

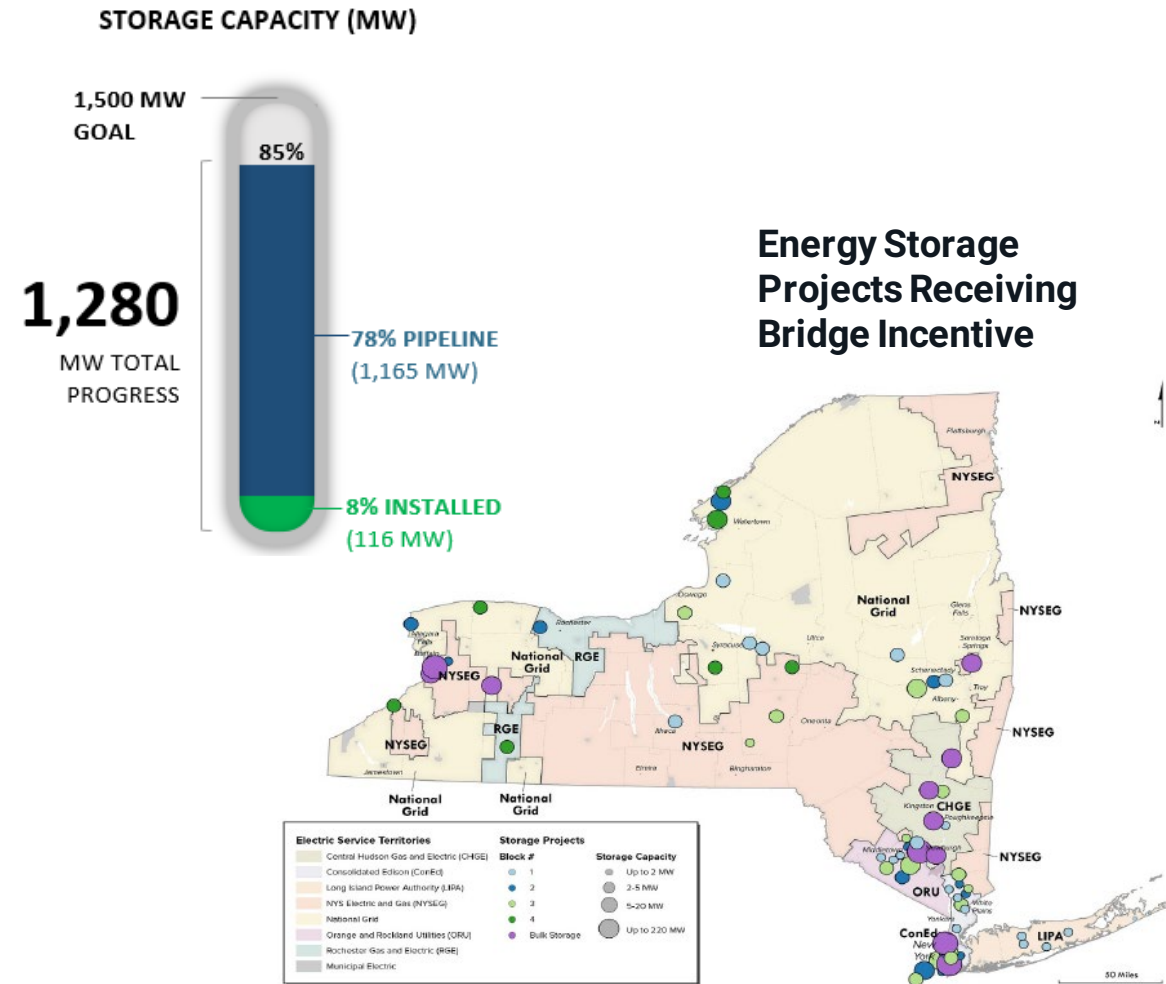
> Zero-carbon firm resource: 1-2%



Resilient and Distributed Energy Grid

1,500 MW Energy Storage by 2025

- > Ensuring clean, distributed renewable energy to help meet NY's electricity needs and provide capacity in place of old polluting fossil generation
- > Successful procurement of large pipeline through Energy Storage Bridge Incentive (\$301M awarded, \$59M remaining)
 - Large majority of procured MW is bulk storage and is distributed throughout the State; retail storage also good coverage across utilities
- > 1,280 MW total progress, most of which is in various stages of development and construction



Hydrogen Activities in New York



Hydrogen Opportunity and Strategy study

- > Compile foundational and baseline information and data
- > Evaluate production & end-use opportunities for green hydrogen



Long Duration Energy Storage PON

- > \$12.5M for product development and demonstration
- > Address cost, performance, renewable integration challenges



Center for Hydrogen Safety

- > Access an expert Hydrogen Safety Panel for safety review
- > Access latest information and best practices on hydrogen safety



MOU with Danish Ministry of Climate, Energy, and Utilities

- > Continue Successful Collaboration on Decarbonization
- > Focus on carbon capture, utilization, storage and green hydrogen



HyBlend Collaborative Research

- > Identify principles of operation of blended hydrogen/natural gas delivery system
- > Understand the use of existing infrastructure for hydrogen



Robust Stakeholder Engagement

- > Coordination and collaboration across the New York stakeholder landscape
- > Aims to be proactive and responsive to stakeholder priorities and opportunities

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