

Energy Storage Discussion



**NEW YORK BATTERY
AND ENERGY STORAGE**
TECHNOLOGY CONSORTIUM

William Acker
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About NY-BEST



The New York Battery and Energy Storage Technology Consortium

MISSION: To catalyze and grow the energy storage industry and establish New York State as a global leader.

NY-BEST will do this by:

- 1. Communicating information and facilitating connections*
- 2. Accelerating Commercialization*
- 3. Educating policymakers and stakeholders*
- 4. Promoting New York 's capabilities and markets*

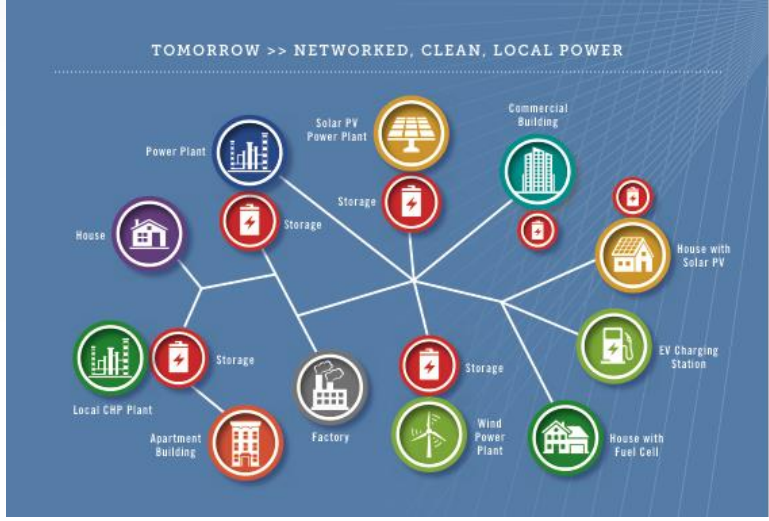
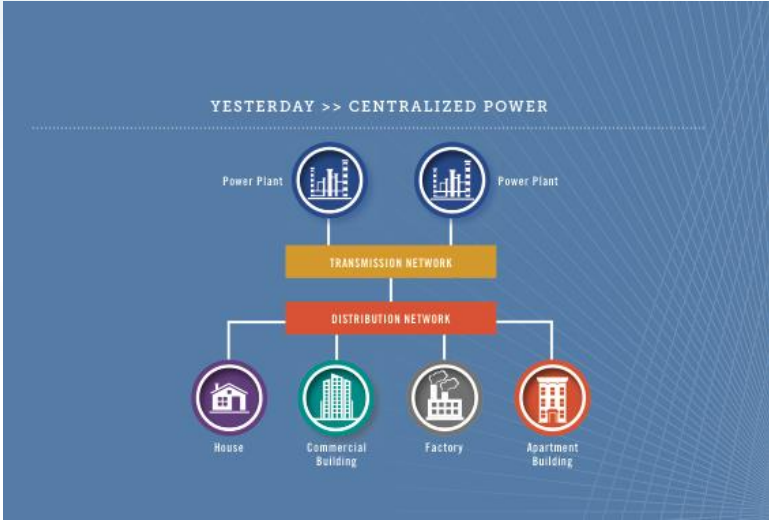
If you're interested in further information, visit www.ny-best.org



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**Energy Storage
is the key enabling technology to
transform
the Transportation and
Electricity Industries**

Electricity Grid Architecture



Changing Electricity Grid



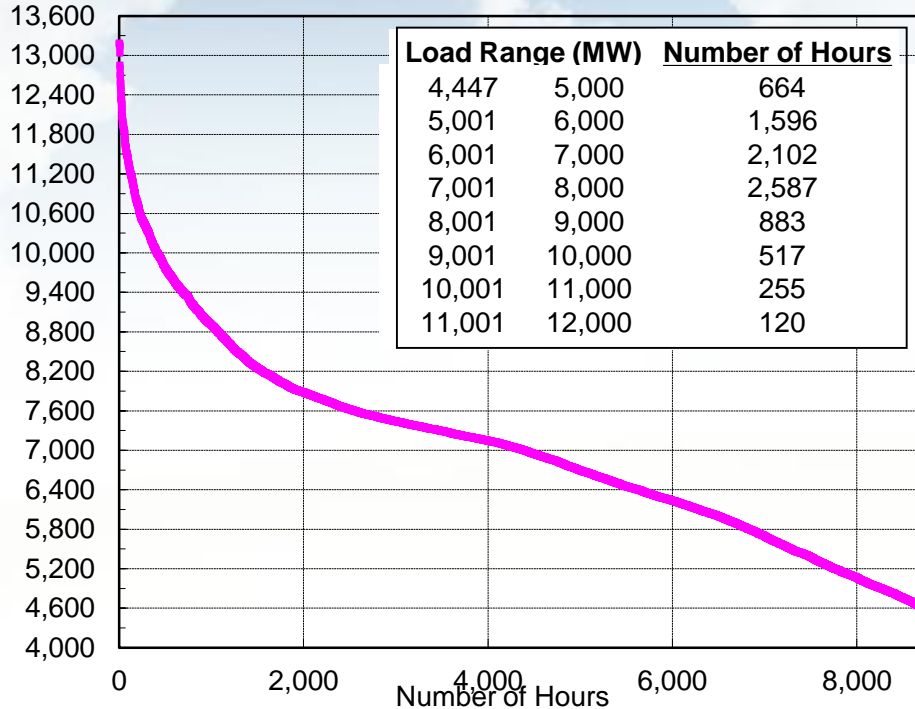
Key Goals supported by Energy Storage

- ❖ Improving the efficiency and capacity factor (utilization) of the electric grid
- ❖ Integrating an increasing amount of renewable energy
- ❖ Enhancing the reliability and resilience of the electric grid

Peak Power is expensive



CECONY Service Area Load Duration Curve



Source: Consolidated Edison

Generation and Transmission built to serve peak demand

The Public Service Commission Estimates that the top 100 hours cost New Yorker \$1.2 to \$1.7 billion per year

Renewable Integration

50% Renewable energy by 2030 and a need to go further to meet 80x50 greenhouse gas goal

Capacity factors drive high nameplate capacity requirement

Firming and smoothing

Energy shifting

Energy Storage Use Cases

Building Applications

- ❖ Reduces Demand Charges on electricity bill
- ❖ Allows participation in demand reduction programs
- ❖ Provides emergency power for lights, elevators and other critical items.

Energy Storage Use Cases

Distribution grid support Applications

- ❖ Non-Wires Alternatives (NWA) for Utility Asset Deferral
- ❖ Hosting Capacity (being developed).

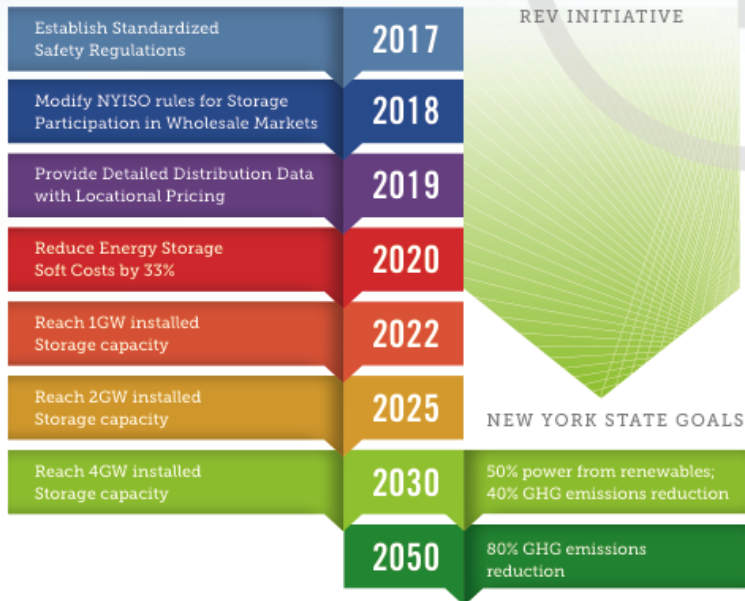
Energy Storage Use Cases

System Level Applications

- ❖ Peaker plant hybrid and replacement
- ❖ Flexible asset to support high renewable energy generation

Energy Storage Roadmap

NY-BEST GOALS AND RECOMMENDATIONS



Thank you



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