Battery Energy Storage Systems

Fact Sheet

A More Affordable Solution to Support the Energy and Reliability Needs of New York State and Local Communities

Battery Energy Storage Systems (BESS) make our electric grid less expensive, more reliable, and cleaner to operate. BESS boost reliability by responding instantly to fluctuations in supply and demand, such as heat waves in the summer, while helping to prevent outages and blackouts.

In addition to BESS alleviating stress on the electricity grid, they can delay or eliminate the need for new transmission lines, substations, or power plants, saving billions in infrastructure costs that would otherwise be paid by consumers.

Are battery energy storage facilities safe?

Yes. New York States's codes are among the highest standards internationally and are designed to reduce risk while ensuring that in the rare case a fire does happen, it is contained and does not pose a threat to the facility's host community or first responders.

Currently, BESS are subject to extensive oversight and a host of safety industry standards, codes, design reviews, and inspections such as Underwriters Laboratories (UL) testing and certifications, manufacturer specifications, the New York State Uniform Fire Prevention and Building Code, the National Electric Code, among others.

The State's Inter-Agency Fire Safety Working Group (Working Group) has put forward 11 new code recommendations, which are expected to be adopted in July 2025, and which further strengthen safety protections for energy storage systems. NYSERDA has already implemented some of the most significant safety recommendations from the Working Group, including mandatory peer reviews by independent subject matter experts to ensure all energy storage projects meet the highest safety standards and are fully code compliant. The peer reviews are part of a broader set of NYSERDA requirements, which also include emergency response plans, training for local fire departments, and enhanced inspection protocols.

Have battery energy storage system fires had harmful environmental impacts from smoke, heavy metals, or other contaminants?

Based on analyses of air quality, soil, or water data collected following the incidents in New York, the Working Group reported that there were no stated injuries, and no harmful levels of toxins detected. The environmental impact data obtained in New York is broadly consistent with data collected at other battery energy storage system fires. No field evidence[1] has been collected in the wake of a BESS fire that would suggest a serious potential threat of harmful environmental contamination to date.

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The Working Group has identified several areas of potential improvement for the Fire Code. Does that mean current regulations fall short or are otherwise unsafe?

No, the current energy storage projects are already held to rigorous safety standards, including national codes, manufacturer specifications, and the New York State Uniform Fire Prevention and Building Code. However, safety practices can always be improved, which is why the State's Working Group has proposed 11 updates to strengthen and clarify the fire code.

NYSERDA-sponsored projects are already leading the way by implementing many of these recommendations ahead of formal adoption including independent peer reviews, emergency response plans, local fire department training, and enhanced inspection protocols to ensure projects are not only code compliant but uphold the highest levels of safety for communities and first responders.

If the codes are not expected to go into effect until late 2025, should we pause the market until the changes are made?

The codes are anticipated to be adopted in July 2025, however NYSERDA is already enforcing some of the most critical recommendations, including peer reviews for all projects, mandatory emergency response plans, local fire department training, applicability of fire code to cabinet systems, and enhanced inspection requirements for all new projects effective immediately as part of its energy storage program rules in addition to conducting enhanced field inspections to make sure projects are compliant.

Are local communities aware when these energy storage facilities are being proposed in neighborhoods?

Communities are aware when large commercial BESS are being proposed. There are often public hearing requirements embedded in the site plan review process where communities require a site plan application through local zoning. In addition, all utilities release Standard Interconnection Requirements (SIR) data on the Department of Public Service website,[2] where interested parties can view data to find proposed and completed projects (up to 5 megawatts) in their utility territory. For utility-scale projects that are paired with renewable energy generators, there is a public engagement requirement through the State's Office of Renewable Energy Siting (ORES).

Economic Benefits of Battery Energy Storage Systems

PASS SAVINGS ONTO COMMUNITIES

Energy storage charges when there is less demand for electricity and exports to the grid when the demand is needed the most. BESS send stored energy to the grid during times of peak demand, which lowers overall electricity costs for consumers. This also defers or potentially eliminates the need for costly grid upgrades and the addition of new power plants that are paid for by consumers through their utility bills.

RESPONSIVE, EFFICIENT, AND COST EFFECTIVE

BESS can immediately respond to fluctuations in energy supply and demand, unlike their legacy fossil fuel counterparts which take minutes to respond to the same fluctuations. They reduce the need for expensive back-up generation and improve overall grid reliability. This translates to fewer outages and lower costs.

SAVE MONEY

Deploying 6 gigawatts of energy storage by 2030 will save New Yorkers nearly $2 billion in overall electric system costs (2025-2030).

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[1] *https://cdn.prod.website-files.com/666b00bb91a866df89c4f469/67e44e5991dada623fd2e8f0_Assessment-of-Potential-Impacts-of-Fires-at-BESS-Facilities.pdf*

[2] *https://dps.ny.gov/distributed-generation-information*

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