



# ***Unlocking Distributed Energy Storage to Address Reliability Needs in New York City***

**New York Battery and Energy Storage Technology Consortium (NY-BEST)  
Whitepaper**

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## **Table of Contents**

- I. [Energy Storage Can Help Fill New York City's Growing Reliability Gap](#)
- II. [Current Processes Limit Storage from Meeting the Need](#)
- III. [The Solution: Enable Flexibility and Control](#)
- IV. [Conclusion](#)

I. Energy Storage Can Help Fill New York City’s Growing Reliability Gap

**New York City faces significant and worsening reliability challenges that demand immediate action.** The New York Independent System Operator (NYISO) *Short-Term Assessment of Reliability: 2025 Quarter 3* (“Q3 STAR Report”)<sup>1</sup> found a 410-650 MW (1,709-3,569 MWh) Bulk Power Transmission Facilities (BPTF) deficiency as early as 2026, increasing to a 500-1,130 MW (3,211-10,922 MWh) deficiency by 2030. Con Edison’s preliminary Local Transmission Plan (LTP)<sup>2</sup> projects a 250 MW (700 MWh) peak reliability need by 2030, escalating to 1,325 MW (10,000MWh) by 2035.

New York City BPTF Deficiencies:

Summer Peak	2026	2027	2028	2029	2030
MW Deficiency	410-650	440-680	460-790	480-950	500-1,130
Duration (hours)	6-8	6-9	8-11	8-13	8-13
MWh	1,709-3,569	1,753-3,782	3,014-6,658	3,227-8,794	3,211-10,922

*Excerpted from NYISO Q3 STAR Report, page 6. Reliability needs for NYC were identified beginning in 2026.*

Con Edison Local Transmission Plan: Zone J Reliability Needs

	2026-2029	2030	2031	2032	2033	2034	2035
<b>Peak MW Need:</b>	-	(250)	(450)	(575)	(800)	(1,050)	(1,325)
<b>Hours:</b>	-	4	7	7	9	11	12
<b>Duration:</b>	-	3PM – 7PM	1PM – 8PM	1PM – 8PM	noon – 9PM	11AM – 9PM	11AM – 11PM
<b>Approximate MWh:</b>	-	(700)	(1,800)	(2,650)	(4,475)	(6,900)	(10,000)

*Excerpted from Con Edison 2025 Local Transmission Plan (LTP), page 4.  
Reliability needs for NYC were identified beginning in 2030.*

**Thanks to New York State’s leadership, energy storage projects are already in development that can help meet this need.** This was made possible due to the Commission’s and Department of Public Service (DPS) Staff’s forward-looking leadership in jumpstarting the distributed energy storage market over the last decade, including by: establishing the Value of Distributed Energy Resources (VDER) tariff; launching demonstration programs under Reforming the Energy Vision; directing utilities to publish Hosting Capacity maps and procure Non-Wires Solutions and Dynamic Load Management (DLM) programs; and launching the ground-breaking Statewide Solar For All (SSFA) program to direct solar and storage bill credits to those who need them most. The Commission, together with the New York State Energy Resource and Development Authority (NYSERDA) further established the market by launching highly successful energy storage incentive

<sup>1</sup> New York Independent System Operator (NYISO), *Short-Term Assessment of Reliability: 2025 Quarter 3*, October 13, 2025. Accessed [here](#).

<sup>2</sup> Con Edison Company of New York (CECONY), *2025 Preliminary Local Transmission Plan (LTP)*. Accessed [here](#).

programs under the 3 GW and 6 GW Energy Storage Roadmaps.<sup>3,4</sup> This set in motion the development of New York’s highly-respected fire safety regulation advancements—both by the City of New York, including the NYC Fire Department (FDNY) and the Department of Buildings (DOB), and the State of New York, including leadership on the Interagency Fire Safety Working Group that resulted in the adoption of nation-leading energy storage regulations in the State Fire Code in effect statewide as of January 1, 2026. It also catalyzed modern zoning reform, such as the City of Yes, which enables energy storage development across NYC. A mature energy storage market only exists in New York State because of decisions that the Commission and Staff began to make over a decade ago. With gratitude, we applaud the Commission’s leadership in identifying energy storage as a critical technology to New York’s energy future and in paving the way for distributed energy storage to meet our grid reliability needs.

As a result of this leadership, **New York City can reasonably expect at least 644 MW (2,526 MWh) of distributed energy storage to be deployed by 2029 – enough to meaningfully mitigate both the NYISO’s and Con Edison’s projected need for 2030.** This estimate incorporates the 818 MW of distributed four-hour energy storage in late-stage development in New York City (which have paid 100% of their utility interconnection costs and contracted with NYSERDA for retail storage incentives)<sup>5</sup> assuming 30% project attrition, combined with the 71 MW already deployed.<sup>6</sup>

**While both NYISO and Con Edison point to a potential peak shortfall with a duration of longer than four hours, sufficient four-hour storage resources could still meet these needs,** particularly if not required by interconnection studies and market rules to all discharge simultaneously. Energy storage assets are reservoirs of energy that should be controlled and operated independently; they could be directed to discharge in a cascading fashion to cover extended peak periods. For this reason, the approximately 2,526 MWh of four-hour energy storage expected online in NYC by 2029 could directly address Con Ed’s projected 1,800 MWh reliability need in 2031, despite the seven-hour shortfall duration.

**However, current planning systematically undervalues distributed energy storage as a reliability resource.** While the NYISO Gold Book lists 67 MW of distributed energy storage

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<sup>3</sup> New York State Department of Public Service (DPS) and the New York State Energy Research and Development Authority (NYSERDA), New York State Energy Storage Roadmap and Department of Public Service/ New York State Energy Research and Development Authority Staff Recommendations (Roadmap), (“3 GW Roadmap”), June 21, 2018. Accessed here.

<sup>4</sup> New York State Department of Public Service (DPS) and the New York State Energy Research and Development Authority (NYSERDA), New York’s 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage, (“6 GW Roadmap”), March 15, 2024. Accessed here.

<sup>5</sup> Based on data from New York State Energy Research and Development Authority (NYSERDA) Retail Incentive Dashboard. Accessed [here](#), December 2025. This includes 165 MW awarded but not yet complete in NYC Blocks 1-5 under the 3 GW Roadmap, and 653 MW awarded but not yet complete in NYC Blocks 6-9 under the 6 GW Roadmap. This was calculated assuming an average system duration of 3.925 hours.

<sup>6</sup> Based on data from New York State Energy Research and Development Authority (NYSERDA) Distributed Energy Resources Portfolio Manager. Accessed [here](#), December 2025. This includes 42 MW awarded NYSERDA incentives under the 3 GW Roadmap (Blocks 1-4).

deployed in Zone J in 2025, it credits only 34 MW toward meeting the 2025 summer peak<sup>7</sup>—a 50% haircut. Similarly, by 2030, NYISO projects 295 MW of energy storage capacity but credits only 148 MW toward peak reduction.<sup>8</sup> This approach not only underestimates the number of anticipated distributed storage projects in the pipeline, but also vastly underestimates distributed energy storage’s reliability contribution, particularly for front-of-the-meter (FTM) systems designed specifically to respond to utility dispatch signals during peak events. Indeed, according to a NY-BEST survey of companies with a total of 40 MW of operating energy storage assets in NYC, greater than 95% of this capacity was successfully discharged during the Summer 2025 ICAP Market Peak.<sup>9</sup> In addition, 19 MW of these systems were enrolled in Auto-DLM or other reliability programs in 2025, with an average 97% response rate to utility calls. These achievements illustrate the high reliability of these resources when properly signaled and compensated.

**Con Edison also has not incorporated into its planning the significant bulk storage projects that are expected to come online on the transmission system in the coming years.** These include projects selected by Con Edison in Astoria (100 MW), Maspeth (20 MW), and Bayonne (50 MW) under Con Edison’s Energy Storage Deployment Program.<sup>10</sup> Further, NYSERDA is required to procure 30% of its 3 GW bulk storage target in Zone J, as part of the ongoing Bulk Storage Solicitation.<sup>11</sup> Collectively, this could represent 1,070 MW (4,200 MWh) between the NYSERDA and Con Edison solicitations. Even if only 50% of these projects are delivered, New York City could reasonably expect 535 MW (2,100 MWh) of transmission-size resources to come online by 2030. This capacity, combined with the distributed projects described above, would more than mitigate the shortfall NYISO and Con Edison have described.

**Further, both the NYISO and Con Edison conduct grid planning for Zone J that underestimates the buildout of storage resources, which in turn directly impacts the ability for new projects to be constructed.** We applaud the Commission for recently opening a proceeding directing Con Edison to develop a Reliability Contingency Plan to identify innovative solutions to address reliability needs identified in New York City.<sup>12</sup> In this proceeding, Con Edison and the NYISO must work with the Commission, industry, and other stakeholders to ensure that grid planning processes, including the NYISO Quarterly STAR Reports and Con Edison Local Transmission Plans, include appropriate projections of energy storage growth at both the distributed and transmission levels. Otherwise, New York risks over-reliance on costly grid infrastructure upgrades, rather than taking advantage of more cost-effective reliability solutions for ratepayers.

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<sup>7</sup> New York Independent System Operator (NYISO), *2025 Load & Capacity Data - Gold Book*, April 2025, pages 51-53. Accessed [here](#). Note: NYISO lists all energy storage interconnected on the distribution system (and not participating in the wholesale markets) as Behind-the-Meter storage, though NY-BEST notes a significant portion of distribution-connected energy storage will be Front-of-the-Meter.

<sup>8</sup> Ibid.

<sup>9</sup> The Installed Capacity Alternative 3 (“ICAP Alt 3”) for VDER is defined as the peak hour of electricity demand during non-holiday weekdays in July and August.

<sup>10</sup> See [Case 18-E-0130](#) – In the Matter of Energy Storage Deployment Program.

<sup>11</sup> See New York State Energy Research and Development Authority (NYSERDA) Bulk Energy Storage Program Page. Accessed [here](#), January 2026.

<sup>12</sup> See [Case 25-02601](#), Proceeding on Motion of the Commission to Address New York City Reliability Needs.

**Notably, Con Edison has already laid the groundwork for energy storage to serve as a reliability asset.** For example, Con Edison requires Supervisory Control and Data Acquisition (SCADA) to be installed with every energy storage project, enabling real-time monitoring and controllability of all interconnected distributed projects. Further, many distributed energy storage projects already participate in the Auto-DLM program, which according to Con Edison, is a Demand Response program designed to provide reliability benefits to the grid.<sup>13</sup> This program requires flexible dispatch with 10-minutes notice in response to utility signals, with performance penalties. Despite their potential to serve reliability needs, Con Edison does not currently incorporate these systems into its reliability planning, passing up a critical opportunity to grow the program to meet load relief needs.

**The disconnect is stark:** New York City has a growing reliability gap, and while hundreds of megawatts of energy storage are poised to fill it, our current planning processes systematically discount storage's ability to do so. Addressing this requires fixing the rules that prevent storage from being appropriately interconnected, accurately valued, and effectively deployed.

## II. Current Processes Limit Storage from Meeting the Need

**Grid planning and resource interconnection processes generally follow one of two strategies:** (1) provide control over resources and build upgrades only for expected, beneficial operation, or (2) harden the grid to tolerate worst-case actions of the interconnecting resources. The transmission system is planned in line with the former strategy, assuming assets will function in a controlled, rational manner that will benefit the grid. In contrast, the distribution system is planned in line with the latter, hardening the grid against any possible behavior, including operation that would stress the grid.

**This approach is particularly problematic for energy storage given its flexibility;** storage could significantly benefit or stress the grid depending on how it is operated. Energy storage could theoretically charge during peak demand, triggering the need for upgrades; thus, a distribution planning framework that assumes worst-case behavior inevitably leads to unnecessary infrastructure. Instead, a modernized grid should ensure energy storage is appropriately controlled to maximize grid benefits. Yet current interconnection rules require utilities to assume energy storage is neither flexible nor controllable, and that it may behave detrimentally. Further, under current interconnection and VDER market rules, Con Edison must assume that all energy storage resources will charge and discharge simultaneously during static, predetermined time windows.

**This static window approach enabled initial energy storage deployment, but it is not scalable to broad deployment.** In particular, this approach significantly reduces the flexibility of individual assets, creating uniform behavior across all systems interconnected to the grid, thereby

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<sup>13</sup> Con Edison, *Rider AC Term and Auto DLM Webinar*, December 2, 2025, Slide #4. Accessed [here](#).

concentrating charging and discharging into narrow windows that can create grid stress rather than alleviate it.

**The result is a systematic bias against energy storage in interconnection and reliability studies.** By failing to treat energy storage as a controllable resource –both in interconnection studies and under current market rules– utilities will continue to identify costly and unnecessary infrastructure upgrades that flexible, controlled storage operation would avoid.

### III. The Solution: Enable Flexibility and Control

**NY-BEST urges the Commission to immediately initiate a 6-12 month stakeholder-based process to reform Con Edison’s interconnection and market rules and ensure energy storage is recognized as the flexible, controllable asset it is.** Doing so would allow utilities to manage charging and discharging without triggering expensive infrastructure buildout designed for worst-case scenarios that are highly unlikely to occur. This stakeholder process should be conducted in close coordination with the ongoing proceeding to inform the Demand Reduction Value (DRV) and Locational System Relief Value (LSRV) portions of the Value of Distributed Energy Resources (VDER) value stack.<sup>14</sup> Notably, that proceeding explores how energy storage should be optimized, signaled, and compensated to maximize benefits to the grid; ensuring flexible energy storage interconnections can maximize the envisioned benefits of VDER and capture the associated ratepayer benefits.

NY-BEST recognizes that in the long-term, New York will need a highly advanced dynamic control framework such as Distributed Energy Resource Management Systems (DERMs), which would allow utilities to dispatch energy storage in real-time based on actual grid conditions, as envisioned in the Grid of the Future proceeding. However, implementing such a framework may take several years. In the meantime, several interim approaches could immediately unlock energy storage’s reliability potential.

To guide discussions regarding interim solutions for interconnection and market rule reform, NY-BEST proposes the following core principles for reform, as further detailed below:

#### **Core Principles for Reform:**

1. **Holistic approach integrating interconnection and tariff structures**
2. **Flexible interconnection studies and agreements**
3. **Fair market structures that drive controlled, flexible operation**
4. **Performance requirements to ensure reliability**
5. **Appropriate incentive structures for utilities**

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<sup>14</sup> See [Case 15-E-0751](#), In the Matter of the Value of Distributed Energy Resources.

## **1. Holistic approach integrating interconnection and tariff structures**

A fundamental challenge is that current New York interconnection and market rules have not been developed holistically. Because *both* tariffs and interconnection agreements drive energy storage operation, these elements must be designed together to ensure fleet behavior addresses grid needs while maintaining investment viability.

## **2. Flexible interconnection studies and agreements**

Energy storage interconnection agreements should not limit operation based on permanent static time windows, but instead should be based on actual grid conditions. Flexible interconnection agreements would allow more dynamic adjustment of charging and discharging than the current VDER windows. This should include allowing limited curtailment during hours of peak stress, thereby facilitating more efficient use of existing grid capacity rather than triggering costly upgrades. Quasi-dynamic control signals, similar to existing Demand Load Management (DLM) or demand response programs, would allow utilities to provide curtailment and dispatch signals on a more granular time-basis than current VDER windows, but without requiring full real-time DERMs capability. Both interconnection agreements and the way resources are assumed to operate in the interconnection study process must be modified to enable this flexibility.

## **3. Fair market structures that drive controlled, flexible operation**

The electricity tariff currently incentivizes energy storage to operate during fixed time windows, primarily for less than three months out of the year. Instead, a reformed tariff structure would allow utilities to provide curtailment and dispatch signals on a more granular time-basis, enabling energy storage to respond more directly to grid needs year-round. Compensation structures must ensure sufficient developer revenue certainty to facilitate investment, while recognizing that utility control over charging and discharging signals that prevent grid stress may limit peak-hour performance in some cases. A critical design challenge will be balancing these objectives, ensuring developers are fairly compensated if utilities curtail charging for certain assets on limited occasions, while giving utilities confidence that storage will reliably deliver during peaks. Compensation for third-party energy storage reliability assets should reflect the enhanced value of flexible, controllable response; compensation should be equal to or greater than current VDER rates, with protections against arbitrary changes in control requirements that could undermine project economics.

## **4. Performance requirements to ensure reliability**

New performance requirements would give utilities confidence in third-party energy storage reliability. These should include appropriate criteria and penalties under programs like LSRV, so utilities can count on these resources rather than defaulting to infrastructure upgrades.

## **5. Appropriate incentive structures for utilities**

Utility compensation mechanisms must be reformed to address a fundamental misalignment: utilities earn guaranteed returns on traditional infrastructure upgrades, but not on facilitating third-party energy storage interconnections that could reduce or eliminate the need for those investments. Performance-based regulation should reward utilities for enabling cost-effective reliability solutions like energy storage rather than defaulting to costly capital expenditures.

#### IV. Conclusion

**The technology is proven, hundreds of megawatts of development is underway in NYC, and the reliability needs are urgent.** Now, the Commission must act to unlock the full potential of distributed energy storage to serve the grid. NY-BEST urges the Commission to adopt the following recommendations:

1. Immediately initiate a 6-12 month stakeholder-based, holistic process to **reform Con Edison's interconnection and market rules**, in line with the Core Principles described above;
2. Ensure **utilities are appropriately incentivized** to implement interconnection and market reform designed to ensure cost-effective outcomes for ratepayers.
3. In coordination with the new Reliability proceeding, **reform utility grid planning rules** to ensure energy storage is recognized as a flexible, controllable reliability resource, unlocking its ability to defer or eliminate costly infrastructure investments while supporting the State's electricity reliability needs.

NY-BEST stands ready to work collaboratively with the Commission, Con Edison, and other stakeholders to develop these critical reforms, capture savings for ratepayers, and modernize our grid.