



NYSERDA

**Department
of Public Service**

Energy Storage Order and Draft Bridge Incentive Design

January 7, 2019

Agenda

1. PSC Energy Storage Order requirements
2. Draft NYSERDA Market Acceleration Incentives
 - Retail incentives (customer sited storage and value stack projects < 5 MW)
 - Bulk storage incentives in conjunction with utility bulk storage RFPs
3. Q&A

All attendees are in listen only mode.

*Please submit questions through the **Q&A** feature.*

Slides will be posted at: www.nyserdera.ny.gov/All-Programs/Programs/Energy-Storage



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PSC Order – Goals and Incentives

- Comprehensive strategy to enable deployment of 1,500 MW of energy storage by 2025 expanding to 3,000 MWs by 2030
- The Order does this by:
 - Addressing barriers
 - Accelerating the energy storage market learning curve
 - Driving down energy storage costs
 - Speeding the deployment of the highest-value energy storage applications
- Authorizes bridge incentive funds to be deployed by NYSERDA, bringing total authorized funds to \$350 million outside Long Island, and requires NYSERDA to work with LIPA to develop equivalent set of incentives on Long Island
- Addresses near-term improvements to economics and long-term changes required to enable a self-sustaining market



PSC Order – Retail Rate Actions

- **Standby, Buyback, Charging Cost:** VDER Rate Design Working Group to examine standby and buyback tariffs, charging and discharging delivery costs, expanding sub-daily demand charge pilot (e.g., Rider Q in Con Ed)
- **Value stack changes:** DPS staff white paper released in December is seeking comments to change DRV to a defined set of known hours coinciding with capacity option 2; staff will issue a white paper by July 1 on shaping E value
- **Dynamic load management:** Utilities to hold a DLM procurement for a minimum 3 year term, and recommends 3-5 years or longer, beginning with the 2020 capability period



PSC Order – Utility Roles

- Each IOU to propose a **system efficiency EAM** in next rate case to address peak reduction and load factor improvement
- Continues **competitive procurement and third-party ownership of storage**. However, if NYISO market participation rules and buyer side mitigation inappropriately precludes energy storage from participating, utility ownership could be expanded under a “market failure exception” established in REV Track One Order.
- **Optionality** to be considered within the DSIP filings and BCA handbooks
- Utilities will inventory suitable, unused, and undedicated utility land by July 1 for use in **NWAs** and estimate interconnection costs in RFPs or indicate costs will be borne by the utility and considered in BCA.



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PSC Order – Direct Procurement

- **Expands NWAs** beyond T&D deferral to focus on entire customer bill including reducing ICAP through load reduction; requires NWAs include clear conditions for extensions; developer maintains interconnection after NWA
- IOUs must competitively procure a minimum of 350 MW of **bulk storage dispatch rights** (in collaboration with NYSERDA bulk incentives)
- NYSERDA to continue evaluating refinements to **Renewable Energy Credit (REC)** procurements to optimize operational flexibility of storage
- NYSERDA to continue to work with State agencies and NYPA to **Lead by Example** to inform procurements in furtherance of Executive Order 166
(Redoubling New York's Fight Against the Economic and Environmental Threats Posed by Climate Change and Affirming the Goals of the Paris Climate Accord)



PSC Order – Clean Peak Requirements

- **Analyze peaker operational and emission profiles** on a unit-by-unit basis to determine potential candidates for repowering or replacement. DPS to consult with NYISO, NYSERDA, DEC, LIPA, and Con Ed to develop a methodology and file results with PSC by July 1, 2019.
 - Includes determining # MWs of peaking units could be replaced or repowered economically with storage while maintaining reliability
- PSC will institute a proceeding where the **Peaking Unit Contingency Plan** (in response to anticipated DEC NOx regulations) will be filed.
- **Other actions to inform a clean peak:** examine time differentiating E value in VDER value stack, calibrate incentives to maximize peak reduction, encourage storage with renewables through REC procurements



PSC Order – Wholesale Market Recommendations

- Reaffirms that DPS and NYSERDA shall continue to be active in NYISO working groups and work to have Storage Roadmap recommendations adopted
- **Urges NYISO to exempt energy storage from Buyer Side Mitigation** and accelerate NYISO “**dual market participation**” rules, which currently calls for design components completed in 2020 and deployment in 2023
- **Establishes principles for dispatch priorities** in dual market participation
- Directs DPS and NYSERDA with the IOUs and NYISO to convene and prepare a work plan and schedule for a **Market Design and Integration Working Group** by March 1, 2019 to establish the necessary planning, coordination, control, and dispatch to enable dual market participation. Filed in the DSIP proceeding.



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PSC Order – Data Requirements

- DPS and NYSERDA to work with IOUs, LIPA, NYPA, and stakeholders to **develop a Pilot DER Data Platform** containing anonymized customer data, asset data and system data that can be queried to produce information useful to developers for planning and developing DER solutions.
- Pilot Platform will allow DER developers to query anonymized data to identify potential candidates for storage and DERs; may provide future DSP revenue.
- Staff shall ensure that the Pilot DER Data Platform complements any efforts directed in the Order Adopting Accelerated Energy Efficiency Target.



Draft NYSERDA Market Acceleration Incentives

Please note:

All information presented is the current expectation program design and requirements and subject to change before submission of an Implementation Plan to DPS on February 11.



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Draft NYSERDA Market Acceleration Incentives

- \$350 million currently authorized (\$310M in RPS funds + \$40M in CEF funds for storage paired with PV systems < 5 MW)
 - Proposing an initial allocation of \$100M for retail incentives and \$250M for bulk incentives. These are described further on the following slides.
 - Retail incentives would be a declining incentive per kWh and include standalone storage or storage paired with on-site generation including PV.
 - Bulk incentives in conjunction with IOU bulk dispatch rights procurements
 - Flexibility to reallocate between retail and bulk with DPS approval
- Seeking to reallocate \$52.9M in RGGI funds to enable statewide deployment including Long Island. Comments on RGGI Operating plan are due January 8.
www.nyserdera.ny.gov/Researchers-and-Policymakers/Regional-Greenhouse-Gas-Initiative/Useful-Documents

*Reflects current expectations of program design and requirements.
Subject to change in the Implementation Plan submitted to DPS.*



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“Retail Incentives”

Declining kWh incentive for
customer-sited and value stack
projects less than 5 MW



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Draft Retail Incentive Design

- Standalone energy storage systems or systems paired with on-site generation
 - Available to SBC ratepayers statewide (working with LIPA on Long Island)
 - Anticipate \$350/kWh initially and declining with storage cost reductions
 - Open to new storage projects, not previously awarded projects
- Projects up to 5 MW (eligible for Standard Interconnection Requirements)
- Encourage but not require participation in load relief programs, more granular delivery rates, and other utility programs
- No grid charging requirements; will monitor usage and grid charging periods and re-examine in future if problematic (no grid charging during peak hours)

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Retail Incentive Expected Requirements

- 100% of incentive for first 4 hours duration, 50% for hours 5-6, 0% thereafter
- 100% of incentive is paid at permission to operate
- Minimum of 2 years interval data reporting required for M&V, no clawback
- 10 year warranty, UL 9540 listing by PTO, minimum roundtrip efficiency of 70%
- Vendor acceptance process (provisional, full, probation, suspended)
- NYSERDA QA review (safe installation) and post installation M&V (performance) on all projects until vendor track record is established, then through sampling
- Examining LMI components in conjunction with NY Sun

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“Bulk Storage Incentives”

Anticipate NYSERDA incentives awarded through the IOU RFPs



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PSC Order - Bulk Storage Procurement

- Each utility issues an RFP to competitively procure dispatch rights for bulk storage (> 5 MW) sited anywhere in service territory.
- Each utility is required to procure a minimum amount of storage to be operational no later than December 31, 2022 (installed, interconnected, ready for dispatch; not necessarily capacity rights received).
 - Con Edison at least 300 MW and other IOUs at least 10 MW each
 - Anticipate 4 hour duration systems
 - RFPs issued annually until MWs procured or incentive budget is exhausted
- Up to a 7-year term
- Storage asset remains the property of the developer.



Bulk Storage Procurement Implementation

- Utility issues RFP in consultation with NYSERDA/DPS
- Utility schedules and dispatches the asset for:
 1. Capacity and 10-minute spinning reserves
 2. Any local reliability services or load relief
 - Specific locations of higher system value, if any, are indicated in the RFP along with MWs and hours of service required.
- Based on these requirements, developer bids a payment in \$/kW for the dispatch rights term during which developer is responsible for any maintenance costs and utility covers charging costs.
- Developer may also receive an annual share of net wholesale revenues.

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Subject to change in the Implementation Plan submitted to DPS.*



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Draft Bulk Storage Incentive Design

- NYSERDA shall design the bulk system component of its market acceleration incentive to work in coordination with the utility competitive procurements.
- This market acceleration bridge incentive may compensate for the benefit of accelerating storage cost declines, CO2 savings (peak/off-peak arbitrage), and local emissions benefits.

*Reflects current expectations of program design and requirements.
Subject to change in the Implementation Plan submitted to DPS.*



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Energy Storage Soft Cost Reduction

Permitting

- Streamlining permitting and siting guidelines in NYC and Rest of State

Customer Assistance

- Customer outreach and education
- Technical assistance: high-level assessment of fit for energy storage

Vendor Assistance

- Vendor outreach and education
- Technical assistance for energy storage vendors on tariffs and use cases

Quality Control

- Measurement and verification for energy storage installations
- Increase confidence in deployed systems

Accountability

- **Annual State of Storage report** by DPS that tracks storage deployments, progress in meeting the 2025 and 2030 storage targets, impediments and recommended solutions including to utility procurement process, wholesale market design changes, utility rate design, data platform development, retail and wholesale market coordination.
- **PSC triennial review** of progress beginning in 2020
- **Storage deployments** by zone/utility, technology and use case available for public review on NYSERDA DER Portal <https://der.nyserda.ny.gov/>
- **Real-time dashboard** of bridge incentive availability



Key Upcoming Dates

- **Feb 11, 2019:** NYSERDA Market Acceleration Incentive and utility Bulk Procurement implementation plans to DPS
- **March 1, 2019:** DPS Staff, in consultation with NYSERDA and stakeholders, convene and prepare a work plan and schedule for a Market Design and Integration Working Group for distribution/wholesale market integration (filed in case 16-M-0411).
- **By early Q2 2019:** Retail bridge incentives are launched (*anticipated*)
- **Spring 2019:** Inventory of workforce development needs completed
- **Late Q2 2019:** First utility bulk procurement RFP issued (*anticipated*)



Key Upcoming Dates

- **July 1, 2019:**
 - 1) DPS, in consultation with NYSERDA, LIPA, NYISO, DEC, and Con Ed file a unit-by-unit operational and emission profile study and methodology to determine which peaking units are potential candidates for repowering or replacement;
 - 2) Utilities inventory available utility land for NWAs
 - 3) DPS report on progress/implementation of Pilot DER Data Platform (goal is operating by Dec 31);
 - 4) DPS whitepaper reflecting time differentiating E Value
- **Fall 2019:** Blueprint for addressing potential skilled talent shortages including any actions for Commission consideration
- **Annually beginning Mar 31, 2020:** State of Storage Report prepared by DPS (consult with NYSERDA); triennial review begins



Stay Engaged

- Provide input on relevant DPS Staff Whitepapers:
 1. Standby and Buyback Service Rate Design and Residential Voluntary Demand Rates
 2. Regarding Future Value Stack Compensation, Including for Avoided Distribution Costs
 3. Regarding Capacity Value Compensation
- Comments on each Whitepaper are **due February 25, 2019** and may be filed separately or in one combined document. Details can be found at:
<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8440788F-B8F6-47CF-97A7-CA76A48C3117}>
- Sign up for the NYSEDA Storage Mailing List
www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Contact-Us/Email-Updates
- Email us at energystorage@nyserda.ny.gov



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