



NY Green Bank

Webinar: Tax Equity Investment Opportunities in Energy Storage

Jason Moore & Schuyler Matteson
March 18, 2021



NY Green Bank
A Division of NYSDERDA

Introduction

Schuyler Matteson

**Senior Project Manager, Distributed
Energy Resources
NYSERDA**

NYS Energy Storage Roadmap Implementation Timeline

1Q18

- Governor Cuomo announced 2025 storage goal of 1,500 MW in 2018 State of State
- Sought feedback through Customer/stakeholder meetings
- Completed Energy Storage Study

2Q18

- Storage Roadmap was released for formal public input

3Q18

- Technical conferences held, stakeholder outreach, public comments submitted and reviewed

4Q18

- PSC issued Storage Order on December 13, 2018

2019

- NYSERDA incentives are launched, Utility RFPs released, Implementation underway of PSC Storage Order policies and programs
- In the Climate Leadership and Community Protection Act, Governor Andrew M. Cuomo set New York's goal to deploy 3,000 MW by 2030

2020

- Design, Build and Assess

Climate Leadership and Community Protection Act (CLCPA) – Overview

- > **Most aggressive greenhouse gas reduction goals of any major economy; 40% by 2030, 85% by 2050**
- > **70% renewable energy by 2030, 100% zero-emission electricity by 2040**
- > **Path to carbon neutrality**
- > **Codifies clean energy targets**
- > **Commitments to environmental justice, disadvantaged communities, and just transition**
- > **First statutory Climate Action Council**


Distributed Solar and Energy Storage

> Distributed Solar


- NY-Sun program continues to support robust adoption of solar, for rooftop to community-scale
- Over 86,000 NY-Sun solar projects, driving 1,800 MW statewide plus 1,000 MW in the pipeline
- Since 2012, solar deployment increased 1,700%, with \$3.8 billion in private investment leveraged

> Energy Storage

- Avoid CO₂ emissions; reduce the impact of outages; allow intermittent renewables to be available during peak demand
- Create 30,000 jobs by 2030 in New York
- \$400 million market acceleration bridge incentives; available for retail, bulk, standalone, and storage plus solar PV
- Technical assistance: permitting, interconnection, customer acquisition, and financing resources



6,000 MW
of distributed solar
by **2025**
enough to power 1 million homes



3,000 MW
of energy storage
by **2030**
Up from 1,500 megawatts by 2025

NYSERDA Storage Budget & Program Allocation

Program	Budget
Bulk Projects >5MW	\$150M*
Retail Projects <5MW	\$160M**
Long Island	\$55M
Unallocated	\$41M

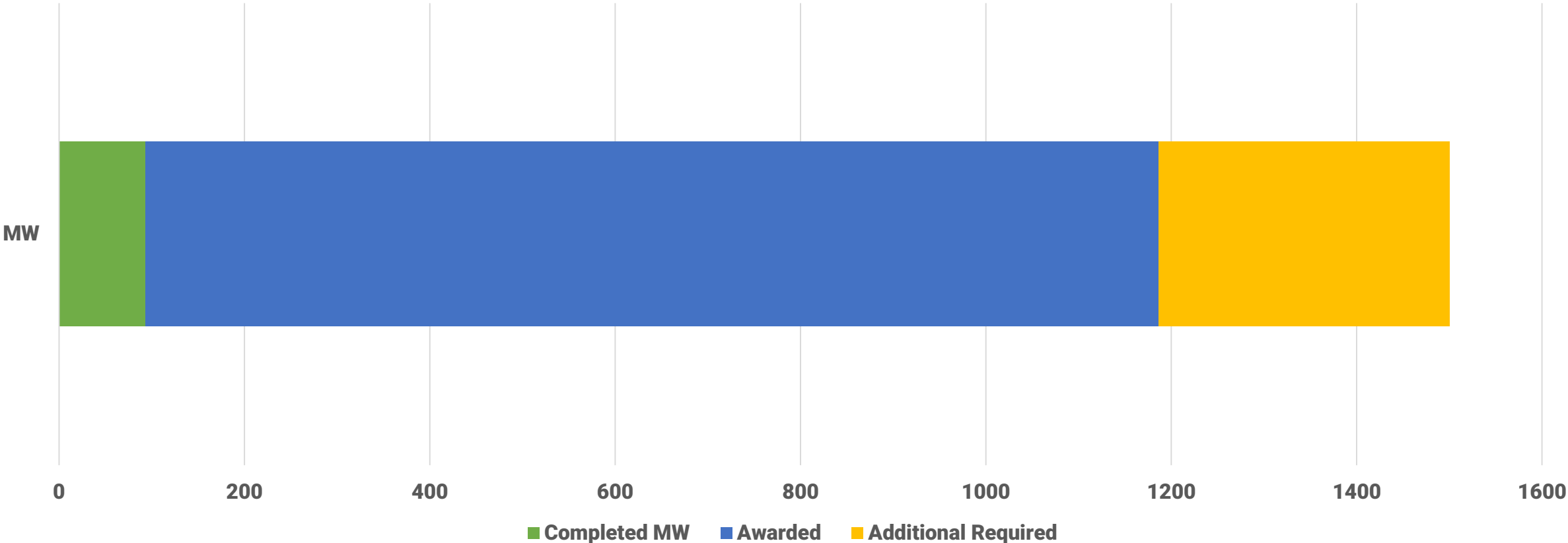


3,000 MW
of energy storage
by **2030**

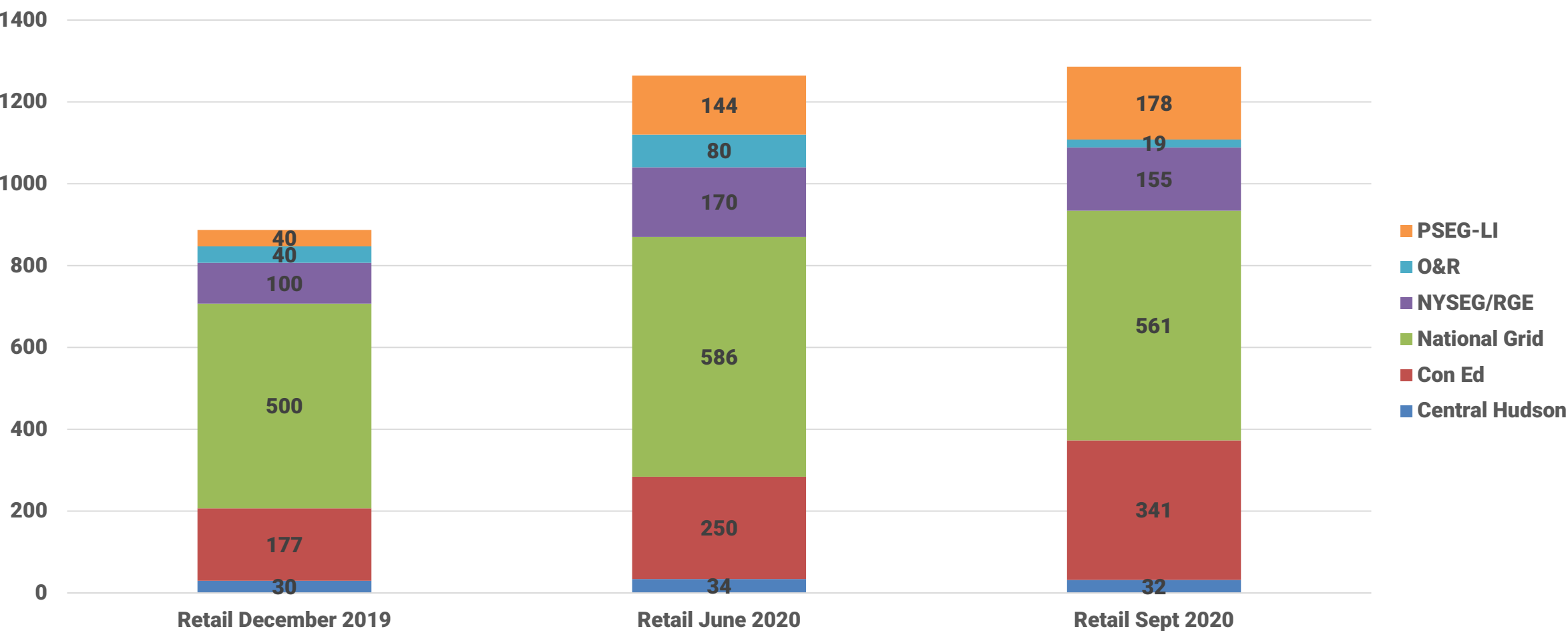
Up from 1,500 megawatts by 2025

Progress to 1.5 GW Goal

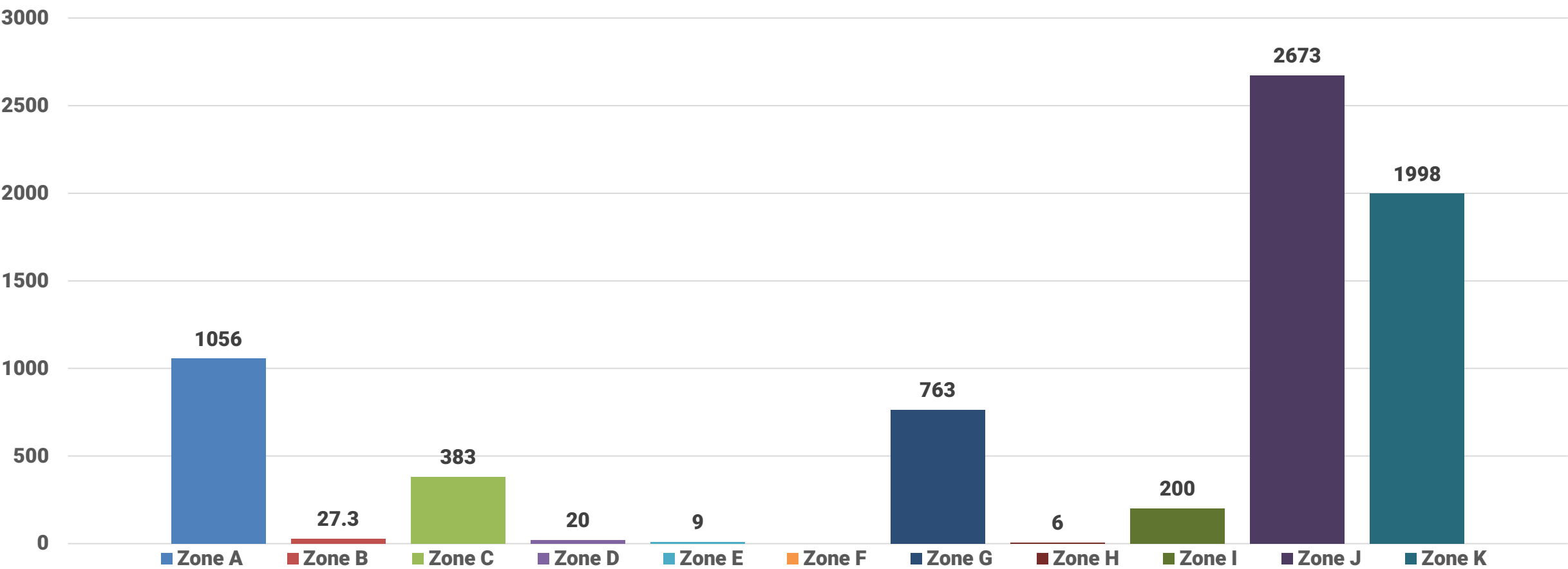
Completed plus current pipeline = 80% of goal



Utility Interconnect Queue



NYISO Queue



Bulk Energy Storage

- > **Projects over 5 MW participating in NYISO markets**

- > **Developers can choose from one of three paths**
 1. **NYSERDA's standard-offer Bulk Incentive program (Fully allocated as of Q1 2021)**
 2. **Utility RFP for dispatch rights (at least 350MW will be procured by the IOU's), second round of RFPs coming Q2 2021**
 3. **Bid a paired NYSERDA REC for solar or wind + storage**

Retail Energy Storage

- > **Distributed storage projects up to 5 MW**
- > **Statewide eligibility (funding remains in Westchester)**
- > **Compensated under utility tariffs, VDER**
- > **Can be paired with solar**

Residential PV + Storage

- > **Long Island only**
- > **Dynamic Load Management Program Participation**
- > **Time of Use Tariffs**
- > **Potential to be utilized as Virtual Power Plants**

Major Drivers in New York

- > **9 GW of OSW coming**
 - **Storage can help integrate and firm OSW**
- > **Up to 3 GW of downstate peakers going away**
 - **Capacity and interconnection opportunities**
- > **Peak and balancing support for increased electrification**
 - **Flexibility will be key for renewable integration too**
- > **Studies show 10+ GW of storage needed by 2040**

Introduction

Jason Moore

Investment & Portfolio Management NYGB

NY Green Bank Accelerates Clean Energy Project Deployment in NYS

Mission:

To accelerate clean energy deployment in New York by working in collaboration with the private sector to transform financing markets

- > **What:** A \$1 billion State-sponsored investment fund that is a division of NYSERDA
- > **Why:** To alleviate financing gaps in New York's clean energy markets and create a cleaner, more resilient and affordable energy system
- > **How:** By mobilizing greater private sector activity to increase the availability of capital for clean energy projects

State Policy & Incentives Generating Market Activity for Energy Storage

Tailwinds for Energy Storage

Energy storage is critical for integrating renewable energy, reducing peak load, and increasing grid resiliency.

- > **In the Climate Leadership and Community Protection Act, Governor Andrew M. Cuomo set New York's goal to deploy 3,000 MW by 2030**
- > **New York State's storage target is one of the largest in the country, which is estimated to deliver over \$3.0 billion in gross benefits to New Yorkers and avoid 2.0 million metric tons of carbon dioxide emissions**
- > **Projections estimate the U.S. will have nearly 2,500 MW of operating utility-scale battery storage power capacity by 2023, or more than double 2020 capacity**
- > **These investments in renewable energy have brought economic activity to 34 distinct counties of New York State, will add 6,100 megawatts of clean energy capacity to the state's infrastructure, and generate investment of more than \$12 billion**

Financing Options for Energy Storage

NY Green Bank Market Approach

NY Green Bank has set a target of at least \$200 million in storage-related investments to help drive down costs and provide energy storage capabilities where they are needed most.

Who We Work With

- Developers and operators that want to add storage to existing assets; and national actors potentially seeking to expand in NYS
- Equipment manufacturers that wish to finance the sale of their equipment
- Financial intermediaries for potential co-investment opportunities

Energy Storage Technologies We Finance

- Electrochemical storage
- Batteries
- Mechanical devices (Flywheels and Pumped Hydro Storage)
- Compressed air
- Thermal

Loan Products for Energy Storage

NY Green Bank is prepared to support developers and investors with a range of credit products and structures, including:

Interconnection
Deposit Loan

Long Lead Time
Equipment
Financing

Construction
Financing

Term Loans: Sr.
Project-level,
Buckleverage,
Subordinated/Mez

Revolving
Warehouse &
Aggregation
Facilities

Credit
Enhancements

Project-level Equity
/ Preferred Equity

Contracted revenues will be evaluated, including NYSERDA RECs, as well as wholesale power and capacity sales to support long-term financing.

Construction Loan

Market Gap Filled: Despite increasing demand for construction financing, many lenders are not willing to take on construction risk for clean energy projects. **Depending on project size, NY Green Bank can act as a sole lender or participate in a lender syndicate.**

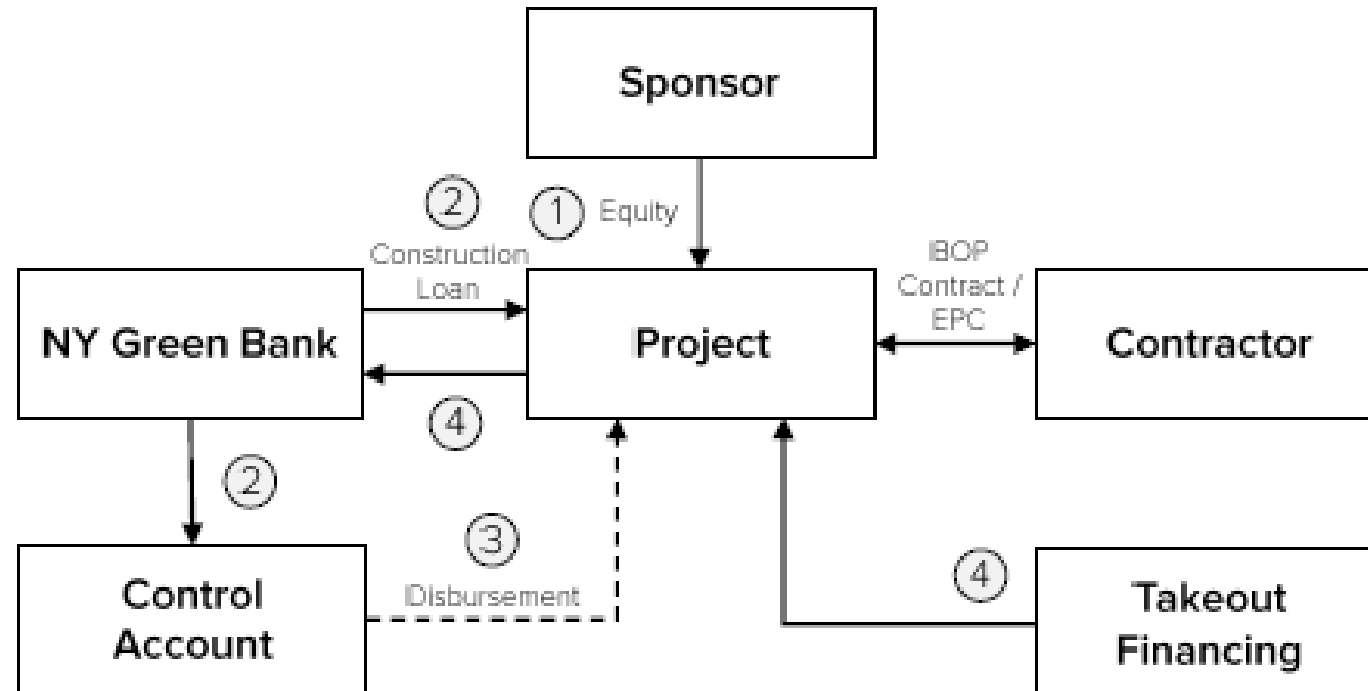
Loan Project Considerations:

- **Senior secured against all project assets (single assets or portfolios)**
- **Up to 90% of construction costs**
- **Variables:**
 - **Variables or fixed/turnkey EPC Contract, BOP Contract**
 - **Project contingency**
 - **Project complexity**
 - **Number of projects in the portfolio**
 - **Certainty of takeout financing**

Construction Loan

Transaction Steps:

1. **Sponsor funds its equity commitment not already spent on the project into an operating account, which is pledged to NY Green Bank and used to fund the project construction**
2. **Upon satisfaction of conditions precedent for funding, NY Green Bank funds a portion or the total construction loan into a control account**
3. **NY Green Bank loan disbursed from the control account according to the draw schedule to fund construction. An Independent Engineer certifies disbursements**
4. **At completion, repaid from a takeout financing**



Term Loan

Depending on project size, NY Green Bank can act as a sole lender or participate in a lender syndicate.

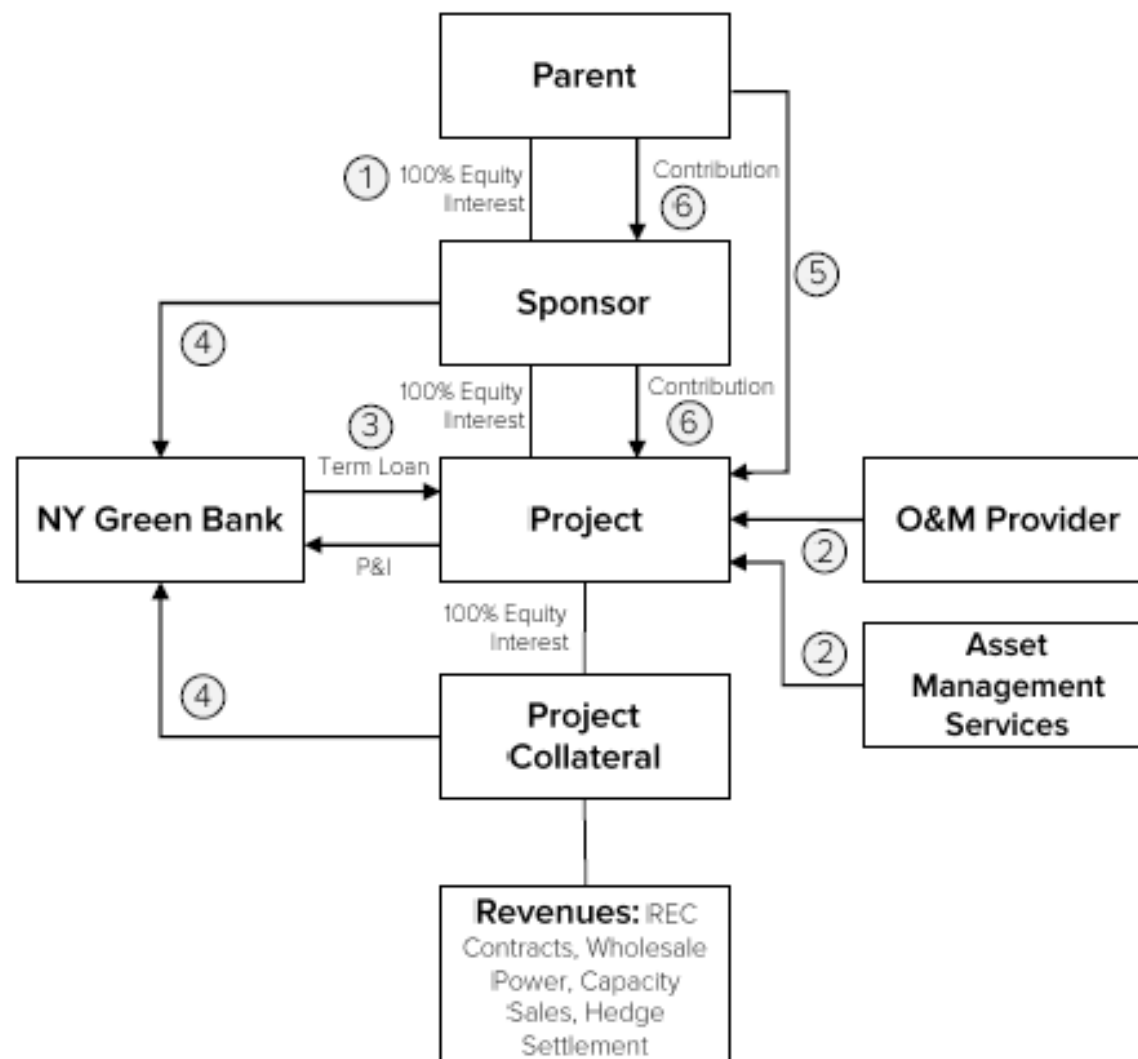
Loan Project Considerations:

- **Senior secured against all project assets**
- **Variables:**
 - **Source of capital (i.e. tax equity) and need for backleverage**
 - **Contracted NYSERDA RECs, contracted / hedged whole sale power or capacity revenue – loan general sized at P99, with sculpted repayment sized based on a DSCR and to a target loan balance**
 - **Uncontracted wholesale power or capacity revenue – additional cash sweeps tied to view on power prices**
 - **Amount of reserves needed (e.g. O&M, debt service)**

Term Loan

Transaction Steps:

1. **Sponsor owns and operates Borrower and manages the Borrower**
2. **O&M Services provided to the Borrower and other asset management serves a required**
3. **NYGB provides loan to Borrower**
4. **Sponsor pledges equity in Borrower and assets of Borrower to NY Green Bank**
5. **Parent guarantee if necessary**
6. **Borrower repays P&I**



Contact Us

- > Sign up for NYGB's mailing list for periodic updates on its website www.greenbank.ny.gov
- > All additional information is available on NYGB's website, including all RFI and RFP opportunities: www.greenbank.ny.gov/Work-with-Us/Open-Solicitations
- > Sign up for NYSERDA's Storage Mailing List www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Contact-Us/Email-Updates
- > Reach out directly energystorage@nyserda.ny.gov

Address:
1359 Broadway
19th Floor
New York, NY 10018

T: (212) 379-6260
E: info@greenbank.ny.gov
www.greenbank.ny.gov

Thank you!