

State of New York
Public Service Commission

CASE 15-E-0302 - Proceeding on Motion of the Commission to
Implement a Large-Scale Renewable Program and a
Clean Energy Standard

CASE 14-M-0101 - In the Matter of Reforming the Energy Vision

NOTICE OF AGENDA FOR TECHNICAL CONFERENCE ON ENERGY STORAGE
SCHEDULED FOR MAY 26, 2016

(Issued May 26, 2016)

On May 12, 2015, a Notice was issued regarding a technical conference on the topic of energy storage. This Notice provides the additional information for the conference. The technical conference on energy storage will be held on May 26, 2016, and will begin at 10:30 A.M. and end at 3:30 P.M. The technical conference will be held at the New York State Department of Public Service's New York City Offices, located at 90 Church Street, New York, NY 10007. For those wishing to join remotely, viewing will be made available through a live webcast, by accessing <http://tinyurl.com/DPS-Webcast-Schedule>.

Department of Public Service Staff will convene this on-the-record technical conference to discuss energy storage and explore actions the Commission may take on these issues in furtherance of Reforming the Energy Vision (REV) objectives. This technical conference is a component of the ongoing Clean Energy Standard (CES) technical conferences, exploring various aspects and issues related to renewable energy standards, with particular focus on topics presented in the Staff White Paper on Clean Energy Standard that was issued on January 25, 2016 in Case 15-E-0302. The purpose of this technical conference is to discuss the potential for the deployment of energy storage resources within New York State to advance REV goals, including

the integration of renewables, improved system efficiency and customer energy management, and reduced greenhouse gases.

For parties wishing to submit written comments addressing aspects and implications of energy storage, they are invited to do so by June 9, 2016. Parties choosing to submit comments should do so by e-filing through DMM,¹ or by emailing to the Secretary at secretary@dps.ny.gov. If unable to file electronically, parties may make submissions by post or hand delivery to the Hon. Kathleen H. Burgess, Secretary, Three Empire Plaza, Albany, New York 12223-1350. All comments received will be posted to the Commission's website and become an official part of the case record.

If you have any questions, please contact Matthew Wallace by email or phone, matthew.wallace@dps.ny.gov or 518-486-9353.

(SIGNED)

KATHLEEN H. BURGESS
Secretary

¹ To register with DMM, go to:
<http://www3.dps.ny.gov/W/PSCWeb.nsf/All/CC256BE982C58CF785257687006F39CE?OpenDocument>

Technical Conference on Energy Storage
Thursday May 25, 2016

New York State Department of Public Service
4th Floor Boardroom
90 Church Street, New York, NY 10007

- To view the technical conference remotely, please visit <http://tinyurl.com/DPS-Webcast-Schedule>
- To submit live questions during the conference, email matthew.wallace@dps.ny.gov

I. **Introduction** - Scott Weiner, Department of Public Service
Deputy of Markets & Innovation
(10:30 - 10:35)

II. **Level-setting presentation on the state of the energy storage industry**
(10:35 - 10:55)

Rick Fioravanti, Energy Storage Consultant

- Learning from the problems and approaches used in California and Hawaii
- The current state of various storage technologies including pumped hydro, mechanical, thermal, and electrochemical and the power and performance attributes of each technology that best aligns it for specific use cases

III. **Panel: Operations under high-penetration of renewables**
(10:55 - 12:10)

NY-BEST - William Acker, Executive Director

- Frame discussion from the NY-BEST Energy Storage Roadmap

NYISO - Mike DeSocio, Senior Manager, Market Design

- Energy storage participation in the wholesale market

AES Energy Storage - Sharon Hillman, Market Policy & Business Development

- Grid applications for peaking, renewables, and T&D alternatives in multiple jurisdictions

GE - Rick Cutright, Director, Product Strategy, Energy Storage

- Energy storage for renewable integration and integrated systems

Green Charge Networks - Dan Vickery, Director of Market Development and Policy

- Firming and aggregating customer-sited renewables and dispatching these resources to meet other distribution system and wholesale grid needs

IV. **Lunch** (12:10 - 12:55)

V. **Panel: Integrating storage into the REV and CES framework**
(12:55 - 2:25)

Demand Energy - Doug Staker, Senior VP Sales

- Peak load reduction; behind the meter applications; NY experience

SolarCity - Carlos Gonzalez, Director, Grid Engineering Solutions

- The business model for deploying energy storage integrated with PV
- Solar+storage project deployments

ConEdison - Jin Jin Huang, Senior Engineer, Distribution Engineering

- Battery storage integration

Sunverge - Cameron Brooks, Policy Advisor

- Customer-sited storage as a grid asset

Advanced Microgrid Solutions - Mike Jackson, Market Development Director

- Business model innovation and practical examples from the field: C&I customer engagement; Utility/LSE dispatch; Renewable load shift

Tesla Energy - Sarah Van Cleve, Energy Policy Advisor

- Economical storage deployments; lessons learned from California

VI. **Closing thoughts** (2:25 - 2:30)

VII. **Adjourn** (2:30)

Background

New York's Clean Energy Standard sets among the most aggressive renewable energy generation goals in the country and requires a doubling of renewable generation over the next 15 years. At the same time, the REV initiative will lead to regulatory changes that promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar, wider deployment of "distributed" energy resources, such as micro grids, roof-top solar and other on-site power supplies, and storage. It will also promote markets to achieve greater use of advanced energy management products to enhance demand elasticity and efficiencies. These changes, in turn, will empower customers by allowing them more choice in how they manage and consume electric energy. Finally, the State's greenhouse gas reduction goals are targeting an 80% reduction in GHG by 2050.

Collectively, these objectives present numerous opportunities to leverage energy storage deployed throughout the electric grid to meet needs and increase system cost effectiveness. Participants are asked to consider the following questions for discussion at this technical conference in the

context of short term solutions that can be implemented quickly and longer term approaches to achieve the State's renewable energy and greenhouse gas reduction goals.

Key Questions

- How can energy storage on the bulk and distribution systems (behind and in-front-of-the-meter) best compete with other resources used to firm renewables?
- How can Renewable Energy Certificates encourage renewable production to better align with load profile and location, potentially by integrating storage?
- What types of entities and business models are best suited to capture multiple value streams that could accrue from energy storage systems (e.g., customer, distribution system, wholesale)?
- What issues would have to be addressed so behind-the-meter energy storage systems could compete to provide services to firm renewables on the bulk system (i.e. temporal arbitrage, zonal balance, system stability)?
- Are there circumstances or places where energy storage may shift load or output of distributed and supply-side REC-generating renewables to better reduce GHG emissions?
- What pricing signals or market mechanisms will encourage energy storage to reduce the need for fossil fuel peaker plants, address peak load, and achieve other REV objectives
- Are there REC models used elsewhere to deploy storage that should be considered?

Key Objectives

- Identifying how storage can support and enable CES, including examples of regulations or policies that add temporal and locational value to maximize the effectiveness of firming renewables and increasing grid efficiency. This could include REC multipliers, procurement practice (e.g. NYSERDA's RFP for LSR resources in a particular region), and other approaches.

- Identifying the types of entities and business models that are best suited to capture multiple value streams that could accrue from energy storage systems (e.g., customer, distribution system, wholesale).
- Identifying short term solutions that can be implemented quickly to achieve these objectives and longer term approaches for achieving the State's goals.