



NEW YORK BATTERY  
AND ENERGY STORAGE  
TECHNOLOGY CONSORTIUM

## NEWSLETTER

March 4, 2019

Dear NY-BEST Members and Colleagues,

[NY-BEST's Annual Capture the Energy Conference \(March 12-14<sup>th</sup>, Albany, NY\)](#) is less than two weeks away and features a stellar line-up of experts. The conference will include a keynote address from Alicia Barton, President and CEO of NYSERDA, an in-depth discussion of the Energy Storage Market Acceleration Bridge Incentive Implementation plan featuring Jason Doling from NYSERDA and Marco Padula from the New York Department of Public Service (DPS). Other panels will focus on storage markets, financing, and the changing policy landscape in New York's energy storage industry. We encourage all stakeholders, from project developers to manufacturers and installers in New York's energy market to attend. Registration information can be found [here](#).

This year, we will have a significantly expanded exhibitor hall at the conference. We encourage companies who are looking to find customers and/or partners to strongly consider getting a booth at the conference. We have very limited availability remaining, so act fast! Contact Ashley Weaver, at [weaver@ny-best.org](mailto:weaver@ny-best.org) for more information on [sponsorship opportunities](#) and the exhibitor hall.

We are also hosting a [Pre-conference Workshop](#) on March 12<sup>th</sup> entitled, "**Deploying Energy Storage in New York: Understanding the Essentials.**" This half-day workshop is an excellent way to get up to speed on how to deploy storage in NY. It features experts in the energy storage field who will discuss:

New York's policy and regulatory framework for energy storage;

Funding opportunities and tariff structures;

Energy storage siting, permitting and testing, and;

Interconnection requirements for energy storage.

### **Policy and Regulatory Proceedings**

The Public Service Commission recently approved NYSERDA's request for a 30-day extension to file its Market Accelerator Bridge Incentive Implementation Plan. The filing will now be due March 11, 2019. NYSERDA sought the extension to allow for additional stakeholder feedback on the incentive design. We encourage members to reach out to the NY-BEST Team to share your feedback.

In other regulatory news; NY-BEST submitted comments to the DPS on three whitepapers last week; Whitepaper Regarding Capacity Value Compensation; Whitepaper Regarding Future Value Stack Compensation, Including for Avoided Distribution Costs; and Whitepaper on Standby and Buyback Service Rate Design and Residential Voluntary Demand Rates. If you have any questions about NY-BEST's comments, or the content of these whitepapers, reach out to the NY-BEST team.

The New York State DEC released its [proposed regulations](#) for simple cycle and regenerative combustion turbines (peaker plants) on February 27<sup>th</sup>. These proposed regulations are available [here](#). Written comments on the proposal are being accepted until 5:00 PM on May 20, 2019. We encourage members to reach out to the NY-BEST Team if they have any questions or input on the regulations. The DEC is proposing a compliance option that would allow operators to build energy storage and/or renewable energy to meet the emissions limits. We are extremely interested to hear what members think about this piece of the proposal.

We would like to welcome the newest members of NY-BEST:

**Alva Charge (New York, NY)** - provides e-mobility services to commercial, institutional and industrial clients. We build, own and operate high-power electric vehicle charging infrastructure. By working with us, clients secure visibility, agility and resiliency benefits.

**Ameresco (Framingham, MA)** - is a leading independent provider of comprehensive services, energy efficiency, infrastructure upgrades, asset sustainability and renewable energy solutions for businesses and organizations throughout North America and Europe.

**Blueprint Power (New York, NY)** - is an NYC-based tech company whose mission is to accelerate the growth and financial sustainability of distributed, intelligent clean energy by helping regional groups of real estate companies transform their portfolios into power plants. More specifically, we manage these power plants to generate excess supply that we can then sell to markets

**Convergent Energy and Power (New York, NY)** - is a leading independent developer of energy storage solutions in North America. Powered by results, Convergent manages all aspects of the energy storage asset development cycle to help customers navigate an increasingly expensive, decentralized, and renewable-driven energy landscape.

**FreeWire Technologies (San Leandro, CA)** - designs and manufactures mobile, battery-based energy storage systems that provide clean and quiet power anywhere it is needed, regardless of existing grid infrastructure. Our goal is to fundamentally change the way energy is delivered to electric vehicles, construction sites, film sets, and more.

**Trane (Dublin, Ireland)** – is a world leader in heating, ventilating and air-conditioning (HVAC) systems and services, Trane offers customer the solutions to unleash the potential of their building. Buildings are an important component of our society and they impact the sustainability of our world.

Best Regards,



William Acker  
Executive Director



## Upcoming Events

### Capture the Energy 2019: Pre-Conference Workshop

Mar 12 1:00 pm - 5:00 pm

Join NY-BEST for a Pre-Conference Workshop on Tuesday, March 12, 2019.

## NY-BEST Annual Meeting and Conference: Capture the Energy 2019

Mar 13 8:00 am - Mar 14 1:00 pm

Join NY-BEST for our Annual Meeting & Conference in downtown Albany, NY on March 13-14, 2019!

### Member Spotlight: Virtual Peaker

**Virtual Peaker**  Virtual Peaker is a software as a service (SaaS) company that provides a platform for utilities to manage, aggregate and control residential smart devices and distributed energy resources (DERs). Their customers use these resources for demand response, customer engagement, and the development of new...

### Latest News

*The Latest News From The Battery And Energy Storage Industry*

### Funding Opportunities

NY-BEST members received information in this newsletter about upcoming funding opportunities. Becoming a member is easy and economical. Visit <http://www.ny-best.org/Join> for more information.

If your organization is a NY-BEST member, [simply login](#) to access all funding opportunities.

No account? Click "Create New Account" from the [login page](#).

### NY-BEST Member News

[New York Utilities, NYISO to Collaborate on Allowing Storage in State's Wholesale and Retail Markets](#)

New York's grid operator has proposed energy storage tariffs to the Federal Energy Regulatory Commission (FERC) that would only apply to wholesale resources, not utility retail programs. However, the state's Energy Storage Roadmap is focused on drawing revenues from both the retail and wholesale power market, which would increase the investment attractiveness for storage. The PSC's work plan also mentioned FERC Order 841 and the use of distributed energy resources (DER) for bulk system and distribution services, specifically aiming to prioritize attempts to fast-track energy storage applications "in which use of the resource for both distribution and bulk system services does not require operational coordination." "Having the right rules for dual participation as a state and really having better coordination between the utility programs and the ISO programs is very important for the future of energy storage and DER as a whole," Acker said.

#### [Italian Entrepreneurs Plug Into Stony Brook, Take on Tesla's Powerwall](#)

Italian entrepreneurs who migrated to Stony Brook University's energy incubator to form an innovative-battery startup are planning to take on the Powerwall of Elon Musk's Tesla Inc. Their Stony Brook company, StorEn Technologies, is adapting vanadium-flow batteries -- typically the size of shipping containers and found in utility or industrial settings -- for light commercial or household use. StorEn's battery units, about the size of a large, cylindrical vending machine, could be used as a backup in case of a power outage. Chief executive Carlo Brovero said the entrepreneurs joined the Clean Energy Business Incubator Program at Stony Brook in 2016 after considering Northeast incubators from Boston to New York City. They founded StorEn the following year.

#### [Policy, Renewable Energy Project Location Will Drive NY Transmission Upgrade Economics](#)

The New York Independent System Operator's market monitor has said the economics of a proposed 900-MW transmission upgrade that would increase capacity into Southeastern New York will depend on where incremental renewable energy and storage projects are built. Register Now The independent monitor, Potomac Economics, will present an evaluation of the proposed public policy transmission projects to the NYISO's Management Committee on Wednesday, a spokesman for the grid operator said Tuesday. The meeting materials have been posted to the NYISO website.

#### [Its All in the Chemistry for Lockheed Martin Energy](#)

When covering Abu Dhabi Sustainability Week for CleanTechnica a month ago, I got invited to interview Caleb Waugh of Lockheed Martin Energy, who is Head of Business

Analytics for Energy Storage there. Yes, Lockheed Martin. Knowing how many everyday innovations originated from the military sector, from GPS to microwaves, I was curious to see what is in hiding for the energy storage industry. Caleb started by explaining why Lockheed Martin is involved in the energy sector at all and it all came down to their century-long focus on global security. Security today is strongly related to the energy sector, and the renewable energy transition will shatter the geopolitical order we know today — shifting from government-centered to a commercial market. I pressed to see whether that geopolitical hurricane was interesting to Lockheed Martin, but Caleb made sure I understood Lockheed Martin Energy was not into the political aspect of the revolution but rather into an opportunity to introduce new technology to support the revolution. Knowing, though, how much the energy sector is correlated with security, economic growth and development, it would be hard to accept politics could be taken out of the equation entirely. I learnt, then, that Lockheed Martin Energy educated policymakers on what new technology is coming and how it may affect the laws of tomorrow. Fair enough.

#### [PGE, NextEra Building New Storage Facility](#)

Portland General Electric Company (PGE) and NextEra Energy Resources, LLC, a subsidiary of NextEra Energy, Inc., have announced plans to construct a new energy facility in Eastern Oregon, combining 300 MW of wind generation with 50 MW of solar generation and 30 MW of battery storage. The new project, called the Wheatridge Renewable Energy Facility, will be the first of this scale in North America to co-locate and integrate these three technologies, creating an improved zero-emissions resource and accelerating the transition of Oregon, where PGE is based, to clean energy. “We’re moving aggressively to integrate smart grid technologies and renewable energy to give customers affordable, clean, low-carbon energy,” said Maria Pope, PGE president and CEO. “Wheatridge will be a model for integrating renewable generation and storage to cost-effectively reduce emissions while maintaining a reliable grid.”

#### [Power Storage in RGE Batteries May Soon Help Mitigate Stress on the Grid](#)

Energy demands continue to change as technology advances and Western New York continues to see more extreme weather. This could mean higher electric bills as the grid gets pushed to its limits. RG & E is working to prevent stress on the electric grid using batteries. Aaron Nutt is a manager for energy storage at Mesa Technical Associates and works with RG & E to design a 150-kWh battery that takes energy from the grid and puts it in storage. “We want to purchase and store energy when it's cheapest at night,” said

Nutt, "And we want to dispatch it during the day." The battery takes energy from the grid overnight and during off times when less energy is needed. It can then be used during the day when there is peak energy. "To support the building load during the day, and the additional load from the electric vehicles." This is commonly known as energy arbitrage.

#### [Achieving Climate Goals Will Require Sound Energy Storage Policies](#)

California Governor Gavin Newsom will need to hit the ground running if he wants his state to reach its historically ambitious goal of zero net carbon emissions by 2045. New York has its work cut out, too, as it aims to hit the same mark by 2040. Motivated by these newly minted climate policies, many other states are ramping up their emissions targets as well. But no state will be able to reach its goal without addressing one crucial tool: energy storage. Across the United States, thousands of people have installed batteries like the Tesla Powerwall in their homes, while a few states, such as California, New York, and Massachusetts, have pioneered grid-scale battery projects. These batteries store energy to be used later, at peak demand times or during other shortages.

#### [As New York Utilities File Storage Plans, Interconnection Hurdles Loom](#)

While the utilities' timelines are in-step with one another, "the one challenge that exists" to deploying storage by 2022 is out of their control, Acker said. "In order to participate in the wholesale markets, these projects in general will have to be ISO-interconnected and the ISO interconnection timeline takes very long," Acker told Utility Dive. NY-BEST is part of an electrical system planning working group of the New York ISO (NYISO) and Acker said that, during a working group meeting on Monday, the ISO recognized the need to accelerate the interconnection timeline and "affirmed that they were going to be taking steps to look at the process."

#### [Tesla, Others Question Storage Hourly Requirements, Charges in FERC Order 841 Compliance Plans](#)

As energy storage becomes more economically competitive with more traditional forms of merchant generation, access to wholesale power markets is seen as an important addition to the technology's opportunities on the contracted side. However, questions remain about the effective implementation of the federal order that seeks to create consistent opportunities for storage to compete in wholesale energy markets. The Federal Energy Regulatory Commission (FERC) is working through conflicting stakeholder comments regarding the compliance plans filed last year by six regional transmission operators (RTOs) and independent system operators (ISOs) related to

Order 841 — FERC's directive on integrating energy storage into wholesale energy markets.

### *When the Reason For Microgrids Comes in a Flash*

Sometimes the reason for microgrids is so obvious it comes like a big blue flash in the sky. Such was the case in late December when Consolidated Edison's system malfunctioned causing a gas flare that had some New Yorkers looking to the skies and wondering if space aliens had come to Queens. It took an announcement by Gov. Andrew Cuomo to straighten things out. So the good news, no aliens were involved. The bad news? Important facilities in New York City lost power. Using microgrids as a backup plan could have reduced the impact, according to Chris Evanich, manager of microgrid business development for S&C Electric.

### *GlidePath Turns to Battery Only Project in Ulster*

The company behind a proposed 20-megawatt hybrid energy system in Ulster County, New York, has revised its plans, ditching the fossil fuel portion. Area residents, who spoke out in opposition to the original plan, welcome the change. GlidePath Power Solutions delivered a presentation to the Town of Ulster Board Thursday night for a revised energy project, one that would use a utility-scale battery system only to support the electrical grid. The revised plan for the Lincoln Park Grid Support Center eliminates the natural gas and diesel elements, and the exhaust stack and noise along with it. Also put to rest is the controversy that accompanied the initial proposal. Peter Rood is chief development officer of Illinois-based GlidePath. "We heard loud and clear last year that it was important to the community to see these changes," Rood says. "And I think what happened was the community's desire for the project, the declining cost of battery systems and the changes and advancements in state policy kind of all align now whereas a year ago it wasn't clear if they would align, and that's why we weren't able to pose it then."

### *NYISO's Flawed Plan Threatens to Slow Energy Storage*

The market for energy storage is poised for rapid growth in New York, but progress could be stymied. A flawed plan from NYISO, the state's electricity grid operator, threatens to slow the integration of these promising new technologies into the market. The Sustainable FERC Project, Natural Resources Defense Council, Earthjustice, and other groups filed a protest to NYISO's plan with the Federal Energy Regulatory Commission

(FERC) today, urging the nation's grid regulator to order NYISO to revise its proposal to ensure energy storage resources can participate on even footing in its markets.

[More NY-BEST Member News Online](#) | [Back To Top](#)



## News From Beyond New York

### [ScottishPower Unveils £2 Billion Investment with Battery Storage, EVs in its Crosshairs](#)

ScottishPower has unveiled a £2 billion investment programme for 2019 to target large-scale battery storage and public EV charging points. The investment, the company's largest in a single year, comes after the sale of ScottishPower's thermal generation business late last year. Keith Anderson, chief executive at ScottishPower, said that the firm's growth plans were now about "cleaner and smarter power" that would enable the UK to decarbonise faster.

### [FERC Reforms Generator Interconnection Procedures to Accommodate Energy Storage](#)

On February 21, 2019, the Federal Energy Regulatory Commission (FERC) issued Order No. 845-A in response to motions for rehearing of Order No. 845, which set forth reforms to the generator interconnection process. In Order 845-A, FERC continues to remove barriers for integrating storage on the electric grid. FERC implemented these reforms to the interconnection process to provide storage customers with better information and more options for obtaining interconnection service so that there would be fewer interconnection requests that do not reach commercial operation. FERC implemented ten reforms to ensure certainty for interconnection customers, promote more informed interconnection decisions, and enhance the interconnection process. Below is an outline of FERC's specific reforms in each of those categories:

### [Enabling Storage Integration Through Market-Driven Procurements](#)

Rising renewables growth shows mandates and incentives for them work. But customer demand for renewables has not slowed, creating a need for more energy storage to stabilize the grid. That need for storage is estimated to be significantly bigger than current build-out plans, driven by existing policies, are likely to achieve. Many say more use of the competitive auctions that have helped drive renewables growth can also accelerate the deployment of storage. In November 2018, 100 or more cities had 100% renewables commitments. Fortune 500 companies with 100% goals more than doubled in 2018 to 53. To reliably integrate such high levels of variable renewables into the grid, far more energy storage may be necessary, although storage incentives and mandates

are lacking, with some notable exceptions like California, New York and Massachusetts. But market-based auctions may propel procurement of energy storage.

#### [Amazon Leads \\$700 Million Funding Round for Electric Vehicle Maker](#)

Amazon recently announced it is leading an equity investment round of \$700 million for Rivian, an automotive technology company that manufactures electric vehicles. The investment comes on the heels of Rivian's reveal of the all-electric R1T pickup and R1S SUV at the LA Auto Show last November. Morgan Stanley analyst Adam Jonas thinks the e-commerce giant's goal of carbon neutrality will take "EVs to the next level."

According to a statement by Jonas to CNBC, "Amazon's plans to have 50% of its trips carbon neutral by 2030 implies a major push in electric vans/delivery vehicles. We think investors should prepare for more moves by megafleets to solve for sustainability."

Amazon has been a proponent of emission reduction and energy efficiency for several years. As Environmental Leader noted yesterday, Amazon expects that 50% of all its shipments will be net zero carbon by 2030; the commitment, dubbed "Shipment Zero," was announced this week in a blog post by Dave Clark, the company's SVP of worldwide operations. While the goal will not be easy to achieve, Clark wrote that with improvements in electric vehicles, aviation biofuels, reusable packaging and renewable energy, the company can "see a path to net zero carbon delivery of shipments to customers."

#### [Shell Buys German Energy Storage Firm Sonnen](#)

Anglo-Dutch oil and gas giant Shell has agreed to buy 100% of Sonnen, a German smart energy storage firm, for an undisclosed amount. Sonnen, founded in 2010, has quickly become one of Europe's largest manufacturers of rechargeable energy storage packs, having installed 40,000 of its units across Germany, Australia and the US. Recently, the company started-up Germany's biggest virtual battery, based on a network of home electricity storage systems across the country.

#### [Final IRP Proposal for Puerto Rico Calls for 'Mini-Grids' and Rapid Solar and Storage Deployment](#)

The Puerto Rico Electric Power Authority this week filed a final draft of its 2019-2038 integrated resource plan, which calls for big deployments of solar and storage and a system of eight distributed "mini-grids" to support the island during disasters. The plan, drafted by Siemens, closely mirrors a draft released in January. While relying heavily on a build-out of clean energy resources, especially in the first four years of the plan, the integrated resource plan (IRP) also includes investments in natural-gas infrastructure.

Siemens analyzed nearly 80 pathways for the island's future energy system, but ultimately settled on a hybrid of two scenarios "deemed both low-cost and most practicable," with a \$9 million difference in cost. The Siemens recommendations rely on the "energy modernization scenario" with add-ons from the second scenario. Estimated costs for the energy modernization scenario total about \$15.2 billion.

#### *Why Investing in Energy Storage is Business Critical*

Keeping meat and juice fresh can be an expensive business for supermarkets. The energy used by chilled aisles can account for 40 to 60 per cent of a store's total energy bill, according to the United States Environmental Protection Agency. With the retail industry looking to reduce its carbon footprint, some supermarkets, including Aldi and Lidl, are turning to renewable energy technologies, such as solar panels, anaerobic digestion and wind turbines, to provide power to stores and distribution centres. The problem is, while these energy sources are clean, they're subject to interruptions. Solar panels require the sun to shine, but supermarkets need to keep refrigeration units running throughout the night.

#### *Israel Can Help Cuomo With His Green New Deal*

Gov. Andrew Cuomo is advancing an ambitious proposal to establish New York as a world leader in clean and renewable energy. Critics of his "Green New Deal" contend that it lacks details explaining how it would make all of New York's electricity carbon-neutral by 2040. But the state's path to a cleaner future may have already started more than 5,000 miles away. According to a new study, Israel and New York are well-positioned to generate bilateral economic growth throughout New York across five sectors, one of which is renewables. The New York-Israel Economic Impact Report, an independent study conducted by global strategic consulting firm Stax, measured the impact of Israeli-founded companies on the state economy. It also identified priority growth sectors based on New York state resources, Israeli acumen, and government policy initiatives.

#### *The Green New Deal Just Speeds Up The Current Green Wave. Case In Point: Solar-Plus-Storage*

The rollout of the Green New Deal will hit some roadblocks. But its overarching theme is that the nation should go totally green by 2030 to avert the irreversible effects of climate change. It's the latest volley in the war of energy ideas — one that must ultimately address jobs, the economy and cost. President Obama's New Energy Economy is just a prelude to this concept. In 2008, modern energy technologies had promise but they remained nascent and required public support to get them into the game. Wind and solar

energy are now major players as a result — bipartisan efforts that have become economic drivers across America. Indeed, wind and solar energies are becoming cost-competitive in their own right and only need battery storage to change the entire electricity paradigm.

#### *Battery Backed Solar Breaks Into Grid Long Seen as Off Limits*

Solar is breaking into a power market that's long been the domain of big, conventional generators. A key reason: batteries. New England just approved 145 megawatts of solar systems to provide capacity to the local grid, according to a statement Wednesday, including some from Sunrun Inc. that are paired with batteries that store electricity to use after sundown. It's the first time sunshine has been a significant participant in ISO New England Inc.'s annual forward capacity auction. The auction has typically been dominated by plants that burn natural gas and coal, as well as hydroelectric dams and nuclear reactors -- big generation facilities that can guarantee power at any moment. With prices for batteries coming down quickly, pairing them with solar panels and wind turbines is becoming more common. That addresses one of the big knocks on clean energy -- that it's not always available -- and is helping it compete with conventional power plants.

#### *Battery Energy Storage = Competitive Substitute For Gas Peakers (Cheaper & Better)*

Traditionally, utilities built and operated a portfolio of generation plants consisting of a few large baseload units – typically nuclear or coal – some intermediate plants, and a number of peakers – typically natural gas-fired units with rapid ramping capability. Baseload units ran close to flat out year-round, 24/7; the intermediate units were used to fill the fluctuations in demand; while the peakers were used sparingly to meet occasional surges in demand — say, on hot summer afternoons when air conditioning load would spike for a few hours. Fast forward to 2019 and beyond and one is likely to encounter a different paradigm, where on many networks an increasing share of generation is provided by renewable resources, most likely wind and solar, neither of which is dispatchable nor totally predictable. In this environment, what the grid operators crave the most is the flexible generation, especially options with a rapid ramping capability to fill in any unexpected shortfalls in renewable generation and to maintain the system's reliability.

#### *Electrify America to Add Tesla Battery Storage to More Than 100 New Charging Stations*

Electrify America plans to install Tesla Powerpack battery systems at more than 100 of its electric vehicle charging stations nationwide over the course of 2019. The battery systems will be deployed to mitigate higher power demand charges and manage

operating costs by avoiding or reducing demand and energy charges during peak charging periods. Each site will consist of a 210 kW battery system with roughly 350 kWh of capacity. With a modular design, more capacity can be added over time. "Our stations are offering some of the most technologically advanced charging that is available. With our chargers offering high power levels, it makes sense for us to use batteries at our most high demand stations for peak shaving to operate more efficiently. Tesla's Powerpack system is a natural fit given their global expertise in both battery storage development and EV charging." —Giovanni Palazzo, CEO of Electrify America Electrify America has designed its sites and electrical systems to easily enable future upgrades to meet the demand of the growing market and proactively engage with a changing utility landscape and rate structures.

[New Massachusetts Energy Efficiency Plan to Push Storage, Heat Pumps, and 'Demand Response'](#)

Massachusetts utilities have won approval for a "nation-leading" plan to cut electricity and natural gas sales over the next three years. The 2019-2021 energy efficiency plan, approved by the Department of Public Utilities on Jan. 29, would cut aggregate retail electricity sales by 2.7 percent and cut natural gas sales by 1.25 percent within the three-year period. The plan provides new tools for Mass Save, the energy efficiency program run by the state's utilities. Homeowners will see incentives to switch from oil and propane furnaces to electric heat pumps. Commercial and industrial energy storage will be encouraged; "strategic electrification" will get a boost; and "demand response" -- where customers save money by curtailing or shifting consumption during periods of heavy power demand -- will gain greater footing.

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