



NEW YORK BATTERY  
AND ENERGY STORAGE  
TECHNOLOGY CONSORTIUM

# NEWSLETTER

February 1, 2019

Dear NY-BEST Members and Colleagues,

[NY-BEST's Annual Capture the Energy Conference \(March 12-14<sup>th</sup>, Albany, NY\)](#) is coming up quickly and features a stellar line-up of experts. Speakers include Richard Kauffman and Alicia Barton. The conference will feature panels focusing 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.

This year, we 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. 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

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.

Members interested in providing input on the proposed VDER changes (see below) are also encouraged to contact the NY-BEST Team with questions and feedback. Comments on these proposals are due by February 25, 2019. We are particularly interested in hearing from developers who have modeled VDER compensation under both the current and proposed methodologies.

<b>VDER Value Stack Alterations</b>	DPS Staff released two whitepapers ( <a href="#">DRV</a> and <a href="#">Capacity</a> ) on proposed changes to the value stack. These proposals change how the DRV and ICAP (Alternative 2) values are calculated. They shrink the measurement window, impacting the value of storage in solar + storage deployments.	Comments due by February 25, 2019.
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As always, we encourage companies interested in or pursuing energy storage projects in New York State to reach out to the NY-BEST Team, at [aidan@ny-best.org](mailto:aidan@ny-best.org), for technical assistance support.

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

**Planet Ark Power (Sydney, Australia)** - is a leading Australian renewable energy company providing comprehensive clean energy solutions that slash electricity costs for businesses and organisations while building a sustainable energy future.

**Rhymland LLC (New York City, NY)** - is a project development and advisory firm focused on renewables and battery storage industries. Rhymland's development projects include a 45MW/135MWh energy storage system in Ontario, Canada, in which Rhymland is a 50% partner in the project. In addition to the Ontario project, Rhymland is develop energy storage projects in the state of New York, in particular on Zone G, where it has identified sites and is in discussions with land owners and local counsel. In addition to their NYC Office, Rhymland has offices in Beacon, NY and Albany, NY.

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

### [Siemens Working with DOE Labs on Solar, Energy Storage, EVs](#)

Power systems producer Siemens Corp. will team up with three national energy labs to test new technologies to bolster electricity supply, options and resiliency in the years ahead. Siemens Corporate Technology, the company's central research and development unit located in Princeton, New Jersey, has signed a memorandum of understanding on the pace. The partners will be three U.S. Department of Energy R&D facilities: The National Renewable Energy Laboratory in Golden, Colorado; the Oak Ridge National Laboratory in Oak Ridge, Tennessee; and the Pacific Northwest National Laboratory in Richland, Washington. The memorandum established the framework for research scientists to share information and resources. They could collaborate on technologies to help integrate innovative power electronic devices with the electric grid, including smart inverters for solar panels, batteries, and electrical vehicles that are capable of supporting the nation's power system.

### [Tesla, Fluence, and Other Energy Storage System Integrators Playing Bigger Role on Green Grid](#)

Energy storage system integrators play an increasingly important — and shifting — role as more renewable energy is added to the grid, according to a new Navigant Research report. Integrators design, build and operate large, grid-scale energy storage systems. Think Tesla and Fluence. In a recent interview with Microgrid Knowledge, Alex Eller, senior research analyst for Navigant Research, shed light on what integrators do and why their role is changing.

### [NY Offers Up to \\$15.5M for Projects that Value Stack Energy Storage](#)

New York is offering up to \$15.5 million for projects that show the benefits of value stacking distributed energy storage for retail electric customers and the grid (PON 3541). Proposals are due December 31, 2019. The solicitation was issued by the New York State Energy and Research Development Authority (NYSERDA), which seeks commercial projects that can help unravel the complexities of value stacking — the term used for capturing several different revenue streams from one project. The authority is looking for projects that can handle the operational complexity of determining which services to provide in a value stack — and in what combination and when during the day or year.

### [New York Governor's Green New Deal Starts with 1 GW of Large-Scale Solar](#)

With disgruntled civic leaders and NGOs from the U.S. making their presence felt at last month's COP24 climate change convention in Katowice with a We Are Still In booth, New York governor Andrew Cuomo has illustrated just how effective state administrations can be when bypassing the White House. Only days after unveiling his "Justice Agenda", wherein the governor issued a call to raise the state's renewable energy mandate from 50% to 70% of power generation by 2030 – and generate carbon-free electricity by 2040 – the New York Research and Development Authority (NYSERDA) announced 20 solar, wind and battery storage projects totaling 1,654 MW of capacity. The projects include 1,040 MW of solar in 16 projects across the state. The largest three will be built by big national developers, namely NextEra, Invenergy and EDF Renewables. The full list by capacity ...

### [BHEL and Libcoin in Final Talks Over Lithium-Ion Battery Gigafactory](#)

Indian state majority-owned firm Bharat Heavy Electricals Limited (BHEL) and Libcoin are in final stage talks over setting up what they have dubbed as a lithium-ion Gigafactory in India. Libcoin is a consortium including Sydney-based firm Magnis Energy, Duggal Family Trust and New York-based lithium-ion battery specialist Charge CCCV(C4V). The Government of India, via the Ministry of Heavy Industries and Public Enterprises, has endorsed the project that would start at 1GWh capacity and is set to be scaled up to 30GWh over time, according to a release from Magnis Energy.

### [NYISO Strategic Plan Highlights Carbon Pricing, Energy Storage, DERs](#)

The New York Independent System Operator's five-year power grid plan sets out six strategic initiatives to guide its projects and resource allocation that include pricing carbon emissions into the wholesale market, which could increase power prices by about

\$10-\$15/MWh, an analyst said Wednesday. "Our updated Strategic Plan is a living document that embraces the challenges and opportunities of the grid's ongoing transformation," NYISO interim President and CEO Robert Fernandez said in a statement Tuesday. "The plan reflects the NYISO's essential role in harmonizing public policy with technological innovation in a manner that delivers economically efficient and reliable energy to consumers," Fernandez said.

#### [How Reverse Auctions Can Help Scale Energy Storage](#)

Just as reverse auctions have helped increase new renewable energy capacity, our new policy brief for the Review of Environmental Economics and Policy argues they could also be an effective approach for scaling energy storage. Why we need energy storage Voters have spoken, and states are moving toward cleaner electricity. Legislatures in Hawaii and California passed mandates for 100 percent clean energy in the electricity sector, and governors in Colorado, Illinois, Nevada, New Jersey, New York, Maine, and Michigan have all made similar 100 percent clean energy promises in recent months. These ambitious targets will require large-scale integration of wind and solar energy, which can be unpredictable and intermittently available. Cost-effective energy storage solutions can play a leading role to provide clean, reliable electricity—even when the sun isn't shining and wind isn't blowing.

#### [The Challenge of Quantifying the Benefits of Distributed Energy Resources](#)

Government incentives have heavily shaped growth of distributed energy over the last two decades, particularly for renewable energy and energy storage. They continue to do so. But distributed energy is increasingly built for other reasons as well, some readily quantified in markets and others involving human comfort and safety. The advent of net metering about three decades ago marked a pivotal point for distributed energy. Through net metering, a utility pays customers for the solar energy they generate but do not use. This tends to happen mid-day when solar power is often plentiful, but household energy use is low. The policy spurred rooftop solar installations as 40 states instituted the programs. For years the residential solar market experienced an annual growth rate of 50 percent or more, according to the Solar Energy Industries Association.

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### [Battery Storage as Substitute for Gas Peakers - Better Performance, Lower Costs](#)

Traditionally, utilities built and operated a portfolio of generation plants consisting of a few large base load units – typically nuclear or coal – some intermediate plants and a number of peakers – typically natural gas fired units with rapid ramping capability (visual below). Base load units ran 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.

### [Caribbean Island of Bonaire Balances Solar, Wind, & Diesel with Storage](#)

Caribbean island Bonaire is adding a 6 megawatt energy storage system to help balance its solar and wind assets with backup diesel generators, opening up the potential for greater renewable penetration. Additional solar will expand on the 2015 pilot project that included close to 800 solar panels. Wärtsilä won the contract for the engineering, procurement, and construction of the hybrid energy project, which includes batteries and inverters, as well as GEMS, the energy management software from its Greensmith Energy subsidiary. ContourGlobal Bonaire, a subsidiary of London based ContourGlobal, is acquiring the system for its Water and Energy Company Bonaire (WEB) subsidiary.

### [Arsenal Football Club is Set to Install a Large-Scale Battery Energy Storage on the Emirates Stadium](#)

Slaughter and May advised the Arsenal Football Club on the battery storage project with Pivot Power at Emirates Stadium. The project is one of the largest of its kind at any sports ground in the world, and is capable of powering the 60,000-seat stadium for an entire match. The storage system, developed by UK-based Pivot Power with funding support from investment manager Downing LLP and facilitated by Octopus Energy, has been designed to meet our peak levels of energy consumption and will store enough power to run the Emirates for 90 minutes. It's the equivalent of powering 2,700 homes for two hours.

### [Electric Vehicle-to-Grid Technology Gears Up For The Mass Market](#)

It looks like things are really beginning to cook in the vehicle-to grid market. Last fall Fermata launched a V2G pilot project with a fleet of Nissan LEAFs in the US, and all of a sudden earlier this month the company announced a \$2.5 million deal with TEPCO

(Tokyo Electric Power Company), a major player in Japan's electricity grid. For those of you new to the topic, vehicle-to-grid refers to the idea that electric vehicles are really nothing more than tricked out mobile energy storage devices. Once you charge them up, you can use that electricity anywhere you go. Grid stakeholders are also looking at electric vehicles as a platform for grid services, which basically means they will pay you to store energy in your vehicle. That means you can charge up your electric vehicle even if you don't plan on going anywhere, and cash in whenever your grid operator needs some extra kilowatts.

#### [Vermont Solar-Storage Projects Aim to Lower Costs During Peak Demand](#)

A Vermont utility is adding solar panels and battery storage in hopes of lowering costs and improving reliability on hot summer days when electricity demand — and prices — tend to spike. State regulators approved the first of three projects by Green Mountain Power on Jan. 16, when they granted a certificate of public good for a project in Essex that combines a 4.5-megawatt solar array with a 2-megawatt battery. The Essex project, first proposed in August, is located on about 25 acres of a former sand pit. GMP has similar projects planned in Milton and Ferrisburgh. Together, the proposed nameplate capacity would provide 6 megawatts of battery storage, including 24 megawatt-hours of energy over a four-hour period, along with about 14.4 megawatts of solar energy.

#### [Sunnova Debuts its SunSafe™ Solar Plus Battery Storage Service in New York](#)

Sunnova Energy Corporation, one of the leading U.S. residential solar and battery storage service providers, announced today it has expanded its service in New York to give homeowners access to Sunnova SunSafe™ solar energy generation and home battery storage service, complete with its 25-year warranty. Sunnova has been offering residential solar services in New York through its network of partners since 2014. New York consistently ranks in the top 10 U.S. solar markets for installed solar and potential growth. Through the state's Reforming the Energy Vision, New York has taken significant steps to transform its energy systems with commitments to solar energy and battery storage. New York residents are eligible for both federal and state tax credits, and with the purchase of a solar system, residents may be eligible for a 30 percent federal tax credit.

#### [New UK Energy Storage Idea is as Dumb as a Box of Rocks](#)

Engineers and scientists at the University of Edinburgh and the University of Strathclyde say sandstone in the sea bed off the coast of the UK could be used to store high pressure compressed air. In their research proposal, they suggest pumps could be used

to pressurize air using excess electrical energy during the summer and inject it into the sandstone beneath the sea. They calculate the seabed could hold enough compressed air to meet all of the UK's energy needs during the winter when demand is highest. Are the researchers on to something here? The renewable energy revolution will depend on many kinds of energy storage. Some will be short term — store electricity from solar panels during the day, use it to power the grid that night. But what happens once that short term storage is depleted? Medium and long term storage will be needed to insure there is always a supply of electricity even if there are several days of little sun or low wind. Systems like compressed air energy storage might be cheaper and more reliable for long term storage than batteries.

#### *Battery Tech: Is Panasonic Leaving Tesla in the Dust?*

Tesla (TSLA) has spent years cultivating a partnership with Panasonic (OTCPK:PCRFF) (OTCPK:PCRFY). The Japanese technology conglomerate builds the batteries for Tesla's electric vehicles and it is the prime mover at the New York Gigafactory, where Tesla builds its solar arrays. Yet, for all their past dealings, it appears that Panasonic is now distancing itself from the upstart EV company. A raft of recent moves show Panasonic working hard to forge new relationships in the automotive industry. The result may be that Panasonic leaves its American partner in the dust. Worse for Tesla, it is a sign that its battery technology, often thought of as industry-leading, may not be so ahead of the curve as once thought.

#### *How Market Rules are Holding Back Energy Storage*

Energy storage is surging. The U.S. Energy Storage Monitor Q4 2018 estimates that installations totaled 338 megawatts in 2018, and will grow to 3.9 gigawatts by 2023, much of it front-of-the-meter utility-scale projects. This exponential growth has been driven by state mandates and regulatory actions (especially in California) and limited to vertically integrated utilities outside of the organized power markets serving two-thirds of all U.S. electricity consumers. Despite storage's value to the grid, it has not found success in wholesale markets. This mismatch is best explained in two words: rules and revenue. Wholesale market rules are organized around legacy assets, restricting storage from selling all potential services, which in turn limit storage's wholesale revenue streams.

#### *New Hampshire, Georgia, Michigan Open Up To Pathfinding Storage Projects*

While the likes of California, Massachusetts and New York make headlines as the leading US states for energy storage policy, initiatives from the ground up in New

Hampshire, Georgia and Michigan have been announced already this year. Biggest among the three is the approval last week by New Hampshire's regulator, the Public Utilities' Commission (PUC), of a programme by Liberty Utilities to install hundreds of Tesla Powerwall 2 units at customers' homes.

### [Top Ten Technologies To Save the World](#)

The last few decades have seen incredible acceleration in innovative technology and deployment, but it is the current convergence of these technologies which could really transform our future. Whether your greatest concern is climate change, air pollution, plastics, food security or one of the many existential threats the world is facing today, it seems that there are technological solutions that may actually help us meet the goals of the 2015 Paris climate agreement or achieve the Sustainable Development Goals by 2030. Masdar, Abu Dhabi's Future Energy Company, in partnership with The National newspaper and the World Future Energy Summit at Abu Dhabi Sustainability Week (ADSW) have launched a new report 'The Future of Sustainability', which highlights how innovations as disparate as carbon capture, energy storage, 3D printing, artificial intelligence (AI), and data analytics could fast track the global transition to a low carbon, sustainable world.

### [Energy Storage Technology Improvements Effects on Clean Power Adoption](#)

Solar and wind power technologies rely on natural resources, and therein lies the renewable energy industry's blessing and bane. If sunlight and wind are free and infinite, they are also inconsistent resources subject to the climate and weather vagaries. Output forecasts can be educated estimates at best, based on historical data and weather forecasts. No one knows for sure what the resource input rate will be on a given day, and therefore, production rate cannot be exacted. This limitation makes it impossible for the industry to provide on-demand energy as captive capacity remains inconsistent.

### [Best Energy Storage Battery Types](#)

Energy storage is going to be a mainstay in today's society for power consumption and production. In our post, we will highlight the best energy storage battery types as well as why storage will play an important role in our future of energy. You often see batteries every day with your phone, computer, laptop, and tablets. However, large scale batteries will become a more important part of our grid system as we move away from traditional fossil fuels and into more renewable energy generating systems.

[Texas Regulators Defer to Legislature on Utility Ownership of Energy Storage](#)

The market for energy storage in Texas is in limbo, in part because key issues regarding utility ownership of energy storage have yet to be resolved. The issue arose a year ago when the PUCT dismissed a request by AEP Texas, a unit of American Electric Power, to install two battery storage projects because the regulators said they lacked sufficient information. Instead, the PUCT in February opened a docket (#48023) on the issue to "develop facts necessary to establish a regulatory framework" that would allow energy storage and other technologies to operate within the confines of Texas' Public Utility Regulatory Act (PURA).

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New York Battery And Energy Storage  
Technology Consortium

[www.ny-best.org](http://www.ny-best.org)

P: 518.694.8474

E: [info@ny-best.org](mailto:info@ny-best.org)

230 Washington Avenue Extension, Suite  
101  
Albany, NY 12203