



**NEW YORK BATTERY  
AND ENERGY STORAGE**  
TECHNOLOGY CONSORTIUM

**2018 ANNUAL REPORT**

# A MILESTONE YEAR FOR ENERGY STORAGE IN NEW YORK

The New York Battery and Energy Storage Technology Consortium (NY-BEST) and our members have led the charge in driving the adoption of energy storage as an essential solution to growing a clean energy economy. 2018 was a milestone year for NY-BEST and for energy storage in New York State. Beginning in January with New York Governor Andrew Cuomo setting an unprecedented target to deploy 1,500 MW of energy storage by 2025 and create 30,000 jobs in this sector; and ending in December with the New York State Public Service Commission formally adopting the Governor's 2025 goal, as well as an additional longer-term goal of 3,000 MW of energy storage by 2030 and a comprehensive roadmap of actions to achieve the goals. New York State has sent a strong signal to the energy storage industry that New York is THE place to locate and grow an energy storage business.

NY-BEST is proud to have solidified these State commitments and we are eager to build on this progress. With the continued involvement and support of our members and partners, we look forward to achieving the goals set out by the Governor.

NY-BEST is the leading voice for the energy storage industry in New York and we are continuously evolving our services and programs to meet the needs of our members and the industry as a whole. With the support of our outstanding members, NY-BEST accomplished many of important goals for 2018 and built momentum for continued progress in 2019. This report summarizes NY-BEST's major activities in 2018 and helps set the stage for the year ahead.

## OUR MISSION

NY-BEST was incorporated in January 2010, as a 501 (c) 6 not-for-profit corporation, to help position New York as a global leader in energy storage technology for transportation, electric grid, and other applications.

NY-BEST's mission is to catalyze and grow the energy storage industry and establish New York State as a global leader in energy storage.

**NY-BEST accomplishes its mission by focusing on the following core objectives:**

- (1) Acting as an authoritative resource on energy storage, proactively communicating energy storage related news and information, and facilitating connections amongst stakeholders;
- (2) Advancing and accelerating the commercialization process for energy storage technologies, from research and development, to products and widespread deployment;
- (3) Educating policymakers and stakeholders about energy storage and advocating on behalf of the energy storage industry; and
- (4) Promoting New York's world-class intellectual and manufacturing capabilities and providing access to markets to grow the energy storage industry in New York.

## 2018 HIGHLIGHTS

Since its inception, NY-BEST has worked with our members to grow the energy storage industry and storage markets in New York State and beyond. In 2018, our efforts focused on:

- + educating a broad range of decision-makers and stakeholders about the essential role of energy storage in transforming our electric grid and transportation systems;
- + advocating for policies and regulations that promote storage as a solution;
- + improving access and removing barriers to markets for energy storage;
- + growing and attracting energy storage businesses in New York;
- + providing resources, tools and services to members to support their success.

### Highlights for the year include:

#### + EDUCATION AND ADVOCACY ON BEHALF OF THE ENERGY STORAGE INDUSTRY

NY-BEST works with the Executive and Legislative branches and other organizations in New York State to educate policymakers, legislators and stakeholders on the benefits of energy storage and the measures required to unleash these benefits to the State's electric grid and transportation systems. In 2018, our efforts were rewarded when New York Governor Andrew Cuomo, in his Annual State of the State address, publicly recognized the critical role of storage in modernizing the State's electric grid and advancing economic growth by establishing a nation-leading energy storage grid deployment goal of 1,500 MW by 2025 and a further commitment to grow 30,000 jobs in the sector by 2030.

New York State also launched a number of new programs and initiatives to support clean transportation, including the Charge NY program, electric vehicle charging station networks and EV rebates, as well as programs for municipal fleets and public transit operators.

+ **New York Energy Storage Roadmap and Public Service Commission Order** – NY-BEST and our members were actively engaged throughout the year with the New York State Energy Research and Development Authority (NYSERDA) and the New York State Department of Public Service on their joint effort to create a New York Energy Storage Roadmap to meet the Governor's State of the State commitment as well as comply with the State Energy Storage Deployment Act enacted in 2017.

NY-BEST provided substantial input into Roadmap recommendations, including conducting in-depth analyses on a variety of policy options and assisting NYSERDA through convening stakeholders and gathering industry input, prior to the Roadmap's release in June 2018. The Roadmap identified current and anticipated electric system

## 2018 HIGHLIGHTS (CONTINUED)

needs that storage is uniquely suited to address and the levels of energy storage needed to provide net benefits to ratepayers in New York State, as well as “market-backed” policy and regulatory recommendations to spur energy storage deployment in New York.

NY-BEST also provided substantial feedback on the Roadmap recommendations, attending multiple technical conferences, and in December 2018, the Public Service Commission adopted an Order Establishing Energy Storage Goal and Deployment Policy .

The Order codified the Governor’s 1,500 MW by 2025 goal; established an additional goal of 3,000 MW by 2030; and adopted a comprehensive set of measures to achieve the goals. The Order also incorporated many of the specific measures NY-BEST has long been advocating for, including creation of a market accelerator bridge incentive for energy storage; changes in tariffs and rate design, utility and bulk procurement of storage and changes to the wholesale markets, however, many still require further development and stakeholder input before they can be fully implemented.

NY-BEST will continue to actively and vigilantly participate in the development and implementation of proposals and initiatives stemming from the Order.

**+ Reforming the Energy Vision-** NY-BEST also continued to actively participate in proceedings at the NYS Public Service Commission as part of the State’s Reforming the Energy Vision (REV) initiative, most notably as part of the Working Groups for the Value of Distributed Energy Resources and Interconnection. These initiatives have led to new tariffs for hybrid solar-paired-with-storage systems and stand-alone storage.

New York Independent System Operator (NYISO) – NY-BEST greatly increased our participation in the NYISO stakeholder process in 2018 as we continue our effort to remove barriers for storage to access wholesale electricity markets. Our efforts have focused on the following:

**+ Valuation of Energy Limited Resources (ELR) in the NYISO Capacity Market** – In the fall, NY-BEST partnered with several storage companies and demand response providers to oppose a proposal by the NYISO to substantially reduce capacity values for ELRs such as storage. Working with our partners, NY-BEST spearheaded efforts to engage an outside consultant, Astrape Consulting, to perform a study to counter the NYISO’s proposal and illustrate the significant capacity values of short-term storage resources. The study has been effective in informing the NYISO process and led to revisions in the NYISO proposal. The Astrape study is being finalized and the NYISO is expected to take action on a revised proposal in the first quarter of 2019.

**+ FERC Order 841** - FERC issued Order 841 in February 2018 with the stated goal of removing barriers to the participation of energy storage resources in the capacity, energy and ancillary services markets. NY-BEST worked with our members, the Energy Storage Association and other partners to participate in stakeholder meetings with the NYISO as it developed its compliance filing for FERC. NY-BEST opposed many of the measures outlined by NYISO in its filing with FERC, including the prohibition of dual participation of resources in the distribution and wholesale systems and the application of buyer-side mitigation to all distributed energy resources regardless of their size, due to our concerns that these measures undermine the purpose of the FERC Order and create new barriers, rather than remove barriers, for storage to enter the NYISO markets. We will continue to work with our partners to advocate against their adoption and within the NYISO DER roadmap process to address remaining issues like dual participation.

### + IMPROVING ACCESS TO MARKETS

In 2018, NY-BEST greatly expanded its work with energy storage companies to access markets for their products and build a pipeline of energy storage projects. We provided insights and technical assistance to over 45 companies helping them to identify potential opportunities, understand utility tariff and rates structures, address challenges and obstacles to markets, and make connections to experts. This work takes place through a variety of activities, including: our regulatory efforts with NYS PSC and the NYISO, direct assistance to members working to site projects or seeking opportunities for their products and services, and through assistance to companies seeking to commercialize their products.

In 2018, we worked alongside a team of consultants with NYSERDA on two major initiatives, described below, that are providing market support for the energy storage industry. Our work on these initiatives will continue in 2019.

**+ NYSERDA Energy Storage Soft Cost initiative** – As part of this important initiative, commenced in 2017, NY-BEST provides technical assistance to develop and implement comprehensive strategies to reduce distributed energy storage soft costs, and provides in-depth analysis to various stakeholders on how best to remove institutional and market barriers to energy storage. Much of this work involves directly assisting companies considering projects in New York. NY-BEST has developed an Energy Storage Fact Sheet and Energy Storage Guide summarizing currently available value streams and value stacking opportunities for storage in New York. We also hosted

## 2018 HIGHLIGHTS (CONTINUED)

educational webinars, convened workshops and facilitated industry and stakeholder feedback on siting and permitting, storage use cases, combining solar and storage, interconnection and other topics. Additional resources will be released throughout 2019.

- + **REV Connect** - NY-BEST is partnering with Navigant Consulting, under a contract with NYSERDA, to establish and operate “REV Connect”, an initiative to advance critical project development under REV and stimulate new business models and partnerships. REV Connect offers a central forum for third parties to submit REV project ideas and receive expert guidance, feedback and facilitation, and will match ideas with customers, communities, and utilities to advance high quality REV demonstrations and other innovative projects, while enhancing the culture of innovation in New York State. Through our involvement with REV Connect, NY-BEST assists storage companies in identifying utility Non-Wires Alternatives, as well as with making connections with utilities and other potential project partners.

### + GROWING ENERGY STORAGE COMPANIES IN NEW YORK STATE

NY-BEST works with our members, partners and New York State to attract companies to New York, grow New York-based companies and facilitate connections within the energy storage supply chain. Our efforts in 2018 are detailed below:

- + **NY-BEST BRIDGE incubator program** – NY-BEST is successfully assisting 13 New York-based energy storage start-up and small companies through the NY-BEST Business Resources to Innovate, Develop, Grow and Excel (NY-BEST BRIDGE) virtual incubator program. Under this program, funded in part by a grant from National Grid, NY-BEST delivers direct business assistance and guidance, technical expertise, mentoring, access to capital and other funding sources, and access to other technical resources; all tailored to the needs of energy storage businesses. Our goals through the program are to support New York-based energy storage start-ups, increase the number of new energy storage start-ups in New York and accelerate the path to commercial success for these companies.
- + **Economic Development Activities** – In 2018, NY-BEST continued our successful economic development outreach initiative entitled, “Capture New York’s Energy”, with grant funding from RG&E, NYSEG and NYSERDA, along with partners Eastman Business Park, a Kodak business, DNV GL, and the Rochester Institute of Technology, to promote New

York’s companies’ unique resources and assets for the energy storage industry. This past year NY-BEST displayed our showcase exhibit at the International Battery Seminar in Fort Lauderdale, Florida, and The Battery Show in Novi, Michigan. In addition to our major partners, NY-BEST featured, as part of the exhibit, New York-based storage start-ups: Urban Electric Power; Custom Electronics, Lionano, Paper Battery, Battery, and Voltaiq. Our outreach efforts have generated numerous business leads for the partners and companies, as well as recruiting new members for NY-BEST. Notable new manufacturing that NY-BEST helped to catalyze in 2018 include the Imperium 3 battery production facility and the MCC SungEel battery recycling facility.

### + SERVICES TO MEMBERS

NY-BEST membership has grown more than 200 percent since its inception in 2010, continues to grow at a steady rate and stands at approximately 170 member organizations. Members represent all aspects of the energy storage sector, with academic institutions, research organizations, entrepreneurial start-up companies, non-profit organizations, small-and mid-sized enterprises and large multi-national corporations all well represented. In 2018, we hosted 2 major conferences, our Annual Capture the Energy 2018 with more than 350 attendees in Albany, NY and our Fall Technology Conference which was held in Binghamton, NY with more than 225 attendees.

Our on-going services to members include:

- + Direct coaching assistance and mentoring services to members, assisting members to access funding resources, facilitating R&D and product development partnerships among members.
- + Facilitating business relationships and connections.
- + Supporting technology development and technology transfer activities.
- + Informative webinars on a variety of topics ranging from market opportunities to policy and regulatory matters impacting storage.
- + Promoting members through NY-BEST events, Member Spotlights, the NY-BEST website and social media.
- + Policy information, updates and engagement through our Policy Working Group.
- + Timely and interesting communications through a variety of mechanisms, including the NY-BEST website, e-newsletters, policy updates, funding and business opportunity alerts, and social media.

# NEW YORK'S PRODUCT DEVELOPMENT, TESTING AND COMMERCIALIZATION RESOURCES FOR ENERGY STORAGE

NY-BEST has worked with our members, partners and New York State to create a strong "ecosystem" for energy storage product development, testing and commercialization. These facilities are described in more details below:

## **BEST Test and Commercialization Center**

The BEST Test and Commercialization Center (BTCC) was opened in April 2014. The Center was conceived through the efforts of NY-BEST and a diverse Advisory Committee who recognized that there was a need to establish a set of battery testing and commercialization resources for the energy storage community. The state-of-the-art Center, located at Eastman Business Park in Rochester, New York, is a subsidiary corporation of NY-BEST. It is operated by DNV GL under an agreement with NY-BEST and provides a suite of test, validation and independent certification capabilities that are necessary to introduce new energy storage technologies into the marketplace. It includes testing equipment for battery testing of secondary cells and battery packs, as well as temperature test chambers and modular walk-in temperature test chambers. Offering testing from single cells to megawatt systems, the Center's services include product development, performance validation and certification testing, and a wide range of environmental testing and battery lifetime testing.

Using a portion of a \$2 million State grant secured in 2016, new services are being developed at the BTCC and became available in 2018 with more planned in 2019. These include: an array of new safety testing for batteries and battery systems; and testing for solar paired with storage, including battery grid simulation and solar simulations.

Since its opening, the BTCC has assisted dozens of companies to test and validate the performance of their products. The BTCC is a unique asset for the energy storage industry, providing the key elements necessary for product commercialization and growth in the energy storage industry. The BTCC's services are helping to accelerate the adoption and growth of energy storage technologies and establish New York State as a leader in developing and manufacturing advanced energy storage solutions.

## **Battery Prototyping Center**

NY-BEST and our partners recognized that there was a need for a battery and energy storage prototyping center in New York State to provide prototyping capabilities to companies, researchers and entrepreneurs to advance battery product development and fill gaps in the product development and commercialization process.

In March 2015, the Battery Prototyping Center (BPC) at the Rochester Institute of Technology (RIT) opened. Through agreements with New York State and NY-BEST, RIT owns and operates the facility with the input and guidance of an advisory board and provides staffing for the facility. In addition, RIT is leveraging its status as a research university to secure competitive grants and funding to utilize and expand the expertise and research capabilities of the Center.

The state-of-the-art prototyping center provides prototyping services and features a 1000 sq. ft. dry room and includes pouch cell assembly equipment. NY-BEST members have priority access to the prototyping center and can purchase dry room time at a discounted rate. Access to the dry room includes manufacturing and assembly of lithium ion pouch cells (assembly, electrolyte filling, formation cycles, degassing, and sealing), training for users' employees on the prototyping line equipment, and prototyping technical assistance. Cylindrical cell battery prototyping capabilities have recently been added to the BPC as well.

In the past year, the prototyping center has assisted numerous companies and is widely recognized as a critical resource in the state's energy storage ecosystem. The prototyping center works closely with the BEST Test and Commercialization Center to ensure quality and reproducibility in the performance of the cells.

## **Pilot Manufacturing Facility at Kodak, Eastman Business Park**

NY-BEST partnered with Kodak and secured \$1.2 million in funding from the State, and leveraged nearly \$4.7 million in private investment, to create a battery pilot manufacturing facility at Eastman Business Park (EBP) in Rochester, New York. The Kodak Cell Assembly Center, opened in August 2017, includes two multi-user battery cell assembly lines to serve battery and capacitor development and production companies. The new lines complement existing roll-to-roll (R2R) coating capability and expertise at Kodak; the BPC at RIT and the BTCC, which is located in the same building at Eastman Business Park.

The Cell Assembly Center, operated by Kodak in partnership with NY-BEST, utilizes equipment supplied by Kodak and includes a dry room, specialized manufacturing equipment, such as cutting, winding, stacking, welding, filling, formation and packaging machines to make batteries, ultra-capacitors and other energy storage devices. The addition of these capabilities expands the energy storage ecosystem and creates a world-class tool-set for the development and production of new battery and capacitor technologies.

## **Supply Chain and Resource Database**

In addition to the facilities described above, New York is home to a host of other valuable company and product development resources at a variety of institutions throughout New York State. For example, NY-BEST member, Brookhaven National Lab, features a battery research laboratory dedicated to lithium battery research utilizing synchrotron based in situ X-ray techniques. Several New York-based universities also host valuable tools for energy storage product development. NY-BEST maintains a searchable on-line supply chain database of these unique assets, as well as suppliers of key battery components, systems and related services to assist members and the public in locating these services. Listings for companies and individuals in the database is provided at no charge. For more information, visit our website at <https://www.ny-best.org/SupplyChainLanding>

## FINANCIAL INFORMATION

Annual Membership dues for 2018, as established by the Board of Directors, were unchanged from the previous year and were as follows: \$1,500 for corporate organizational members, \$1,000 for academic institutions, non-profit and government organizations, and \$500 for start-up companies (defined as a company in the energy storage business having 25 or fewer employees and less than five years in business). These dues levels will be reviewed in 2019.

Following is a summary of revenues and expenditures by NY-BEST during 2018. In accordance with the NY-BEST bylaws, the financial statements will be audited, with the audit anticipated to commence during the second quarter of 2019.

### NEW YORK BATTERY AND ENERGY STORAGE TECHNOLOGY CONSORTIUM, INC.™

Condensed Statement of Revenues and Expenses (unaudited)  
For the Year Ending December 31, 2018

#### REVENUE:

Membership Dues .....	236,650
Registration Fees .....	148,098
Sponsorships.....	142,900
Consulting Revenue .....	415,680
Operating Grants.....	225,488
BEST Test Center Revenue Share.....	84,784

**Total Revenue .....** **\$1,253,600**

#### EXPENSES:

Contracted Services .....	767,849
Conference Expenses .....	208,630
Board Expenses and Offsite .....	25,301
Professional Fees .....	122,740
Travel .....	34,356
Other Expenses.....	22,124

**Total Expenses .....** **1,181,000**

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**Change in Net Assets .....** **\$72,600**



NEW YORK BATTERY  
AND ENERGY STORAGE  
TECHNOLOGY CONSORTIUM

# BOARD OF DIRECTORS



NEW YORK BATTERY  
AND ENERGY STORAGE  
TECHNOLOGY CONSORTIUM

The 17-member Board of Directors, elected by the NY-BEST membership, represents industry, the research community, end users and government partners. Board terms are staggered so that half of the Board seats are elected each year. The Board met four times during 2018. The Officers and Board Members for 2018 are listed below. The Board members whose terms are expiring, or have been vacated and are up for election this year, are noted below with an asterisk. The remaining seats will be up for election at the Annual Meeting in 2020.

## EXECUTIVE COMMITTEE

### MICHAEL FIELD

Raymond Corporation  
Chair

### MATT FRONK

Eastman Kodak  
Vice Chair- Industry

### DAVION HILL

DNV GL  
Vice Chair – At Large\*

### PAUL MUTOLO

Cornell University  
Treasurer/Secretary

### STAN WHITTINGHAM\*

State University of New York  
Vice Chair – Research

## BOARD OF DIRECTORS

### FERNANDO GOMEZ BAQUERO

BESSTECH LLC\*

### VICTOR CARDONA

Heslin Rothenberg Farley & Mesiti PC\*

### CARRIE HITT

NextEra Energy Resources\*

### MARGARET JOLLY

Con Edison of New York

### CHRISTINA LAMPE-ONNERUD

Cadenza Innovation, LLC

### DAVID MITLIN

Clarkson University\*

### RYNE RAFFAELLE

RIT\*

### DOUG STAKER

Enel X

### ALAN WEST

Columbia University\*

### ALICIA BARTON (EX-OFFICIO)

NYSERDA

### BRENDA GROBER (EX-OFFICIO)

Empire State Development

\* Term expiring for 2019 election.

# NY-BEST Members

as of March 1st, 2019

1. Able Grid Energy Solutions
2. Abundant Solar
3. Advanced Energy Center at Stony Brook University
4. Advanced Energy Group
5. Advanced Microgrid Solutions
6. AES Energy Storage
7. alpha-En Corporation
8. AlvaCharge
9. AnBaric Development Partners
10. Amber Kinetics
11. Ameresco
12. Applied Logix LLC
13. Ascension Industries Inc.
14. Ashlawn Energy
15. BAE Systems Controls
16. BMW
17. Barclay Damon
18. Battery Nano Tech
19. Bess-Tech
20. Bettergy Corp.
21. Binghamton University, SUNY
22. Bloom Energy
23. Blue Current
24. BluePrint Power
25. Bond, Schoeneck & King, PLLC
26. Borrego Solar
27. Braemar Energy Ventures
28. Bren-Tronics Inc.
29. Brookhaven National Laboratory
30. Brooklyn SolarWorks
31. Cadenza Innovation
32. Central Hudson Gas & Electric
33. CHA Consulting Inc
34. Charge CCCV LLC
35. Chroma Systems Solutions, Inc.
36. Citizens Energy Corp
37. City University of New York (CUNY)
38. Clarkson University
39. Co-Gen Power Power Tech
40. Columbia University
41. Combined Energies LLC
42. Conamix Inc.
43. Consolidated Edison Company of New York, Inc.
44. Convergent
45. CoreShell Technologies
46. Cornell University
47. Corning Incorporated
48. CQuest Partners LLC
49. CSA Group
50. Cummins
51. Curtis Instruments, Inc
52. Custom Electronics, Inc.
53. Customized Energy Solutions
54. Digital Energy Corp
55. Dimien LLC
56. DNV GL
57. Dowd Battery
58. E. On
59. E&M Power
60. Eastman Business Park/Kodak
61. ECG Consulting Group Inc.
62. Electron Storage, Inc.
63. Enbala Power Networks
64. Enel Green Power
65. Energy Technology Savings, LLC
66. Entersolar
67. EnerSys
68. EOS Energy Storage
69. ES Volta
70. EV Recycling
71. Forefront Power
72. FreeWire
73. FHCEA
74. General Electric
75. GI Energy
76. Glidepath
77. Go Electric Inc
78. Gotion Inc
79. Great Lakes Graphite Inc.
80. Green Machine
81. Halmar
82. Harris Beach PLLC
83. Hecate Energy LLC
84. Halmar International
85. Helix Power Corporation
86. Heslin Rothenberg Farley & Mesiti PC
87. Hesse Megatronics
88. Highview Power Storage Inc
89. Hollingsworth & Vose
90. Hydrogenics
91. ICF
92. Invenergy Storage Development LLC
93. Key Capture Energy
94. Kilowatt Labs, Inc.
95. LeClanche
96. LG Chem Ltd.
97. Li-ion Tamer
98. Lionano
99. Lockheed Martin Energy Storage
100. Marubeni America Corporation
101. Mitsubishi
102. National Grid
103. Navitas Systems
104. NEC Energy Solutions
105. New York Power Authority
106. New York State Electric and Gas
107. Nexamp
108. NextEra Energy
109. Nikola Power
110. NOHMs Technologies, Inc
111. Novacab Inc.
112. Novele
113. Novivolt
114. Novorocs Technologies
115. NRG Energy
116. O'Brien & Gere
117. O'Connell Electric
118. Oatfield
119. Operate My Building
120. Optodot Corporation
121. Peak Power Energy Corp
122. Phillips Lytle LLP
123. Planet Ark
124. Plug Power Inc.
125. Plus Power
126. Power Edison
127. Powerit
128. Praxair, Inc.
129. Primet Precision Materials, Inc.
130. Primus Power
131. Proton OnSite
132. Pu Neng
133. PyroPhobic Systems, Ltd
134. Raymond Corporation
135. Read and Laniado, LLP
136. Rensselaer Polytechnic Institute
137. Rhyland
138. Rochester Gas & Electric
139. Rochester Institute of Technology
140. Romeo Power
141. Sendyne Corp
142. SGC Engineering
143. Sharp SEC — ESSG
144. Shmuel De-Leon Energy
145. Siemens Corporate Research
146. Simpliphi
147. Skyview Ventures LLC
148. Southern Research
149. Spano Partner Holdings
150. SSSI
151. Standard Hydrogen
152. Stem, Inc.
153. Storage Power Solutions, Inc.
154. StorEn Technologies Inc.
155. Sun gel
156. Sunrun
157. Sunpower
158. Sustainable Energy Partners
159. Sustainable Innovations
160. Sustainable Westchester
161. Syracuse University
162. Tangibl Group, Inc.
163. Tesla
164. The Center for Economic Growth
165. The Raymond Corporation, Division of Toyota Industries
166. Tradewind Energy
167. Trane
168. Truepower
169. UB NYS Center of Excellence in Materials Informatics
170. Unifrax
171. University of Rochester
172. Urban Electric Power Incorporated
173. VARTA Microbattery Inc.
174. Virtual Peaker
175. Voltaiq
176. voltWall
177. Watt Fuel Cell



# NY-BEST BRIDGE PROGRAM

The NY-BEST BRIDGE Program, funded in part through a grant from National Grid, is a virtual incubator for energy storage start-ups and companies based in New York State. The “Business Resources to Innovate, Develop, Grow, and Excel” or “BRIDGE” program provides coaching, mentoring, consulting, access to funding opportunities, and other energy storage expertise to the client companies on as needed basis. New York State-based energy storage companies are invited to apply on-line through NY-BEST’s website.

The program currently has 8 client companies, ranging from start-ups developing prototypes to companies that are expanding their manufacturing capability. NY-BEST is pleased to have the opportunity to work with these companies over the past year, and we look forward to celebrating their successes throughout 2019. We look forward to working with additional companies in 2019.

## NY-BEST BRIDGE COMPANY SUMMARIES

**Aestus Energy Storage** is a long duration energy storage company based out of Troy, NY. Several former GE engineers lead their team. The company is targeting demonstration opportunities throughout New York State, and believes that they can achieve an extremely low \$/kWh cost while achieving up to 70% round trip efficiency. Their technology could be used to help meet the state’s capacity needs that will only grow as more renewables come on line.

**Battery Fingerprint Company** located in New York City, is a project coming out of the laboratory of Alexej Jerschow, Professor of Chemistry, and Director of Undergraduate Studies for the Chemistry Department at NYU. His laboratory has discovered a new way of using MRI technology to analyze battery cells for defects in a non-destructive manner. The possibilities for this technology are vast, and range from new battery chemistry development to quality control.

**Battery Nano Technologies (BNT)** is an early stage Li-Ion battery research and development firm based in Taylor, Michigan. It was launched in 2013 through the University of Michigan Office of Technology Transfer through its patented cathode design, the BNT battery is able to deliver improved run-times and increased safety on consumer electronic and storage grid batteries.

**Bettergy** is an independent, advanced materials and nanoengineering technology company, founded in 2008 to conceive, develop and commercialize innovative energy and environmental technologies. Bettergy, located in Peekskill, NY, has developed two areas of key competency: advanced battery technologies for energy storage, and nanopore engineered membrane technologies (including ionic conductive membrane and separation membrane technologies).

**C4V** is a knowledge company possessing critical insight related to optimum performance of lithium ion batteries. Key discoveries have been fruitful in vastly extending battery life, safety and charge performance. C4V is led by Shailesh Upreti, and based out of Binghamton, NY. C4V is an integral member of the consortium that is building the battery gigafactory in Binghamton, NY. Construction is expected to begin this year.

**IST, Integrated Storage Technologies**, is an energy storage technology company based in New York City. IST plans projects based around their proprietary software and controls platform, which can maximize the benefits from energy storage technologies. IST is led by Cory Mourer, and has an experienced team including engineers, finance experts, and business professionals.

**MEAn Technology** is located in Stony Brook, NY and manufactures new high-performance membrane electrode assemblies (MEAs) using a proprietary catalytic nanoparticle platelet enhancement that enhances the power output and durability of PEM fuel cells while lowering cost. They are looking to integrate their technology into other company’s fuel cells, to maximize the potential of the technology and catalyze the growth of the industry.

**NEST iON** is a battery materials company based in Rochester, NY and Dublin, Ireland. NEST iON began by working with EU law enforcement agencies. Through their collaborative engagement with customers, they were able to develop their first tactical cell, which produces an impressive increase in the efficiency of the equipment it powers combined with integrated accessories to solve new challenges in the sector. NEST iON continues to target the specialty battery market presented by law enforcement and military applications.



# NY-BEST BRIDGE PROGRAM

## BRIDGE COMPANY SUMMARIES (CONTINUED)

**PyroPhobic Systems Ltd.** is a fire barrier product manufacturer located in Barrie, Ontario, Canada who specializes in the development of passive fire containment products. The company was founded in 1994, and has been working on perfecting their products ever since. PyroPhobic Systems provides methods to prevent cascading fire in lithium ion battery systems, and sees this as an important market for growth.

**Standard Hydrogen Corp (SHC)** is a NY-based startup, establishing simple, economical, and local infrastructure to provide electrical energy storage services and hydrogen fuel, to serve the needs of customers in both the power and transportation sectors. SHC is leading a business collaborative that is deploying a Northeast network of distributed-scale, grid-tied, renewable hydrogen production stations, starting in New York. SHC stations power both great advancements to today's grid and the refueling of fuel cell vehicles (FCVs) starting in 2019.

**StorEn Tech**, founded in 2017 and located at the CEBIP Incubator in Stony Brook, New York, design vanadium flow batteries based on proprietary innovation. The core team, Carlo Brovero, Angelo D'Anzi, and others, at StorEn has worked together for two previous energy companies, in fuel cells and VFBs, both successfully divested to listed buyers. StorEn is their first venture into the energy storage market in the United States.

**VOLTA Reserve Power, LLC (VOLTA)**, is an energy storage and IoT company, developing the first of its kind easy-to-install and permit SMART Energy-Storage and Environment Management System (SEEMS). Led by Preston and Devon Bloss, and based in Garden City, NY, VOLTA's systems provide an intelligent, all-in-one contingency backup power system that can provide utility-scale Demand Response (DR) (aggregate platform) option for individual urban tenants, who are left with no other option for critical power during outages.

**VoltWALL** offers a modular energy storage solution and proprietary battery management system for stationary and EV applications. The innovative design solves many challenges confronting the wide adoption of energy storage technology.

The New York Battery and Energy Storage Technology Consortium (NY-BEST) is a rapidly growing, industry-led, private-public coalition of corporate, entrepreneurial, academic, and government partners whose goal is to catalyze and grow the energy storage industry and establish New York State as a global leader. NY-BEST acts as an authoritative resource on energy storage; advances and accelerates the commercialization process for energy storage; educates policymakers and stakeholders about energy storage; and promotes New York's world-class intellectual and manufacturing capabilities. NY-BEST was initiated with seed funding from NYSERDA using Clean Air Interstate Rule (CAIR) proceeds. Its diverse membership includes Fortune 500 companies, start-ups, universities, national research centers and laboratories spanning all facets of the energy sector. NY-BEST is a community of leaders dedicated to changing the way we use energy.



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