



# New York Battery and Energy Storage Technology Consortium, Inc.

VIA ELECTRONIC FILING

July 1, 2022

Draft Scoping Plan Comments  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

Dear Climate Action Council Members:

The New York Battery and Energy Storage Technology Consortium (“NY-BEST”) submits these comments in relation to the NYS Climate Action Council Draft Scoping Plan for the Climate Leadership and Community Protection Act released by the Climate Action Council on December 20, 2021.

We appreciate the opportunity to share these comments. We can be reached at [info@ny-best.org](mailto:info@ny-best.org) or by phone at 518-694-8474. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Will Vacker". The signature is fluid and cursive, written in a professional style.

Dr. William Acker  
Executive Director

## **NY-BEST Comments**

### **Draft Scoping Plan for the NYS Climate Leadership and Community Protection Act**

The New York Battery and Energy Storage Technology Consortium (“NY-BEST”) submits these comments in relation to the NYS Climate Action Council Draft Scoping Plan for the Climate Leadership and Community Protection Act (“Climate Act” or “CLCPA”) released by the Climate Action Council (“CAC”) on December 20, 2021. NY-BEST applauds the members of the CAC, and the various working groups supporting the CAC, for their time, dedication and commitment in developing the Draft Scoping Plan and for their thoughtful diligence in pursuing feedback on the Draft Plan.

NY-BEST is a not-for-profit industry trade association with a mission to grow the energy storage industry in New York. We act as a voice of the energy storage industry for more than 175 member organizations on matters related to advanced batteries and energy storage technologies. Our membership includes global corporations, start-ups, project developers, leading research institutions and universities, and numerous companies involved in the electricity and transportation sectors.<sup>1</sup>

NY-BEST supports the Draft Scoping Plan as a general framework for implementing the CLCPA. We have provided additional recommendations in a few areas that are focused primarily on providing additional strategies to strengthen the role of energy storage in enabling the State’s transition to a carbon free economy. We also urge the CAC to accelerate the adoption of the new Energy Storage Roadmap and programs to leverage storage for the electric grid, buildings and transportation. We further urge the CAC to continue to emphasize creating strong markets and policies to attract private investors and companies seeking to grow the clean energy economy in New York.

Our comments and additional recommendations are provided below and are organized to coincide with the Chapters and recommendations of the Draft Scoping Plan.

#### **Introduction**

The Climate Act mandates that the State achieve net zero greenhouse gas emission (GHG) emissions, from 1990 levels, economy-wide by 2050 -- an 85 percent reduction in emissions below 1990 levels by 2050; and 40 percent reduction in emissions by 2030. In addition, the

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<sup>1</sup> NY-BEST comments represent the interests of the organization as a whole and not the views of any one particular member. Our members have diverse interests and the organization’s views are intended to be reflective of the energy storage industry collectively and to support the organization’s goals to grow the energy storage industry in New York.

Act requires 70 percent statewide electricity come from renewable energy sources by 2030 and achieve a zero-emissions electricity system by 2040. Achieving these requirements will require a transformation of the State's economy, including the building, transportation and electricity sectors and energy storage is an essential technology to achieve this transformation.

### Energy Storage - An Essential Technology to Decarbonize the Economy and Grow Jobs

Energy storage fulfills many critical roles for achieving the State's clean energy future. As intermittent power sources like wind and solar provide increasing amounts of New York's electricity, storage will be increasingly used to provide flexibility and controllability, smoothing and time-shifting renewable generation and minimizing curtailment. Energy storage can be deployed to store and dispatch energy when and where it is most needed. Storage is essential to eliminating the State's reliance on fossil-fueled generation and to meeting peak power needs and displacing the State's oldest and dirtiest generating assets. Leveraged appropriately, energy storage can reduce costs associated with meeting peak electric demands and increase grid flexibility and efficiency. Additionally, energy storage can stabilize both supply and load during peak electric usage and can help keep critical systems online.

Energy storage is also critical for transitioning to a clean electrified transportation system. Meeting the CLCPA mandates will require a shift to electrified transportation, new and expanded programs and initiatives to support that shift, as well as improved planning and foresight to manage the increasing demands on the electric grid that will result from this shift.

The energy storage industry is a rapidly growing global industry that presents the State with numerous opportunities to grow thousands of new good-paying and sustainable jobs. Through strategic investments in energy storage, the State will be well-positioned to grow the workforce, achieve a just and equitable transition and meet our climate goals.

### The Urgent Need For Action on Energy Storage

NY-BEST urges the CAC to act with urgency with respect to adopting the Draft Scoping Plan recommendations, particularly in relation to energy storage on the grid and in transportation.

The energy storage industry is currently at a near standstill in New York and this effectively means that so is State action on climate change, especially given the vital role of energy

storage to enable the transition. Energy storage must be deployed on the electric grid in the near term to:

- Solve the intermittency problem in the bulk wholesale electric grid and markets, and
- Solve the electrification hosting capacity problem in the retail distribution electric grid.

To address this situation and solve these challenges, the State must act in 2022 to ensure that a new Energy Storage Roadmap and Order --along with new sustaining programs and market mechanisms to compensate energy storage for its system benefits -- are adopted to put New York on the path to achieving Governor Hochul's stated directive of at least 6 GW of energy storage by 2030.

### Summary of NY-BEST Recommendations

NY-BEST supports the recommendations of the Draft Scoping Plan and its recognition of energy storage as an essential technology for achieving the CLCPA goals and mandates. That said, we do have additional recommendations to strengthen the Plan. In summary, NY-BEST recommends the State ensure the following strategies are included in the final plan:

- Continued development of strong markets and policies that encourage and leverage private investment in the State's green economy and clean energy project deployment in the State.
- Timely adoption of a new Energy Storage Roadmap for achieving at least 6 GW of energy storage on the state's electric grid by 2030, including new programs and sustaining funding mechanisms to create long-term market certainty to attract investment for bulk and distributed energy storage deployment; programs to facilitate displacement of fossil-fueled generation with energy storage; and legislation to enact a sales tax exemption for energy storage.
- Investment in transmission and distribution system upgrades to support new renewable energy resources, along with new pathways for energy storage to function and be compensated as a transmission and distribution system asset.
- Focus on long-duration energy storage through creation of a Long Duration Storage Center of Excellence and large-scale storage demonstration projects.
- Accelerating programs and market-based mechanisms to reduce emissions in the transportation sector, including efforts to increase EV adoption, transition medium and heavy-duty vehicles to electric and programs that emphasize the benefits of V2G.

- Support of a Just Transition and workforce development initiatives that focus on growing and attracting green energy industries, such as energy storage, where the State has an opportunity – through strategic investment - to position itself as a global industry leader and create good-paying lasting jobs.
- Continuing initiatives with local governments to support outreach and education as well as, technical and financial assistance, and streamlining siting and permitting for clean energy projects, including energy storage.

Action is needed today to unleash the benefits of energy storage and enable the transformation required by the Climate Act.

## **NY-BEST Comments on the Draft Scoping Plan and Recommendations**

NY-BEST has reviewed the Draft Scoping Plan in detail, and we support the strategies outlined in the Plan. We provide below additional comments and recommendations organized to coincide with the Plan Chapters.

### **Chapter 6 - Achieving Climate Justice**

NY-BEST applauds the work of the Climate Justice Work Group and we share the desire to ensure that New York's transition to a low-carbon economy results in beneficial outcomes for traditionally underserved communities.

#### **6.3 Prioritizing Measures to Reduce Greenhouse Gas Emissions and Co-Pollutants in Disadvantaged Communities**

NY-BEST agrees that the State should prioritize measures to reduce GHG emissions and co-pollutants in disadvantaged communities. We fully support incentives for electrification of trucks and buses and agree that those incentives should be targeted in the first instance to vehicles operating in areas overburdened by air pollution. We also agree that in the power sector, incentives for distributed energy resources (DERs) and energy storage should incentivize deployments that benefit Disadvantaged Communities, including by reducing GHG emissions from peaking power plants in those locations. NY-BEST strongly encourages the State to accelerate efforts to phase-out fossil-fueled generators through a deliberate and thoughtful approach that replaces peakers and incorporates energy storage as a solution.

With respect to Power sector strategies, NY-BEST urges that CAC to continue to emphasize creating strong markets for private investors and developers of clean energy projects in New York.

We share additional recommendations on the role of energy storage to reduce emissions in disadvantaged communities in the sections below.

## **Chapter 7 – Just Transition**

NY-BEST greatly appreciates the work of the Just Transition Working Group (JTWG) and wholeheartedly support the recommendations in this section. Achieving a just and equitable transition will generate numerous opportunities for New York’s existing and emerging workforce and we support the recommendations of the JTWG and the strategies outlined in this section of the Draft Scoping Plan. We also strongly recommend additional focus be placed on the opportunities for job creation in the energy storage sector.

The energy storage industry is growing rapidly, and New York State has an opportunity to capitalize on that growth. The opportunity for the industry to generate more than 30,000 jobs by 2030 has been well documented in studies conducted by NYSERDA<sup>2</sup> and the American Jobs Project.<sup>3</sup> Importantly, these studies were conducted prior to the enactment of the State Climate Act and its more aggressive decarbonization goals, as a result, the studies likely significantly underestimate the potential for energy storage industry job creation in the State.

The U.S. currently manufactures 59 GWh annually or 8% of the world’s battery manufacturing capacity, while demand for batteries in domestic electric vehicles alone is estimated to reach 320 GWh in 2028, which will require more than 25,000 new direct battery manufacturing jobs and more than 100,000 new supply chain jobs. In addition, Bloomberg forecasts 8 GWh of annually deployed stationary Li-ion energy storage by 2028, a 5-fold increase over the current levels.

To seize on this opportunity, NY-BEST has partnered with Binghamton University, NYSERDA and others on a new initiative called “New Energy New York” which seeks to grow the ecosystem, supply chain, manufacturing and jobs related to emerging battery technologies. We are pursuing Federal funding for the effort through the US Department of Commerce EDA. New Energy New York represents a comprehensive and thoughtful approach to growing a green energy industry in the State and creating thousands of new jobs in the

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<sup>2</sup> [https://cdn.ymaws.com/ny-best.org/resource/resmgr/policy\\_files/2016-10-energy-storage-indus.pdf](https://cdn.ymaws.com/ny-best.org/resource/resmgr/policy_files/2016-10-energy-storage-indus.pdf)

<sup>3</sup> <http://americanjobsproject.us/ajp-state/new-york>

process. If we are successful in securing Federal funds and with continued support from the State, the program will establish New York as a leader in battery manufacturing for the nation.

NY-BEST encourages the JTWG and the CAC to focus investments in those sectors, such as energy storage, where the strategic investments can position the State as a leader in a global industry, bringing new good paying jobs with it.

## **Chapter 11 - Transportation Section**

To achieve the goals of the CLCPA, the transportation sector must undergo a substantial transformation, such as what is envisioned in the Draft Scoping Plan, including a shift to zero emissions vehicles (ZEVs) and electrified transportation. Achieving this transformation will require a mix of regulatory actions and investment to achieve widespread ZEV adoption including market-based policies to help fund the transition and send appropriate price signals to market participants. NY-BEST supports the recommendations in the Transportation section of the Draft Scoping Plan and we provide additional recommendations below.

### **T1. Light-Duty ZEV Adoption**

NY-BEST supports the recommendation that New York adopt California's Advanced Clean Cars 2 Regulations. We also agree that incentives for electric vehicles (EV) purchases and investments in the charging infrastructure will be essential in the short- and medium-term.

NY-BEST recommends enhanced incentives for electric vehicles (EV) and electric vehicle supply equipment (EVSE) with vehicle-to-grid (V2G) and vehicle-to-building (V2B) capabilities. Benefit cost analysis of EV and EVSE incentive programs should explicitly capture the electric system benefits of having V2G capabilities.

Under "Invest in and remove barriers for ZEV charging and fueling infrastructure" we agree with the recommendation that all financing and ownership models be considered. We further recommend that the State streamline interconnection for bidirectional EVSEs and address other barriers to Vehicle Grid Integration (VGI).

Where the Draft Scoping Plan recommends "Enact utility rate design changes" the reference to VGI lacks specificity. The recommendation states that "The PSC and NYSERDA should also consider how to maximize the value of ZEVs as grid-interactive assets and storage devices, which could potentially lower electric grid upgrade costs and generate revenue for ZEV owners, and whether any policy changes are required to enable these use cases." We

recommend inclusion of more substantive recommendations on how New York State can advance VGI opportunities, particularly load flexibility through managed charging and V2G, and reap the benefits of cross sector interactions that transportation electrification create. This could include funding research and development, demonstration projects, and the formation of V2G utility rates that reflect the full value that EV exports provide as flexible grid resources.

V2G demonstrations in other jurisdictions have shown significant value generated by vehicles in support of grid needs. NY-BEST views V2G as an important opportunity to significantly impact affordability of EVs for LMI consumers and strongly supports similar demonstrations in DACs across the State to quantify and explore the potential of such measures.

In addition, approaches such as V2G and co-deployment of storage with EVSE not only provide routine grid support and maintain affordability for EVSE providers by managing demand charges, but also provide resilient charging and power capabilities at sites so equipped in the event of a grid outage. The leverage that can be achieved by such integrated efforts should be central to NY's future energy system.

## **T2. Adoption of Zero-Emission Trucks, Buses and Non-Road Equipment**

NY-BEST supports the recommendation that New York adopt California's Advanced Clean Truck regulations. We also support the recommendation for enhanced zero emissions vehicle (ZEV) purchase incentives. Purchase incentives should be higher for vehicles with vehicle-to-grid (V2G) capabilities. There is an incremental cost to have this feature and thus incentives should be designed to cover a portion of this incremental cost with the recognition that V2G will provide broad benefits to the State providing flexible grid services. Similarly, rebates or direct investment in EV charging stations for MHD (medium- and heavy-duty) electric vehicle should offer enhanced funding for equipment with V2G capabilities.

## **T5. Fleet Modernization and Electrification**

NY-BEST supports the Draft Scoping Plan recommendations for fleet modernization and electrification. Fleet feasibility studies are particularly valuable and should include an assessment of the V2G and co-located storage opportunities to reduce the total cost of ownership and/or as a way to mitigate costly grid upgrades otherwise required to provide charging infrastructure. Storage-integrated fleet charging solutions and V2G can also provide resiliency in the event of grid outages.

## **T11. Unlock Private Financing**

NY-BEST supports the recommendations for unlocking private financing. Given the size and importance of the New York State school bus fleet, this should be a focus area to unlock private financing. Given the lack of technical expertise within school bus fleet management, fleet feasibility studies are particularly valuable and should include an assessment of the V2G and co-located storage opportunities to reduce the total cost of ownership of an electric school bus, making them more affordable for school districts with limited funding and/or as a way to mitigate costly grid upgrades otherwise required to provide charging infrastructure. Storage-integrated solutions and V2G further hold promise for resiliency in the event of grid outages.

## **Chapter 12 – Buildings**

The Integration Analysis finds that widespread building electrification is needed to meet the Climate Act goals, even with the strategic utilization of other strategies. NY-BEST agrees that to manage the impacts of widespread electrification on the State’s electric grid, it will be important for buildings to adopt smart controls, energy storage, and other load flexibility measures.

We also agree that utility price signals and technological innovation should support expansion of grid-interactive buildings, energy storage, and other demand-side solutions for load shifting, reducing the need to operate peaker plants and to build additional grid capacity. NY-BEST recommends that NYSERDA and DPS work together to develop new and expanded utility programs and tariffs to fully realize the benefits of demand side solutions, including energy storage.

### **B1. Adopt Advanced Codes for Highly Efficient, All-Electric, and Resilient New Construction**

NY-BEST supports the recommendations in this section especially in relation to promoting building resilience. Energy storage is a key technology for providing building resilience while meeting the goals of the Climate Act. NY-BEST supports State investment in additional resilience strategies including onsite renewable energy that is able to disconnect from the grid, energy storage, and EV battery interactive capabilities.

NY-BEST agrees that State building and fire codes need to be updated to support the goals of the Climate Act and include standards and requirements that both ensure safety and are technically and realistically achievable. Specifically, NY-BEST supports adopting additional building resilience features into State codes, including requiring energy storage or onsite

renewable generation that is able to disconnect from the grid, with specifications for sizing to meet resilience demands.

#### **B4. Scale Up Public Financial Incentives**

NY-BEST supports the recommendations in this section, specifically the recommendation that the State should scale up direct cash incentives for energy efficiency, electrification, and electrification-readiness in residential and commercial buildings. We further recommend additional incentives for energy storage installations in residential and commercial buildings to support building decarbonization and resiliency.

#### **B5. Expand Access to Public and Private Low-Cost Financing**

NY-BEST supports the recommendations in this section, particularly the recommendations that low-cost financing products for energy efficiency, electrification, electrification readiness, solar PV, energy/thermal storage, and related improvements be established so that single family, multifamily, and commercial and institutional building owners can access low-cost capital at the scale needed to pay for the building upgrades necessary for decarbonization.

#### **B6. Align Energy Price Signals with Policy Goals**

NY-BEST supports the recommendation in this section that the PSC and DPS should lead consideration of dynamic electric rate structures and programs (such as dynamic load management) that provide appropriate price signals to customers to incentivize deployment and usage of DERs, including heat pump systems, battery and thermal storage, EV battery interactive capabilities and other load flexibility measures that promote more efficient utilization of the electric delivery system and help to mitigate summer and winter system peaks.

NY-BEST further encourages programs that support behind-the-meter energy storage. We support the creation of new utility programs and rate designs that promote utilizing buildings as flexible loads and incorporate energy storage to provide load-shifting and peak shaving functionality.

#### **B9. Support Innovation**

NY-BEST supports ongoing innovation with respect to technology, design and planning, and business models to reduce the cost of decarbonizing buildings.

We agree that RD&D should be pursued to develop and deploy specific technologies, such as long-duration energy storage, including large-scale demonstration projects. NY-BEST also supports investment in NextGen grid-interactive buildings solutions and additional RD&D and demonstrations examining buildings providing load flexibility, and modulation capabilities that contribute to efficient grid management and grid reliability.

## **Chapter 13 - Electricity Sector**

NY-BEST strongly supports the Draft Scoping Plan recommendations for the Electricity Grid and specifically supports the recommendations related to energy storage to 1) Transform Power Generation 2) Enhance the Grid and 3) Advance innovative technology solutions.

As noted in the Draft Scoping Plan, as the transportation and buildings sectors increasingly transition to electric, the State anticipates electricity demand growth of 65% to 80% by 2050. The level of electrification needed to achieve the GHG emissions reduction requirements will increase overall electric load and shift the system peak demand from the summer to the winter. Given the large amounts of renewables that must be procured and developed to reach the goals, the State needs to incorporate load flexibility and controllability into the electric grid as sectors electrify to create a more manageable system. Energy storage is the key to providing this flexibility and controllability.

### **E1. Retirement of Fossil Fuel Fired Facilities**

NY-BEST agrees that to decrease the use of emitting fuels in the electricity sector, New York must deploy clean energy resources such as wind and solar, fuel cells and energy storage. We further recommend that efforts to deploy these resources be accelerated, and the effectiveness of programs and policies should be continually evaluated and changed if clean energy resources are not being deployed at the pace necessary to achieve the goals on time.

NY-BEST also agrees that to facilitate and enable retirement of fossil-fuel generators, New York needs to: continue and accelerate its deployment of new renewable resources; upgrade its transmission and distribution system to allow for the maximum use of the renewable energy and invest in energy storage technologies, both existing technologies and new innovative technologies, especially long duration storage technologies.

NY-BEST supports the Draft Scoping Plan recommendation that the State should develop and implement market mechanisms to facilitate the removal of fossil fuel-fired generating facilities from the system. We recommend implementation of a clean dispatch program – or similar program - that creates Clean Dispatch Credits (CDC) for dispatching clean energy at specific times. Under this type of program, Load Servicing Entities (LSEs) would be required

to procure increasing amounts of credits annually in conjunction with increasing amounts of renewable energy on the grid.

NY-BEST further emphasizes that new mechanisms to support the displacement of fossil generation, especially peaking units, should be included in the State's Energy Storage Roadmap 2.0 effort that is currently in development and planned for release in draft form by Q3 of this year. Action in the near term on the Roadmap for Energy Storage is essential to the State's ability to move forward with displacing fossil-fueled generators, especially peakers.

## **E2. Accelerate Growth of Large-Scale Renewable Energy Generation**

NY-BEST supports the recommendations to accelerate the growth of large-scale renewables. We recommend that as renewable penetration grows, the State also continually analyze and model of the need for additional energy storage to complement renewable energy resources. We further recommend that the State's energy storage target be proactively increased over time to coincide with increasing amounts of renewable energy on the grid.

NY-BEST agrees that the State also needs to identify and address transmission and distribution needs as renewable energy penetration grows. However, we also strongly encourage the State to closely examine and implement alternatives to traditional transmission and distribution solutions, including the role for energy storage to provide transmission services.

## **E3. Facilitate Distributed Generation / Distributed Energy Resources (DER)**

NY-BEST supports the recommendations for accelerating DG and DER deployment. We emphasize, in particular, the need to update values in the VDER tariffs to reflect the full system, locational and environmental benefits provided by energy storage and other DERs. VDER has tremendous potential to be a valuable tool for deploying DERs, but its effectiveness is currently limited. Action is needed in the near term to update the value stack values and to continue the refinement of these values to ensure that the benefits of DER are appropriately compensated.

NY-BEST also supports recommendations in this section related to improving hosting capacity for DERs. We urge additional consideration of the role that energy storage can play in effectuating increased hosting capacity on the distribution system.

NY-BEST also agrees that improvements are needed in relation to interconnection for DERs. For example, updated and timely information from utilities is most critical for DER providers

seeking to deploy resources, this includes hosting maps being continuously updated to ensure their accuracy.

NY-BEST also recommends adoption of additional financial incentive for distributed energy storage to accelerate the market, spur innovation and compensate energy storage for its many services and benefits. We strongly encourage the adoption of such incentives as part of the Energy Storage Roadmap 2.0 currently under development and planned for release as a draft in Q3 of 2022.

## **E6. Deploy Existing Storage Technologies**

NY-BEST agrees wholeheartedly with recommendations in this section of the Draft Scoping Plan related to deploying existing energy storage technologies

We strongly agree that “A portfolio of energy storage technologies will be needed as intermittent renewable energy generation penetration increases. Existing and newer, long-duration, storage will be needed to maintain reliability as the State approaches 2040; however, these technologies will need to be deployed well before 2040 to reach the State’s goals.”

The Draft Scoping Plan appropriately notes that the previously established energy storage deployment goal of 3 GW by 2030 is too low and should be increased. NY-BEST agrees and we support Governor Kathy Hochul’s 2022 directive for the State to increase the 2030 energy storage deployment goal to at least 6 GW and to establish a Roadmap and programs to achieve that goal.

NY-BEST also strongly supports and urges prompt action on the Draft Scoping Plan recommendations for energy storage. Specifically:

- Establish a new Roadmap for energy storage – NY-BEST notes that this work is currently underway at NYSERDA and DPS and we urge the release and finalization of the Roadmap with sustaining programs and market mechanisms for energy storage prior to the end of 2022.
- Increase funding for energy storage deployment, including the creation of a sustained funding program, such as a Clean Dispatch Credit or expansion of the Clean Energy Standard (or similar programs) – NY-BEST urges prompt action as part of the Roadmap process to establish new funding mechanisms for energy storage.

We also strongly recommend passage of legislation to exempt energy storage from sales tax. This would provide energy storage with the same exemption afforded to solar and fuel cells and improve the economics for energy storage projects.

- Incorporate energy storage into energy delivery and transmission planning – NY-BEST concurs and recommends that energy storage be fully considered as an alternative to traditional transmission and distribution and that pathways to deployment be established and supported. We further urge improved system modeling to consider probabilistic analysis and planning that considers both multiple generation scenarios as well as multiple load projection scenarios.
- Improvement to New York’s wholesale electric markets – NY-BEST applauds the NYISO’s recent elimination of Buyer-Side mitigation but we urge the State to work closely with industry and NYISO to protect capacity values of energy storage in the new capacity accreditation process now underway at the NYISO. We similarly recommend that the State and NYISO work closely with industry on other clean energy industry priorities such as hybrid resources participating in wholesale markets, and Storage as a Transmission Asset.

## **E7. Invest in Transmission and Distribution Infrastructure Upgrades**

NY-BEST agrees that to meet the Climate Act requirements there is a need for investments and upgrades in New York’s transmission and distribution electricity system.

However, as noted in our comments above, we continue to recommend that energy storage be more fully incorporated into energy delivery and transmission planning. Traditional transmission does not enable energy delivery during periods of renewable energy over-generation that will become more frequent as the grid is decarbonized. Investments in a combination of traditional transmission and energy storage can be more cost effective. Energy storage must be given full consideration as an alternative to traditional transmission and distribution and pathways to deploy storage as a transmission asset must be established. This includes changes at the NYISO to allow storage to act as a transmission asset and changes to utility system planning as well. We recommend improvements be made to system modeling at the wholesale and distribution levels to incorporate probabilistic analysis and planning that considers both multiple generation scenarios as well as multiple load projection scenarios.

## **E8. Improve Reliability Planning and Markets**

During the transition to a cleaner grid, several reliability challenges must be successfully managed including resource and resource attribute variety and the anticipation of changing

load needs and patterns. Dispatchable and emissions-free resources will be needed to balance the system, replacing the fossil-generation which now provides this function.

As noted in the Draft Scoping Plan, energy storage is one such resource that can provide benefits on the supply side at the generation level by providing dispatchable, flexible capacity which results in lower generation costs and increased system reliability. Energy storage can also provide benefits on the demand side at the customer level by providing flexibility and resiliency benefits for consumers through demand response and backup power supply.

NY-BEST supports the recommendations in this section related to market participation, wholesale market improvements, and support for flexible resources. We note that the hybrid resource participation model at the NYISO is incomplete and must be prioritized by NYISO to be implemented in a timely manner.

With respect to Resource Adequacy, NY-BEST agrees that the State and the NYISO should examine all Resource Adequacy options and continue to improve resource adequacy contribution compensation. With the elimination of Buyer Side Mitigation and the introduction of a new Capacity Accreditation process at the NYISO, it is currently unclear that the State has the requisite programs in place to ensure resource adequacy. While NY-BEST agrees that the State and the NYISO should evaluate the capacity market value of all resource types so that resources are paid for capacity consistent with the value they provide to the grid, we remain concerned that the current approaches being considered by the NYISO may fall short. As a result, NY-BEST recommends that the final Scoping Plan include consideration of a State-administered Resource Adequacy program.

## **E9. Advance Demand Side Solutions**

NY-BEST agrees that the State should expand demand-side opportunities and opportunities for flexible resources. Demand response resources will play a more critical reliability role in the future as the grid becomes more electrified and the load shape shifts. We concur with the recommendation for a holistic evaluation of both wholesale and retail demand response programs to identify gaps and opportunities for new programs or program changes to meet the needs of a changing grid.

In addition to the recommendations in the Draft Scoping Plan, NY-BEST recommends that demand side solutions be broadened to better integrate these solutions with transportation and buildings. Buildings will be an important flexible load in the future. In addition to traditional demand response programs that focus on reducing peak loads, building can also shift load to times of high renewable energy production. This style of energy shifting creates

benefits in two ways: First by reducing emissions, peaker plant operation and stress on the grid and, second, by improving the economics of renewable generation accelerating their adoption. In the long run this type of energy shifting will be critical to the efficient function of a zero-carbon grid. Early actions such as New York City Local Law 97 are valuable steps. The State should develop programs to encourage flexible building loads and behind-the-meter energy storage to accelerate this transition.

Electrified transportation can also provide critical demand-side solutions. As discussed in our transportation comments the State should develop programs to encourage the development of flexible load from vehicle charging and vehicle-to-grid solutions.

### **E10. Explore Technology Solutions**

NY-BEST agrees with the Draft Scoping Plan focus on long-duration energy storage as a key area for investment. Achieving the Climate Act's high renewable energy, zero-emission electricity system will require substantial amounts of energy storage operating over various time scales, spanning from minutes to hours, days, weeks or longer, to maintain grid flexibility, reliability, and resiliency.

NY-BEST strongly agrees that NYSERDA should focus programs and funding on research and demonstration projects for the development of large scale and longer duration storage. We strongly support the recommendation that the State should establish an Energy Storage Center of Excellence to support the development of new technologies and deploy mature technologies on the grid for large scale testing, as well as create a public-private collaborative effort to address the challenges unique to long-duration storage.

NY-BEST agrees that the State should advocate for Federal resources focused on identifying and commercializing advancements in transmission and zero carbon dispatchable long duration storage solutions. We also agree that NYSERDA should act as a hub for technological innovation and support for utility-scale demonstration projects for new technologies, including storage.

## **Chapter 14 - Industry**

NY-BEST generally supports the recommendations in this section of the Draft Scoping Plan.

### **I1. Financial and Technical Assistance**

Many NY-BEST company members are located in New York State and play a role in the energy storage supply chain, including manufacturing. NY-BEST is committed to growing the

energy storage ecosystem in New York State, including all facets of the supply chain from development to commercialization and testing of products to manufacturing. As we work economy-wide to ensure that the State meets the Climate Act requirements, NY-BEST recommends that the State also promote and support the growth of green economy companies, including energy storage.

We specifically encourage increased support for financial and technical assistance to companies located in the State to assist them in decarbonizing their operations. Renewable energy paired with energy storage is commercially available and, with State assistance, may offer a viable solution for companies seeking to reduce GHG emissions from their operations.

### **13. Workforce Development**

NY-BEST supports the Draft Scoping Plan recommendations in relation to workforce development. The energy storage industry is growing rapidly globally and in New York state. The opportunity for the industry to generate more than 30,000 jobs by 2030 has been well documented in studies conducted by NYSERDA<sup>4</sup> and the American Jobs Project.<sup>5</sup> Importantly, these studies were conducted prior to the enactment of the State Climate Act and its more aggressive decarbonization goals, as a result, the studies very likely significantly underestimate the potential for energy storage industry job creation in the State.

NY-BEST has partnered with Binghamton University and others on a new initiative called New Energy New York which seeks to grow the ecosystem, supply chain, manufacturing and jobs related to emerging battery technologies. We are pursuing Federal funding for the effort through the US Department of Commerce EDA. New Energy New York represents a comprehensive and thoughtful approach to growing a green energy industry in the State and creating thousands of new jobs in the process. If we are successful in securing Federal funds, the program will establish New York as a battery manufacturing hub for the nation.

NY-BEST also agrees with the Draft Scoping Plan recommendation that NYSERDA should partner with training organizations, including colleges and universities, and businesses to increase the number of individuals being provided with training, with particular attention to increasing the number of individuals from Disadvantaged Communities being served by these programs. NY-BEST would be pleased to work with NYSERDA and other partners on workforce initiatives related to energy storage.

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<sup>4</sup> [https://cdn.ymaws.com/ny-best.org/resource/resmgr/policy\\_files/2016-10-energy-storage-indus.pdf](https://cdn.ymaws.com/ny-best.org/resource/resmgr/policy_files/2016-10-energy-storage-indus.pdf)

<sup>5</sup> <http://americanjobsproject.us/ajp-state/new-york>

## **14. Research, Development, and Demonstration**

NY-BEST supports the recommendation for NYSERDA to develop a robust R&D agenda to support deep decarbonization of the industrial sector of the State. We also support State funding for research and pilot/demonstration projects in this area.

## **16. Economic Incentives**

NY-BEST supports economic incentives to attract and grow green economy companies and industries, such as energy storage, in New York. The global energy storage industry is growing rapidly as vehicles and transportation fleets transition to electrified power and the demand for batteries grows exponentially. Energy storage on the grid is similarly growing quickly as nations and states move to decarbonize their electric grids.

The industry's global growth presents a tremendous opportunity for New York State to attract and grow companies in the energy storage sector through various economic development packages. NY-BEST is pleased to have worked with ESD to attract energy storage related companies to the State in the past and we look forward to continuing to bring new battery and energy storage related companies to the State. There is significant competition throughout the United States and beyond to establish new battery giga-factories and the State has much to offer the industry in terms of workforce, supportive policies, clean energy supplies, world-class research institutions and manufacturing assets. New and expanded programs and incentives to further entice energy storage companies to the State would further assist the State in securing additional companies and creating new jobs in the process.

## **Chapter 16 - Waste**

NY-BEST supports the recommendations in this section of the Draft Scoping Plan. We support State efforts to work with industry to promote recycling and reuse.

We recommend additional State focus be placed on recycling and reuse of energy storage products, particularly, Lithium-ion (Li-ion) batteries. Recycling of Li-ion batteries helps avoid significant environmental concerns from improper disposal, but it also presents a huge opportunity for our economy. China currently dominates the global lithium battery supply chain with upwards of 70% of the total global Li-ion battery manufacturing capacity controlled by China. Li-ion battery recycling offers an opportunity to grow a domestic supply of battery-grade materials that are in high demand. Recent studies suggest that with efficient recycling, 95 percent of battery components or more could be used to manufacture new Li-ion batteries or used in other industries. Nations across the globe and

several US states, including New York, are pursuing aggressive targets for EV adoption, and these initiatives are placing additional stress on supply chains for procurement of battery-grade materials. By placing an emphasis on establishing Li-ion recycling facilities -- and scaling these operations in New York State -- the State could realize economic benefits and jobs associated with battery recycling while providing valuable products back into the battery supply chain.

NY-BEST also recommends that the State invest in additional R&D and demonstration programs to establish markets to enable second-life or end-of-life reuse of batteries. EV batteries are typically replaced after they lose around 20 percent of their capacity, leaving up to 80 percent capacity remaining that can be used for stationary storage applications. State support for R&D and demonstrations would facilitate the growth of second-life batteries in stationary applications for residential, commercial, or industrial applications.

### **Statewide and Cross-Cutting Strategies**

There are substantial interactions between many of the sectors discussed in the scoping plan. Particularly, the electricity sector interactions with the building sector and transportation sector deserve more focused attention. Optimization of the interactions between transportation, buildings and the electricity sector will be increasingly important to efficiently and cost effectively achieve the CLCPA goals. NY-BEST recommends that the State develop specific initiatives on Vehicle Grid Interaction and on flexible building load. Because of the vast number of resources involved, the interaction of these resources with the grid will likely require new business cases and market rules. NY-BEST recommends that the State develop stakeholder working groups for each of these areas to develop programs and markets that streamline the adoption of these technologies.

## **Chapter 19 - Land-use**

### **LU8. Provide Guidance and Support on Clean Energy Siting to Localities**

NY-BEST supports the Draft Scoping Plan recommendation in this section relating to additional assistance for local government to facilitate clean energy siting.

We agree that NYSERDA should collaborate with regional planning boards to provide technical and financial support to help local governments plan for and review clean energy projects including wind, solar, transmission, distribution, storage, and vehicle charging infrastructure. We also encourage additional outreach and education to local governments on the benefits of energy storage and well-established standards for its safe operation.

## **Chapter 20 - Local Government**

NY-BEST supports the recommendations in the section of the Draft Scoping Plan which recognize that local governments play a pivotal role in the siting, zoning and permitting for clean energy projects such as energy storage and EV chargers. We agree that the strategies outlined in the section are essential to ensuring a coordinated approach between state and local governments to enable technology deployment needed to achieve the Climate Act requirements.

### **LG3. Clean Energy Siting Support for Local Governments**

NY-BEST supports State programs to provide technical and financial support to help local governments plan for and review clean energy projects including wind, solar, transmission, distribution, storage, and vehicle charging infrastructure. We also strongly encourage additional proactive outreach and education to local governments on 1) the model law created by NYSERDA for siting of energy storage and 2) new State-led efforts to streamline the permitting process for energy storage, at a variety of scales. The permitting process for energy storage can be complex, cumbersome and time-consuming. Near term State actions to streamline local permitting are essential to ensuring the timely deployment of energy storage to meet the Climate Act goals.

## **Chapter 21 - Adaptation and Resilience**

### **AR9. Ensure the Reliability, Resilience, and Safety of the Energy System**

NY-BEST supports the strategies outlined in this section and note that energy storage plays a vital role in energy system resilience. We further encourage state support for islandable microgrids with energy storage and EV battery integration – especially for critical facilities - as part of the State’s resilience planning efforts with local governments.

NY-BEST also supports the recommendation for DOS, in consultation with NYSERDA, to include requirements for PV and EV-charging readiness in the building code.

## **Summary and Conclusion**

NY-BEST applauds the efforts of the CAC and the various working groups that participated in the development of the Draft Scoping Plan. NY-BEST supports the Draft Scoping Plan as a framework for implementing the Climate Act. Energy storage is a key enabling technology

for achieving the goals of the Climate Act and, as such, our recommendations focus on ways to leverage this essential technology to its fullest.

NY-BEST recommends the State ensure the following strategies are included in the final plan:

- Continued development of strong markets and policies that encourage and leverage private investment in the State's green economy and clean energy project deployment in the State.
- Urgent action to establish a new Energy Storage Roadmap for achieving at least 6 GW of energy storage on the state's electric grid by 2030, including new programs and sustaining funding mechanisms to create long-term market certainty to attract investment for bulk and distributed energy storage deployment; programs to facilitate displacement of fossil-fueled generation with energy storage; and legislation to enact a sales tax exemption for energy storage.
- Investment in transmission and distribution system upgrades to support new renewable energy resources, along with new pathways for energy storage to function and be compensated as a transmission and distribution system asset.
- Focus on long-duration energy storage through creation of a Long Duration Storage Center of Excellence and large-scale storage demonstration projects.
- Accelerating programs and market-based mechanisms to reduce emissions in the transportation sector, including efforts to increase EV adoption, transition medium and heavy-duty vehicles to electric and programs that emphasize the benefits of V2G
- Support of a Just Transition and workforce development initiatives that focus on growing and attracting green energy industries, such as energy storage, where the State has an opportunity – through strategic investment- to position itself as a global industry leader and create good-paying lasting jobs.
- Continuing initiatives with local governments to support outreach and education as well as, technical and financial assistance, and streamlining siting and permitting for clean energy projects, including energy storage.

We appreciate your consideration of our comments and stand ready to assist the CAC should you have any questions about our comments and recommendations.