



NYSERDA

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Governor

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Chair

ALICIA BARTON
President and CEO

October 16, 2019

House Natural Resources Committee
Energy and Mineral Resources Subcommittee
1324 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Lowenthal, Ranking Member Gosar, and Members of the Subcommittee:

On behalf of the New York State Energy Research and Development Authority (NYSERDA), I appreciate the opportunity to provide our thoughts and insights as the subcommittee considers policies to move our country toward net zero emissions by 2050. I am pleased to discuss our robust record of clean energy and climate success to reach our climate goals.

In July of this year, Governor Andrew M. Cuomo signed into law the Climate Leadership and Community Protection Act (CLCPA). The CLCPA is the most ambitious climate policy of any major economy. It requires New York to reduce economy-wide greenhouse gas emissions 40 percent by 2030 and no less than 85 percent by 2050 from 1990 levels. The law creates a climate action council charged with developing a scoping plan of recommendations to meet these targets and place New York on a path toward carbon neutrality. NYSERDA, along with the Department of Environmental Conservation, will co-chair the council.

In support of these emission reduction targets, New York is increasing our Clean Energy Standard from 50 to 70 percent renewable electricity by 2030 and requiring that all electricity come from zero carbon resources by 2040, the most aggressive target in the nation. These outcomes will be aided by 9,000 megawatts of offshore wind by 2035, 3,000 megawatts of energy storage by 2030, and 6,000 megawatts of distributed solar by 2025.

We have confidence that while these targets are ambitious, they are also attainable. The cost of renewable energy is falling faster than predicted, quickly becoming the most affordable form of energy. Our recent experiences—across technologies—are proof of this. In 2012, the average cost per watt of completed distributed solar projects in New York was \$7.25. In 2019, the average cost per watt is \$2.55. That is not only a 65 percent cost reduction, it is more aggressive than every cost reduction scenario NYSERDA modeled in 2012 but for one. Large-scale renewable projects awarded in 2017 were 14 percent lower than those NYSERDA awarded in 2016; projects awarded in 2018 were 23 percent lower than those in 2016. Regional offshore wind contract prices have fallen from approximately \$300 per megawatt hour (Block Island Wind Farm) to approximately \$200 per megawatt hour (Maryland projects) to less than \$100 per megawatt hour (Vineyard Wind), all since 2014. According to Bloomberg New Energy Finance, battery storage costs have declined 85 percent per kilowatt hour since 2010. Forecasts predict halving of current costs for lithium-ion batteries by 2030.

Our clean energy policies are realizing these cost declines while generating thousands of jobs in communities across the state – from factory workers to engineers, technicians to financiers – making New York a hub of clean economic growth. Since 2016, the clean energy sector in New York has grown 8.9%. In 2018, clean energy employed nearly 159,000 New Yorkers and is expected to employ 171,000 New Yorkers by the end of 2019.

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Below are some of the specific efforts New York is undertaking to capitalize on this opportunity to embrace clean energy solutions that will support our ability to move to cleaner energy sources, drive local economic development and job creation, and transition our energy system to lower-cost renewable resources over the long term.

Offshore Wind

Offshore wind will play a leading role in delivering our clean energy and climate goals, and New York is committed to developing this resource in a manner that is both cost effective and environmentally sensitive. NYSERDA's offshore wind master plan includes over 20 economic and environmental studies, which helped to inform the Area of Consideration and four Wind Energy Areas that New York recommended to the U.S. Department of the Interior's (DOI) Bureau of Ocean Energy Management (BOEM) in October 2017. NYSERDA recently completed a three-year aerial survey of birds, marine mammals, sharks, and fish shoals; we currently have two light detection and ranging (LiDAR) buoys deployed to conduct remote sensing of wind, ocean currents, and wildlife. New York's offshore wind leadership helped us to secure an \$18.5 million grant from the U.S. Department of Energy to establish the National Offshore Wind Research and Development Consortium with a focus on decreasing the cost of offshore wind by fostering innovations to reduce technical and supply chain barriers.

New York also recognizes the tremendous economic rewards that offshore wind can provide to the state. NYSERDA recently announced awards for two offshore wind projects totaling nearly 1,700 megawatts. These two projects are expected to provide 1,600 jobs, many of them paying over \$100,000 a year. The state's 9,000 megawatts target is enough to meet one-third of New York's current electricity demand. We project that it will provide 10,000 jobs while injecting billions of capital investment into our economy.

New York cannot, however, meet our offshore wind targets and realize these economic benefits without our federal partners. As the federal entity charged with overseeing offshore renewable energy development, we rely on DOI, through BOEM, for timely auction, review, and permitting of wind energy areas. Among other benefits, a timely review enables developers to take advantage of the federal investment tax credit and reduce project costs. Therefore, New York continues to urge DOI to release the final Wind Energy Areas for the New York Bight as soon as possible.

Solar Energy

Governor Cuomo's NY-Sun program began in 2012 with a goal of 3,000 megawatts of distributed solar by 2023. NY-Sun provides financial incentives that decline over time as solar capacity increases. The program also works to reduce the soft costs associated with distributed solar, such as customer acquisition, permitting, and siting. As an example, NYSERDA introduced a solar guidebook, since replicated for onshore wind and storage, to equip our local government partners with information and tools to manage solar development in their communities. Since the program went into effect, New York has seen a 1,700 percent increase in solar installations across the state.

Energy Storage

Energy storage balances variable resources like wind and solar; New York also views storage as a tool to reduce the need for fossil fuel-fired peaking plants, in particular in New York City, that provide electricity during periods of high demand. Modeled after the successful NY-Sun program, NYSERDA recently introduced a declining incentive program to support the deployment of energy storage systems. Energy storage is part of the fastest growing segment of New York's clean energy economy with 35 percent growth from 2017 to 2018 alone. We project that the industry could employ as many as 30,000 New Yorkers by 2030.

Energy Efficiency

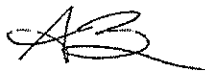
A clean electric grid is a necessary component of New York's strategy to increase the electrification of our building and transportation sectors. Another essential strategy is to increase on-site energy efficiency. The CLCPA requires 185 trillion British thermal units of end-use energy savings by 2025, the equivalent amount of energy used to fuel and power 1.8 million New York homes. To achieve this goal, New York established a sub-target requiring the state's investor-owned utilities to achieve electricity savings equal to 3 percent of sales by 2025. The state's New Efficiency: New York initiative proposes strategies designed to meet this target, including timely advancement of the latest building codes, adoption by localities of stretch codes, and promulgation of standards for appliances and products.

While climate change will affect us all, our most vulnerable citizens—children, the elderly, the infirm, and those of little monetary means—will be most adversely impacted. At the core of the CLCPA is continuing to ensure that these populations benefit from the investments we make in decarbonizing the economy.

Where possible, New York looks to scale our approaches and increase our impact through partnerships with other states. Governor Cuomo co-founded the U.S. Climate Alliance (USCA), a bipartisan group of 25 governors working to uphold the commitments of the Paris Agreement. Through the Regional Greenhouse Gas Initiative (RGGI), New York and the other participating states have reduced greenhouse gas emissions by 50 percent since 2005 while generating over \$3.2 billion in proceeds that the states reinvest to support energy efficiency, renewable and clean energy, and carbon abatement, among other activities. The program's success has drawn additional interest, with New Jersey planning to join in 2020 and Pennsylvania recently announcing its intent to join as well. New York is also a member of the Transportation and Climate Initiative (TCI) where we are working with 12 states and the District of Columbia to develop similar win-win solutions that advance equitable clean transportation options and reduce the sector's greenhouse emissions. Over the last year, TCI has pursued public dialogue and analysis to inform the development of a regional cap-and-invest policy that would meet these goals.

The successful models for low-cost clean energy transitions that New York is pioneering today can serve as an excellent model for federal action, by embracing policies that will improve our environment, protect communities from ever-increasing extreme weather events, and bolster our economy. We believe that the federal government should also embrace the opportunity to enhance efforts of early-acting states like New York by providing long-term, predictable policies that encourage investment and accelerate progress toward our goals. New York welcomes the opportunity to continue the dialogue as the subcommittee undertakes its important and necessary work.

Sincerely,



Alicia Barton
President and CEO