

MINUTES OF THE ONE HUNDRED EIGHTH MEETING OF THE
PROGRAM PLANNING COMMITTEE
HELD ON OCTOBER 8, 2019

Pursuant to a notice and agenda dated September 26, 2019, a copy of which is annexed hereto, the one hundred eighth (108th) meeting of the Program Planning Committee (the “Committee”) of the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY (the “Authority”) was convened at 12:00 p.m. on Tuesday, October 8, 2019, at the Authority’s Albany Office at 17 Columbia Circle, Albany, New York and the Authority’s New York City Office located at 1359 Broadway, 19th Floor, New York, New York. The two locations were connected by videoconference.

The following members of the Committee were present:

Mark Willis, *Committee Chair*
Richard Kauffman, *Chair of the Authority*
Sherburne Abbott
Charles Bell
Kate Fish
Ken Daly
Gil Quiniones

Member Jay Koh was unable to attend.

Also present were Alicia Barton, President and CEO; Janet Joseph, Senior Vice President for Strategy and Market Development; Jeffrey J. Pitkin, Treasurer; Peter J. Costello, Acting General Counsel; Sara L. LeCain, Senior Counsel and Secretary to the Committee; and various other staff of the Authority.

Mr. Willis called the meeting to order and noted the presence of a quorum. The meeting notice and agenda were forwarded to the Committee members and the press on September 26, 2019.

Mr. Willis indicated that the first item on the agenda concerned the approval of the minutes of the one hundred seventh (107th) meeting of the Committee, held on June 26, 2019.

Whereafter, upon motion duly made and seconded, and by unanimous voice vote of the Committee members, the minutes of the hundred seventh (107th) meeting of the Committee, held on June 26, 2019 were approved.

Mr. Willis indicated that the next item on the agenda was a discussion of the Authority's implementation of the Climate Leadership and Community Protection Act ("CLCPA") from the Authority's President and CEO, Alicia Barton.

Ms. Barton highlighted the steps that will be taken in order to implement the CLCPA. The CLCPA establishes the first statutory Climate Action Council for New York State. The CLCPA prescribed some of the participation of the council, it will be co-chaired by the Authority and the NYS Department of Environmental Conservation, which will be joined by the commissioners of numerous other state agencies. The council anticipates convening in early 2020, when the governor has appointed the rest of the members. The statute also prescribes that the council be supported by advisory panels that focus on specific issues such as transportation, land use and local government, housing and energy efficiency, energy intensive industries, power generation, and agriculture and forestry.

The scoping plan was developed to outline recommendations for measures to achieve the emission targets including 40% by 2030, 85% by 2050, and a carbon neutral economy. The plan will include measures to aid in just transition of workforce, mechanisms to limit emission leakage, measures to achieve healthy forests, and the council shall quantify costs and benefits. The DEC may adopt an alternative compliance mechanism to achieve additional reductions for carbon neutrality. The process will begin with a consultation with the Climate Justice Working Group

and Environmental Justice Advisory Group followed by 6 public comment hearings on the draft plan.

All agencies shall implement strategies to reduce their emissions by the end of 2023. This includes the consideration as to whether permit, licenses and other actions are consistent with achieving emission targets, and if not alternatives must be identified. The actions should benefit, not burden, disadvantaged communities.

Ms. Barton highlighted one of the important components of the CLCPA, which is the investment in disadvantaged communities. This means investing in or directing available and relevant programmable resources in a manner designed to achieve a goal for disadvantaged communities to receive 40% of overall benefits of spending on: clean energy and energy efficiency programs; and projects or investments in the areas of housing, workforce development, pollution reduction, low-income energy assistance, energy, transportation, and economic development. Disadvantaged communities would receive no less than 35% of the overall benefits of spending on clean energy and energy efficiency programs, projects or investments. The CLCPA will establish a new Climate Justice Working Group to develop criteria for and create the list of disadvantaged communities, and to report on barriers and opportunities for clean energy. The membership of the Climate Justice Working Group will include: DEC (chair), NYSERDA, Department of Labor, Department of Health, and three environmental justice representatives each from NYC, rural areas, and upstate urban areas.

Ms. Barton continued, explaining the Just Transition Working Group, which will be co-chaired by NYSERDA and the Department of Labor. This working group will advise the Council on opportunities for workforce development for a clean energy economy. This group will identify impacts on energy intensive industries and related trades and identify electric generating units that may be closed and can then be reused. It will advise on potential competitiveness impacts and emission leakage, as well as conduct studies on jobs to address climate and workplace disruption.

Ms. Barton then went over the timeline that has been established by the statute, highlighting that the Draft Scoping Plan will be due 2 years from the date the legislation is effective, which is

anticipated to be January 2020. Following that, the Final Scoping Plan, due 3 years from the date the legislation is effective, making January 2023 the target date for that. The regulations to provide the ultimate enforcement mechanism for what the legislation calls for will be 4 years after the effective date.

Continuing her report, Ms. Barton highlighted the fact that the landscape for NYSERDA's work has changed rapidly over the last year. In particular the CLCPA has dramatically raised the bar for the level of ambition that is needed to achieve the shortened timelines with the initiatives and objectives now being in statute. The CLCPA places an increased focus and priority on increasing access to clean energy for disadvantaged communities and low income consumers, creating quality jobs in the green economy and ensuring a "just transition" and protecting ordinary workers as our economy shifts to more sustainable production, and sectors of the economy that require deeper decarbonization.

Additionally, bold action at the local level requires unprecedented coordination between the State and local government, particularly the Climate Mobilization Act in New York City. The transition from dependence on natural gas to clean energy is being actively debated in light of the new CLCPA requirements and on the ground supply and demand realities. Under the New Efficiency New York, utility investment in energy efficiency will increase substantially over the next few years. Coupled with short timelines for achieving targets, the imperative to align NYSERDA's role and the role of utilities has never been higher. With the transportation sector contributing the most emissions by category across New York State, deep in-roads will require a comprehensive approach on decarbonizing transportation. Weather events are also increasing in frequency and severity, and energy infrastructure will increasingly come under strain. These changes make it necessary that the clean energy infrastructure being built will adapt to changing conditions.

Ms. Barton went on to address what all of these changes mean for NYSERDA, going forward the Authority will need to align its policy and program offerings to the new considerations. NYSERDA's investments should strive for a revised level of ambition. For buildings, this means that the aim should be net zero carbon solutions, in the most practical way possible, working with

market participants to innovate and demonstrate real world solutions. Leveraging the increased roles of the utilities in delivering program offerings, capitalizing on strengths, all while NYSERDA works to advance new breakthrough approaches. NYSERDA's programs need to incorporate focus on disadvantaged communities and low-income populations across the board in order to achieve the CLCPA target.

In addition, NYSERDA will need to structure their programs to maximize economic impact and job creation, stimulating a green economy. Workforce development and training will need to increase to keep up with the expanding needs of fast-growing clean energy industries. A comprehensive approach will be needed to accelerate New York's transition from natural gas through new fossil-fueled infrastructure and upgrading the efficiency of existing systems. The successful transition will require non-fossil fuel solutions to heat and cool businesses and homes that are available in the market, affordable, understood by customers and part of the energy future. NYSERDA will play a key analytical and coordinating role across agencies to help New York develop a roadmap for decarbonizing transportation and promoting market change. The adoption of best practices to protect the clean energy investments from climate resilience risks is what every program will need to do going forward.

Ms. Barton noted that the Strategic Outlook that was approved in January by the members had many of these goals incorporated already, she then highlighted some of the deep dives for the upcoming strategic outlook. These included the decarbonization of transportation, energy affordability and equity, the electrification of buildings, and working to build a resilient energy system. This completed Ms. Barton's presentation.

Mr. Willis indicated that the next item on the agenda was a presentation on the Authority's Offshore Wind activities from the Vice President for Large Scale Renewables, Doreen Harris. Ms. Harris explained to the committee members that she will be giving a broad overview of offshore wind as well as more specific information regarding the CLCPA, the Phase 1 Solicitation results for the Empire Wind Project and the Sunrise Wind Project, as well as next steps and public engagement.

Ms. Harris began her presentation highlighting that New York's goal for Offshore Wind is 9,000 MW by 2035, which would create 10,000 jobs; enough energy to power 6 million homes; and produce 30% of New York's electricity load. She explained that offshore wind is now coming down significantly in price due to the ever-increasing regional market potential, currently around 20 GW.

Ms. Harris explained that in response to a Public Service Commission order, issued in July 2018, the Authority issued their inaugural solicitation in November 2018. This solicitation saw an incredible market response, with bids from 4 different proposers, making it the largest response to date to an offshore wind solicitation. The proposals were evaluated against three criteria that were established by the Public Service Commission: Price, economic benefits, and project viability. The solicitation was seen by many as the most comprehensive solicitation for offshore wind to date. The requirements placed upon any awarded developer included: environmental and fishery mitigation plans, community outreach plans, project labor agreements, prevailing wage, and New York supplier opportunities. The headline from the results included a nation leading award group of almost 1700 MW of offshore wind capacity, with enough to power more than 1 million New York homes. The award resulted in two projects, the empire wind project and the sunrise project, which both present great economic development opportunities for New York through the development of each project. They propose to manufacture a new technology for offshore wind, which is a gravity-based foundation rather than pile-driving new piles into the floor of the ocean. These gravity-based foundations will be manufactured in the capital region of New York, at the port in Coeymans. The project plans to be serviced out of the South Brooklyn Marine Terminal over its 25-year life, close to where the project is planned to be interconnected. The jobs associated with this project are both manufacturing jobs and long-term jobs associated with the operations and maintenance over the life of the project.

Ms. Harris reported that the Sunrise Wind Project is being developed by a strategic partnership between Orsted with a joint venture with Eversource Energy. Through this partnership they will be leveraging Orsted's growing presence in the Northeast to locate the operations and maintenance hub for the regional projects at Jefferson, on the North shore of Long Island, and they will utilize Capital region ports for aspects of their foundation and transition piece, secondary steel

manufacturing. The project itself plans to interconnect on the coast of Long Island at the Holbrook substation.

Ms. Harris noted the complimentary nature of the two projects, both from a geography perspective, but also from the perspective of the points where they all interconnect into New York's grid, one into New York City and the other onto Long Island. There will also be broad economic development benefits that will be brought by these projects. These projects will support more than 1,600 jobs in project development, component manufacturing, installation, and operations management, all offering well-paying careers with salaries of over \$100,000 per year. These projects will also have about \$3.2 billion in expected economic activity from private sector investments both upstate and downstate.

New York State has also made investments into these projects. Governor Cuomo has invested \$20 million into establishing a training institute, headquartered in the SUNY system. There will also be a community and workforce benefits fund, to bring opportunities to these localities. Ms. Harris highlighted that another pre-condition is port infrastructure, the two projects are expected to invest almost \$90 million in New York ports to advance the activities that they have committed to. In addition, Governor Cuomo stated in his 2019 State of the State address that they were committed to over \$200 million in port infrastructure investments. This is the largest investment by any state in ports and it is an important investment that will bring this future industry to New York. There are tremendous amounts of port facilities to rely upon in New York, from the East end of Long Island up to the Capital District.

Ms. Harris then addressed the timeline of the Offshore Wind developments, to which NYSERDA's role is to now work with the developers as they advance the timelines. Both of these projects are anticipated to enter into operation in 2024. As a state, New York will now be working on bringing more projects into the pipeline, in order to continue towards the 2035 goal.

Next for NYSERDA, finalizing of the contracts for Offshore Wind Renewable Energy Credits (ORECs) with the awarded developers. Once the contracts have been finalized, a Phase 1 report will be filed with the Public Service Commission within 30 days of contract execution, at

this point the full details of the procurement process including the executed contracts and pricing will be made publicly available. Ms. Harris found it important to note that part of the reason the selected proposals were chosen was because of their competitive pricing, which was significantly less than anticipated through calculations made in 2018 studies. NYSERDA will also be hosting public meetings in the Capital Region, New York City, and Long Island, having already wrapped up 6 open houses with large numbers of interested people. There has been significant public engagement around the technical working groups that were formed after the Offshore Wind Master Plan was released in 2018. Specifically, the jobs and supply chain working group was instrumental in assisting NYSERDA in building the project labor agreement provisions in the contracts. From an environmental perspective, NYSERDA has been working closely with the Massachusetts Clean Energy Center to coordinate science in relating to offshore wind. With regard to fisheries, there has been collaborative efforts with the Responsible Offshore Development Alliance to gather feedback on transit lanes for fisherman in New York. This concluded the Offshore Wind presentation.

Mr. Willis then indicated that the next item on the agenda was a presentation on Cleantech Accelerators from Program Manager for Technology to Market, Nick Querques. Mr. Querques stated that the job of the Cleantech Accelerators is to advance innovation in New York State. The ecosystem for a clean energy market has been built for over a decade, providing in depth support to cleantech startup companies and entrepreneurs. The cleantech accelerators are NYSERDA's next iteration of "Proof-of-Concept Centers" (POCCs), initially operated as pre-seed or seed-stage accelerators working to help translate technology that was being developed in universities around the state. They were designed to help get technology off the shelf and into the marketplace.

Mr. Querques explained that this next iteration of POCCs represents a total of \$16 million in investments. These Cleantech Accelerators allow up to \$3 million of follow-on funding available to each Accelerator, matching emerging clean energy startups that have scalable commercialization potential, based on demonstrated market need, with the investment community and development partners. Cleantech Accelerators are what accelerate "post-incubator" companies that have shown traction from investors, corporate partners, and/or customers. These Accelerators attract world-class early-stage clean energy companies to New York.

The two partner organizations that are helping to manage the first of the cleantech accelerators are Nextcorps and SecondMuse. Nextcorps is a venture development organization based in Rochester, that provides a suite of services, including technology commercialization for very early stage opportunities, business incubation for high growth potential startups, and growth services for existing manufacturing companies. Nextcorps has successfully managed several NYSERDA programs, including NEXUS-NY, Entrepreneurs-In-Residence Program, and upstate manufacturing corps site. SecondMuse is a venture development organization based in Brooklyn, they collaborate with visionary governments, corporations, foundations, and startups to build 21st century economies centered around people, communities, and networks. SecondMuse successfully manages NYSERDA's downstate manufacturing corps site.

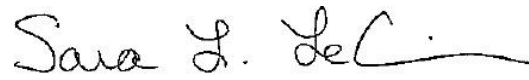
Mr. Querques reported that the NEXUS-NY program is different this time around, in that it focuses on statewide efforts as opposed to just upstate efforts. This program has \$10 million in awards over a period of 5 years, focusing on pre-seed and seed-stage groups, which may not be companies, but could be groups of researchers from universities. As long as the team or group of people meet the requirements for clean energy, they will be able to be apart of this program.

The second cleantech accelerator is with a relatively new partner, New Energy Nexus, an international organization that supports clean energy entrepreneurs with funds, accelerators, and networks. This organization strives towards an abundant world with a 100% clean energy economy for 100% of the population in the shortest time possible. New Energy Nexus have a primarily New York metropolitan area presence, working with \$6 million in awards over 2+ years. They have a "post-incubator" focus, exporting successful acceleration models from California to New York with thematic cohorts driven by corporate partner participation. There is an emphasis on attraction to engage great clean energy startups from outside of New York to the New York market. This concluded Mr. Querques' presentation on cleantech accelerators.

Mr. Willis indicated that the next item on the agenda was other business. There being no other business, he called for a motion to adjourn.

Whereafter, upon motion duly made and seconded, and by voice vote of the members present, the meeting was adjourned.

Respectfully Submitted,

A handwritten signature in black ink that reads "Sara L. LeCain". The signature is written in a cursive style with a long horizontal flourish at the end.

Sara L. LeCain
Secretary to the Committee