

CERTIFICATE AS TO MINUTES

The undersigned, Secretary to the New York State Energy Research and Development Authority (“Authority”), hereby certifies that attached hereto is a complete and accurate copy of the minutes of the 248th Meeting of the Authority, duly held on October 6, 2020.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the Authority this 30th day of November, 2020.

Peter J. Costello
Secretary

SEAL

NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY
Minutes of the 248th Meeting
Held on October 6, 2020

Pursuant to a notice and agenda dated September 24, 2020 of the New York State Energy Research and Development Authority (“Authority”) a meeting was convened on October 6, 2020 at 2:30 p.m. by videoconference.

The following Members of the Authority were present:

Richard Kauffman, *Chair*
Sherburne Abbott
Charles Bell
Kenneth Daly
Marie Therese Dominguez

Kate Fish

Jay Koh

Gil Quiniones, *Vice Chair*

John Rhodes
Basil Seggos
Mark Willis

Also present were Doreen Harris, Acting President and CEO; Janet Joseph, Senior Vice President for Strategy and Market Development; John Williams, Vice President for Policy and Regulatory Affairs; Jeffrey Pitkin, Treasurer; Peter Costello, Esq., General Counsel and Secretary; Sara LeCain, Senior Counsel; and various other staff of the Authority.

Mr. Kauffman called the meeting to order. The Notice and Agenda were forwarded to the Board members and the press on September 24, 2020. The meeting was held via videoconference and the Chair asked Peter Costello, to conduct a roll call. Each Member indicated their presence and Mr. Costello confirmed a quorum was present.

The Chair indicated that the first item on the discussion agenda was a report by the Authority's Acting President and CEO, Doreen Harris. Before Ms. Harris began her presentation, she thanked the Members for their support since the beginning of her transition to Acting President and CEO of the Authority.

Ms. Harris explained that not only has New York been dealing with the COVID-19 health crisis, but also the additional crises of climate change and equity. These additional concerns require the best thinking and the most efficient use of the tools that the Authority can offer to address these barriers and build back the State stronger than ever. The Authority has moved quickly to make programmatic adjustments and to increase flexibility to help the clean energy industry safely get back to work in accordance with *New York Forward*. Ms. Harris reminded the Members that Governor Cuomo has regularly highlighted the disproportionate burdens born by those most vulnerable to climate change: low-income communities, the elderly, and communities of color. She stated that there is no climate justice without also addressing racial and social injustice.

Ms. Harris indicated that New York has the benefit of the Climate Leadership and Community Protection Act ("CLCPA"), which the Authority and its fellow Agencies have been very busy implementing over the last three months. The Climate Action Council, the governing body established by the CLCPA, has significant activity underway. In addition, the Climate Justice working group has been convened along with the Just Transition working group and will continue their role in providing advice and recommendations in their respective areas of expertise, namely disadvantaged communities and workforce related topics.

Ms. Harris reported that the Authority launched \$10 million in funding in June 2020 to address market barriers for solar and energy storage adoption by low-to-moderate income customers and communities. This is part of the solar energy equity framework that is underway in the New York Sun Program. Additionally, the Authority recently launched the Career Pathways Trainings Partnership, which is a training partnership for high-efficiency heating, ventilation, and air conditioning careers, specializing in heat pump technologies.

Ms. Harris explained that there has been a lot of statewide progress in this area as well, including the passage of the Accelerated Renewable Energy Growth and Community Benefit Act and the release of the Office of Renewable Energy Citing regulations for public comment. In addition, the Authority has been advancing the new Build Ready Initiative that was included within that legislation. Lastly, the Authority has been working very closely with the New York State Department of Agriculture and Markets to consider and implement a better process for smart solar citing in consideration of farmland and land use issues.

Lastly, Ms. Harris indicated that the Authority is taking a holistic review of its institutional practices and processes regarding diversity, equity, and inclusion, which are core to the Authority's Mission. Specifically, the Authority is working to prioritize opportunities within the organization to include these diverse perspectives, and to promote underrepresented voices.

Mr. Kauffman indicated that the next item on the agenda was proposed amendments to the Authority's Budget for Fiscal Year 2020-2021 ("2020-2021 Budget"). Jeffrey Pitkin, the Authority's Treasurer stated that based on discussion feedback at the June 2020 meeting, management is proposing revisions to the 2020-2021 Budget to reflect changes to certain revenues and expenditures that have been materially impacted either by COVID-19, changes to market interest rates, changes in funding expected to be received or available, or general updates to current information. The details of the 2020-2021 Budget changes were provided in the Members' Meeting Package.

Mr. Pitkin noted that the revised 2020-2021 Budget includes approximately \$1.3 billion in revenues, an increase of about \$32 million from the original 2020-2021 Budget. Additionally, expenditures will be adjusted to \$1.2 billion, a decrease of approximately \$124 million from the original 2020-2021 Budget.

Next, Mr. Pitkin reported that the net result of the changes resulted in revisions to the projected net position balance that is expected to end the year. The unrestricted net position is projected to be about \$4.3 million, or a reduction of approximately \$532,000 from the original 2020-2021 Budget; an amount that is fiscally prudent and reasonable, and sufficient to meet the

general working capital needs, as well as any unanticipated needs that could arise to protect public health.

Whereafter, upon motion duly made and seconded, and by voice vote of the Members present, the following resolution was adopted.

Resolution No. 1603

RESOLVED, that the Fiscal Year 2020-2021 Budget and Financial Plan (Revised October 2020) submitted to the Members for consideration at this meeting, with such non-material, editorial changes and supplementary schedules as the President and CEO, in her discretion, may deem necessary or appropriate, be and it hereby is approved.

Mr. Kauffman indicated that the next item on the agenda was a presentation on the Innovation and Transportation portfolios from Vice President for Innovation John Lochner. Mr. Lochner stated that he would give a brief overview of the recent New York Public Service Commission (“PSC”) Transportation Order (“Make Read” Order) and an update on the Authority’s resilience activities given previous interest expressed by the Members.

Mr. Lochner began by describing “Make Ready”. The PSC authorized the six New York utilities to collect up to \$701 million from customers to fund a new Electric Vehicle (“EV”) “Make Ready” Infrastructure Program (“EV Program”) that will incentivize development of thousands of public charging locations. In the context of EV charging infrastructure, “make ready” refers broadly to the infrastructure between the traditional utility side infrastructure and the actual EV chargers. The connection of the charger to the grid can include step-down transformers, electric service panels, conduit, switch gear, mounting pads, and other similar gear. In the case of the new “Make Ready” Order, and the incentive that it offers, certain “make ready” equipment and installation on both the utility and customer side of the meter may be covered by the “Make Read” Order's incentives.

Mr. Lochner indicated that with a variety of different methods to incentivize EV adoption, the question arises as to why this work is needed and how it fits into supporting vehicle electrification. To start, the business case for EVs and EV charging stations continues to

improve, although it requires intervention to support EV deployment in addition to the Authority's rebates for chargers and vehicles. The "Make Ready" Order provides an opportunity to engage utilities using their skills at building, managing the power grid, and scaling deployment of critical electrical infrastructure. The "Make Ready" Order now allows utilities to treat part of these as regulatory assets. Prior to the "Make Ready" Order, utilities could only earn a return on the utility side "Make Ready" infrastructure if the utility adjusted its capital plans to include this infrastructure and took the risk of its appropriate utilization. Additionally, utilities are now able to rate base the equipment on their side of the meter specific to the infrastructure deployed by this order. The result is that the "Make Ready" Order enables utilities to play a more proactive role in supporting the deployment of EV charging infrastructure.

Next, Mr. Lochner described the incentives offered through the "Make Ready" Order that will enable the development of the EV chargers. The incentive will fund up to 90% of the cost of "make ready" components for charging stations that are publicly accessible and where standard plugs are used. The incentive decreases to 50% or less where plugs are nonstandard, such as Tesla chargers, but it increases to 100% in the case of chargers that are installed near disadvantaged communities. The "Make Ready" Order requires 20% of the stations funded and over \$100 million of the funding be allocated to stations in or around disadvantaged communities. The EV Program aims to enable deployment of more than 50,000 level two charging plugs and 1,500 public direct, fast charging stations. The "Make Ready" Order puts in place support to enable a 15% increase in chargers in the State. Additionally, the EV Program is expected to stimulate \$1.5 billion in new investment and provide \$2.6 billion in consumer benefits over the next decade.

Mr. Lochner stated that the "Make Ready" Order includes a prize budget of \$85 million. The goal is more than getting New York organizations to apply for funding. Rather the aim is to entice members from these organizations with the best ideas from different backgrounds and different sectors to learn about these prizes, be excited about the vision, and to apply and make these prizes as successful as possible. For the funded solutions to be successful, the solutions must be developed alongside the communities in which they will be deployed. Lastly, the Authority is looking to support people in disadvantaged communities and their health and

transport related needs through the funding of boundary pushing interventions. The Authority wants to invest in projects that will be bigger than the funds alone permit, either through scaled growth or replicability.

Then, Mr. Lochner described the various prizes offered. The largest prize for the Environmental Justice Community Clean Vehicles Transformation prize has a \$40 million budget. The prize will support integrated projects that remove police vehicles and expand access to electric options. The second prize is the clean transport mobility prize with a \$25 million budget. The prize will enable access to, and delivery of, clean transportation services. Integrated projects that both take police vehicles off the road and expand electric transportation are of interest. Lastly, the clean medium and heavy duty vehicle innovation prize, with a budget of \$20 million, will seek to demonstrate lower cost charging solutions, charging solutions that minimize electric grid impacts and innovative business models that can be replicated to accelerate electric truck and bus adoption. To support prize structuring, the Authority is currently contracting with an entity that has substantial expertise developing these types of prizes to the team from the Authority and the New York State Department of Public Service.

Next, Mr. Lochner provided the Members with an update on the Authority's resiliency work. Current climate change effects are already leading to very real costs and a need to fundamentally rethink infrastructure and built environment design. Many utilities may have built the right power grid with the right protocols for weather a decade ago, but their infrastructure plans and processes may not prove adequate for the current and future reality. In New York, despite many actions from the Authority and the State, some private building and planning continues without a full systemic assessment of future risk. Like other investors, the Authority must consider whether its funds will create the return on investment targeted after factoring in future climate risks and the resiliency measures and costs needed to withstand those risks.

Mr. Lochner stated that resiliency is the capacity for a system or asset to function, survive, and thrive in the face of shocks and stresses. With respect to climate change, that principally means resilience to those acute and chronic risks, including natural catastrophes, shifts in weather patterns, and sea level rise. Planning for resilience requires the development of

a framework to assess future expected risks and use this future focused framework as a key driver of our current actions. Much of the Authority's work mitigates climate change by reducing sources of greenhouse gases through the funding of energy efficiency projects to reduce power use, and therefore carbon dioxide output.

Continuing, Mr. Lochner noted that to date the State has moved forward with several resiliency initiatives. The New York State Inter-Agency Climate Adaptation and Resiliency Working Group was formed with 20 State agencies and authorities to coordinate State incentives and initiatives across agencies. The New York State Department of Homeland Security and Emergency Services has incorporated climate change and resilience into the State Hazard Mitigation Plan, including the Community Risk and Resiliency Act of 2014 and the 2018 Resilient New York Governor's Initiative supported by the Authority and the New York State Department of Environmental Conservation. The Authority has developed initial programs to implement resilience measures across seven programmatic areas. These seven areas have since completed vulnerability assessments and have drafted implementation plans for their respective resiliency measures.

Mr. Lochner explained that to ensure that this work moves forward in a timely manner, the Authority has brought on Anna Brown to lead the resiliency work. Ms. Brown's background includes 10 years at the Rockefeller Foundation managing the Asian Cities Climate Change Resiliency Network; a nine-year, \$59 million multi-country initiative. She received an undergraduate degree in environmental studies from Brown University and a Master's in City Planning from Massachusetts Institute of Technology. With Ms. Brown assistance, the next steps will be to develop an Authority-wide plan for integrating resilience in a uniform manner. This process will start with an assessment of all work to date and the development of a strategy and plan for necessary integration into the Authority's work.

Mr. Koh applauded the Authority's effort to have a strong focus on resiliency. He added that the Authority is well positioned because of its understanding of the data and research environment as well as its position as a financial center for this type of work.

In response to an inquiry from Mr. Koh, Mr. Lochner confirmed that the Authority is considering not just the cost and risk, but also the effects of climate change. He added that staff is working with the New York State Department of Financial Services as there is a clear opportunity and competitive advantage with the finance and insurance sector in the State to develop the best response and implementation resilience efforts together with the response to COVID.

Ms. Abbott suggested that the Authority broaden its definition of resilience along the lines of where the Intergovernmental Panel on Climate Change has been going, shifting from recovery to anticipation and improvement. This would be more forward looking rather than responsive.

In response to an inquiry from Ms. Abbott, Mr. Lochner stated that Ms. Brown is a consultant.

In response to an inquiry from the Chair, Mr. Lochner indicated that the plan is to have most of the prize be used for building versus developing feasibility studies. However, some funding will be directed toward planning to help bring in other opportunities for funding for the awarded project. Mr. Rhodes added that it should be both building and feasibility studies to bring in first of a kind projects rather than one of kind projects.

Vice Chair Quiniones suggested that the Authority, PSC, New York State Department of Transportation, and New York Power Authority should continue to collaborate.

Commissioner Seggos agreed with the Vice Chair, adding that the team has used the lessons from Superstorm Sandy, Hurricane Irene, and Hurricane Lee to build back stronger and smarter. He recommended the Members review the 2100 Commission Report from 2013, which set out the resiliency priorities for the State. Mr. Seggos shared the Report with the Members.

Commissioner Dominguez also commended the resiliency work. She added that the Authority is well positioned to assist in the statewide endeavor.

In response to an inquiry from Ms. Fish, Mr. Lochner explained that the Authority is constantly redeveloping its scenario planning because of the COVID pandemic. Ms Fish noted that this work is critical to all communities.

Mr. Bell commended the Authority on its resilience planning. Specifically, the looking ahead, blocking out needs and continued governmental coordination to address these issues.

The Chair indicated that the next item on the agenda was a report on recent activities of New York Green Bank (“NYGB”) from its President, Alfred Griffin.

Mr. Griffin stated that during the second quarter NYGB reached its milestone of investing \$1 billion since its inception. In December 2013, NYGB put together its plans, built out a team, positioned itself in the market, and for the last five years has been investing about \$200 million a year, and have generated cumulative revenues of \$93 million. These investments have had a large impact on the reduction of greenhouse gas emissions.

Mr. Griffin noted that as far as the Clean Energy Fund (“CEF”), NYGB is 45% of the way through its CEF time period from invested capital. The timeline was based upon an estimated \$1.9 billion over 10 years. NYGB is tracking lower with respect to total project value but anticipates increased growth as the large-scale renewables market continues to develop.

Next, Mr. Griffin reported that it continues to have an active pipeline of proposals and approvals. In terms of the distribution of the pipeline, the solar space continues to be extremely active, with good distribution in terms of end-user customer segments, whether its residential customers or commercial-industrial customers.

Mr. Griffin explained that in responding to COVID-19, NYGB reviewed its portfolio as well as what role NYGB could play given the impacts of COVID-19. Since, unlike other financial institutions, NYGB only supports clean energy and sustainable infrastructure in the State, it felt the best action would be continuing to be a committed, focused capital provider in

the market. NYGB stands ready to negotiate terms, provide commitments, and support projects. This enables other capital providers to be willing to commit capital and move transactions forward. Additionally, NYGB felt it was prudent to be a reasonable and flexible partner for counterparties where there were reasonable outcomes in terms of COVID-19 impacts like construction or supply delays, agreeing to extend construction timelines where appropriate. Lastly, NYGB has become a small business administration (“SBA”) lender and stands ready New York actors in that regard.

Lastly, Mr. Griffin indicated that NYGB has put a great deal of time into considering environmental justice: how NYGB can best play a role and talking to various stakeholders. Recently, NYGB committed \$150 million to affordable housing and intends to make further commitments in the future.

In response to an inquiry from Mr. Bell, Mr. Griffin indicated that there a couple of silver linings. First, in the residential sector, people are spending more time at home and are choosing to make improvements that they have been putting off. As a result, NYGB’s intermediaries have seen an increase in customer acquisitions. Second, on the commercial front, NYGB’s intermediaries initially reported lags in design and construction, but has started to pickup again in the way of negotiations and commercial space development.

In response to an inquiry from Mr. Willis, Mr. Griffin stated that NYGB engaged a consultant to review every possible way NYGB could be involved in the CLCPA environmental justice community goals. NYGB has also been collaborating with various state and city housing authorities and partnerships.

In response to an inquiry from Mr. Daly, Mr. Griffin indicated that at the beginning of the pandemic, he worried about the future of NYGB, but as the markets adjusted, transactions were completed, and the pipeline grew. He reminded the Members that though NYGB has capital, it still takes time to complete transactions regardless of the state of the markets.

In response to an inquiry from the Chair, Mr. Griffin stated that NYGB uses the same methodology as the ratings agencies to determine risks. The good news is that there is more activity in the State now than there was three or four years ago. The pipeline is representative of the fact that NYGB is an active player and has created a good brand in the market with interactive dialogues.

Mr. Kauffman indicated that the next item on the agenda was a report on the Authority's development of its Strategic Outlook. Janet Joseph, Senior Vice President for Strategy and Market Development, presented this item. Ms. Joseph indicated that the Strategic Outlook will be presented to the Members at the January 2021 meeting and will shift focus away from more narrow technology areas to more cross cutting issues.

Ms. Joseph stated that the first area of focus will be fostering healthy communities, putting people in the center of the Authority's work. This deep dive will spotlight work around community-oriented work focused on sustainability, while also focused on improving indoor environmental quality, an issue that looms large during COVID-19. Supporting local governments, helping them achieve their sustainability goals, looking at ways to better incorporate sustainability considerations in community development plans, citing renewable energy, and how community benefits can be built into that work. There will be an exploration of strategies around building systems and heating and cooling systems, to better understand how those strategies can increase the overall health of the indoor environment

Ms. Joseph stated that the next deep dive would be focusing on building an inclusive, clean energy economy. The CLCPA has shined a light on the need to increase focus on disadvantaged communities. There is now a legal requirement to ensure that a minimum of 35% of the benefits of our spending is directed at disadvantaged communities. This deep dive will outline the vision for integrating climate justice directly into programs, into design, into implementation and into stakeholder engagement. The issues that will be addressed are those around energy affordability and issues around economic opportunity and clean energy jobs for priority populations, issues around reducing pollution from fossil fuel combustion for

environmental justice purposes, and building that local capacity enhancing community level engagement across the State and in particular with disadvantaged communities.

Ms. Joseph explained that one of the most significant things that can be stimulated by the work at the Authority is around the development of clean energy jobs. The approach will very much be a focus on priority populations, minorities, veterans, disabled workers, and at-risk youths, and ensure that they have the skills and the training to step into this clean energy market. It is necessary to ensure that people are being trained and placed at jobs. The market development and the training must go hand in hand, but it really is an increased focus on targeting the workforce development effort on these priority populations.

Ms. Joseph continued, explaining that the last focus area is accelerating the transition from natural gas to a low carbon future. This focus area is one of the long-term challenges in the climate agenda. This means mapping strategies for reducing reliance on natural gas, given our policy priorities, given market needs, given the impact of fossil fuel derived methane on the overall climate agenda. This deep dive will outline the Authority's work to develop an advanced solution to meet the thermal needs of New York businesses and residents.

Ms. Joseph stated that from a longer-term perspective, it really is about scaling efficiency work and electrification work, and absolutely scaling with an eye toward resiliency. There is a significant need for innovations around this topic for gas innovations, for new solutions and alternatives to meet thermal needs. These include things like renewable, natural gas, and hydrogen. These are the issues that loom large for the Authority, both in terms of creating healthy communities, creating inclusive acute communities, helping to stimulate the economy in particular for priority populations, and really accelerating this transition from natural gas and fossil fuel methane to a low carbon future.

In response to an inquiry from Mr. Kauffman, Ms. Joseph stated that this was just a summary of the plan for developing the Strategic Outlook, which will be presented in full to the Members for approval at the January 2021 meeting.

In response to an inquiry from Ms. Abbott, Ms. Joseph indicated that the January presentation will provide further detail on the connection between the CLCPA and the Authority's shift in thinking toward human wellbeing and sustainability. Ms. Joseph explained that this work also connects to the Authority's internal diversity and inclusion work.

Following Ms. Joseph's presentation, Mr. Kauffman indicated that the next item on the agenda was the consent agenda item, Resolution Number 1604, approving the Periodic Contracts Report and amendments to the Authority's Procurement and Program Contract Guidelines, Operative Policy and Instructions. Counsel's Office compared the list provided by the Members of entities with which each Member is associated, which he or she believes may enter into contracts with the Authority to the list of contracts on the Periodic Contracts Report. Counsel's Office reported one potential conflict, New York University, identified by Mark Willis.

Whereafter, upon motion duly made and seconded, and by voice vote of the Members present, the following resolution was adopted. Mr. Willis abstained from the vote to approve the contracts with this entity.

Resolution No. 1604

RESOLVED, that the Periodic Contracts Report, covering the period May 16, 2020 through August 15, 2020, as presented at this meeting, including but not limited to the contracts identified therein which have been, or are expected to be, executed and which do have, or are expected to have, a period of performance in excess of one year, is hereby approved in accordance with Public Authorities Law Section 2879; and

BE IT FURTHER RESOLVED, that the "Procurement and Program Contract Guidelines, Operative Policy and Instructions (October 2020)" as presented at this meeting, are approved and adopted.

Mr. Kauffman indicated that the next item on the agenda was other business. There being no other business, Mr. Kauffman 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.