

MINUTES OF THE ONE HUNDRED NINETY-NINETH MEETING OF THE
PROGRAM PLANNING COMMITTEE
HELD ON SEPTEMBER 19, 2017

Pursuant to a Notice and Agenda dated September 8, 2017, a copy of which is annexed hereto, the one hundredth (100th) meeting of the Program Planning Committee (“Committee”) of the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY (“Authority”) was convened at 12:00 p.m. on Tuesday, September 19, 2017, in the Authority’s Albany Office located at 17 Columbia Circle, Albany, New York, and in the Authority’s New York City Office located at 1359 Broadway, 19th floor, New York, New York.

The following Members of the Committee were present:

Mark Willis, Committee Chair
Richard Kauffman, Chair of the Authority
Sherburne Abbott
Charles “Chuck” Bell
Ken Daly
Kate Fish
Jay Koh
John McAvoy
Gil Quiniones

Also present in either Albany or New York City were: Alicia Barton, President and CEO for the Authority; Noah Shaw, General Counsel; Janet Joseph, Vice President for Innovation and Strategy; Jeffrey J. Pitkin, Treasurer; Kevin Kelly, Director, Operational Transformation and Lean; Peter Mahar, Controller and Assistant Treasurer; Valerie S. Milonovich, Senior Counsel and Secretary to the Committee; and various other members of the Authority staff.

Mr. Willis called the meeting to order, noted the presence of a quorum, and stated that a Notice of the meeting was mailed to Committee Members on September 8, 2017 and to the press on September 8, 2017.

Approval of June 26, 2017 Minutes

The first agenda item concerned the approval of the minutes of the 99th meeting of the Committee held on June 26, 2017. Upon motion duly made and seconded, and by unanimous voice vote, the minutes of the 99th meeting of the Committee were approved.

Revised Budget for FY 2017-2018

Treasurer Jeff Pitkin reported on the revisions to the Authority's Budget for Fiscal Year 2017-2018 ending March 31, 2017, which was originally approved at the January 2017 Board meeting. In total, budgeted revenues decreased by \$32.5 million from the original budget to about \$1 billion and the significant changes were described as follows:

- Utility Surcharge Assessments decreased by \$212.9 million from the original Budget due to the "Bill-As-You-Go" approach approved in the January 1, 2016 Clean Energy Fund (CEF) Order. The reduction reflects a decrease in the amount of anticipated revenue as a result of beginning-of-year cash balances being higher than originally anticipated (resulting from prior year expenditures being lower than anticipated), and also from revised projections of current year expenditures subject to the reimbursement mechanism. In sum, Mr. Pitkin stressed that these reductions are more reflective of the timing of the receipt of anticipated revenues, rather than funding reductions.

- Regional Greenhouse Gas Initiative (RGGI) Allowance Auction Proceeds decreased by \$62.9 million from the original budget to \$90.4 million. The revised Budget reflects the actual results for the June 2017 and September 2017 auctions and assume an average allowance price of \$4.83 for the December 2017 and March 2018 auctions based on a conservative adjustment to the modeling projections prepared for the RGGI Program Review and informed by analysis of historical results.

In response to an inquiry by Mr. Willis regarding the number of allowances to be made available in future, Mr. Pitkin explained that allowance prices resulting from the most recent auction may not be fully reflective of the anticipated changes given they were announced close in

time to that particular auction in addition to the amount of allowances available in relation to the compliance period. He further described methodological approach going forward as conservative for the remaining two actions in this fiscal year.

In response to an inquiry by Mr. Daly, Mr. Pitkin explained that the drivers of the revenue decreases are attributable to the timing of the utility surcharge collections and a revision of the expenditure projections and further explained that during this fiscal year, the cash balances of the Authority will decrease to the projected working capital level and, at that time, the Authority will become more dependent on utility funding for its programmatic expenditures. Mr. Pitkin also provided clarity with regard to the effects of the Zero Emission Credits (ZEC) component of the Clean Energy Standard (CES) program on the budget, giving that the load-serving entities are submitting payments in monthly installments, while funds paid out are on a quarterly basis.

- Third party reimbursement revenue decreased by \$33.2 million primarily due to a decrease in anticipated funding from Consolidated Edison based on revised expenditures under the Indian Point Energy Center Reliability Contingency program (IPEC).

In summary, total budgeted expenditures decreased by about \$58 million to \$1.3 billion from the originally approved budget.

- Program expenditures decreased by \$58.8 million to \$1.19 billion, primarily due to decreases related to the budgets for the Indian Point Energy Center Reliability Contingency program; the Energy Efficiency Portfolio Standard; Technology and Market Development; and Market Development and Innovation & Research programs. These decreases were partially offset by increases for the NY-Sun Program; RGGI; and the Renewable Portfolio Standard (RPS) programs.
- Salaries and benefit costs are projected to increase from the original budget to reflect a 4% “Parity bill” increase and a 2% retroactive payment effective April 1, 2016 offered to Authority employees to follow increases authorized for State Management/Confidential employees, partially offset in-part by a decrease in full time equivalents budgeted. Benefits

decreased primarily due to revised estimates for the post-employment health benefit and pension costs and from revised health insurance cost estimates, offset in-part by an increase in other fringe benefit costs generally corresponding to the increase in salary expense.

In response to an inquiry by Mr. McAvoy, Mr. Pitkin confirmed that the reduction in staffing levels was planned and not to absorb salary increases as staffing needs are adjusted based on need.

Mr. Pitkin reported that Program operating costs are \$6.2 million, an increase of \$893,000 from the original budget, primarily related to an increase in NY Green Bank professional service costs, staff augmentation services, and computer program license fees, offset in-part by a decrease in travel and outreach costs. Mr. Pitkin also reported that General and Administrative expenses are \$12.8 million, a decrease of \$900,000 from the original budget primarily due to decrease in system design and enhancement, professional service, and software costs, offset in-part by an increase in anticipated costs for staff augmentation services.

Mr. Pitkin provided clarifications in response to an inquiry by Mr. Koh with regard to the NY Green Bank budget components.

The Revised Budget includes \$4.97 million in capital assets, an increase of \$1.8 million from the original budget, primarily due to an increase in system development costs associated with development of Salesforce program databases to support CEF initiatives and for information technology-related projects delayed until Fiscal Year 2017-2018, offset in-part by a decrease in building improvements based on revised planning.

The Restricted Net Position, or generally the difference between cumulative revenues and expenses, is projected to decrease by \$167.2 million from the original budget to \$347.9 million due to the implementing the “Bill- As-You-Go” approach under the CEF. The NY Green Bank net position is anticipated to be \$571.3 million, an increase of \$18.2 million due to an increase in anticipated loan interest income, “Bill- As-You-Go” revenue, and from Fees and other income.

The Authority's Unrestricted Net Position is anticipated to remain at the historical level of approximately \$3 million dollars.

In response to an inquiry by Mr. McAvoy, Mr. Pitkin confirmed that the unrestricted net position remains consistent with historical levels and the current budget.

In response to an inquiry by Mr. Daly, Mr. Pitkin explained the budgetary changes attributable to the timing of receipts and collections that are captured in this mid-year update, as well as the planning activities that are undertaken in response to those timing fluctuations.

Based on the report and discussion as presented, the Committee Members were asked to recommend adoption of a resolution by the full Board approving revisions to those portions of the Authority's budget for fiscal year 2017-2018 under its purview. Upon motion duly made and seconded, and by unanimous voice vote, the Committee recommended that the full Board adopt the resolution.

Resolution

RESOLVED, that the Fiscal Year 2017-18 Budget and Financial Plan (Revised September 2017) 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 recommended for approval by the Board.

State Budget Request for FY 2018-2019

Mr. Pitkin reported on the Authority's State Budget Request for the next fiscal year which is submitted annually to the New York State Division of the Budget and sets forth the Authority's requests for State appropriations. The State Budget Request includes State funding totaling about \$36.8 million. This funding includes \$19.7 million for an assessment under Public Service Law for expenditures and commitments for the Energy Research and Development program, Energy Policy and Planning, Fuel NY program (Strategic Fuel Reserve and Portable Emergency Generator programs), amounts authorized and directed to be transferred to the State general fund for both the New York State Departments of Environmental Conservation and the Department of Agriculture

and Markets, and amounts authorized to be transferred to the University of Rochester Laboratory for Laser Energetics. In total, there is no change in the total assessment amount requested from FY 2017-2018, but there are some changes in some of the activities funded through the assessment.

Mr. Pitkin reported that the State Budget Request also requests re-appropriation of amounts included in the FY 2017-2018 State Capital Budget to the extent they are not fully spent and reflect authority to continue to spend monies that were previously authorized to be spent. The State Budget request also includes funding for the West Valley and Low-Level Radioactive Waste Management programs, which were considered by the Waste and Facilities Management Committee.

In response to an inquiry by Mr. Koh, Mr. Pitkin described a shift in the timeframe for when Board approves the RGGI Operating Plan, Board's consideration of status of RGGI funding for upcoming FY in advance of State budget setting process provides a better framework and increased visibility of the availability of revenues. If enacted State budget includes items that Authority Staff could not anticipate, they are addressed at the mid-year updates.

In response to an inquiry by Mr. Willis, Mr. Pitkin confirmed that the cost recovery fee and transfer to general fund, RGGI to general fund for environmental tax credits, are itemized and assumed to continue at current levels.

Mr. Willis asked if there was any further discussion regarding a recommendation by the Committee that the Board adopt the resolution approving the State Budget Request for FY 2018-2019. There being none and based on all the reports and discussions regarding the State Budget Request as presented, upon motion duly made and seconded, and by unanimous voice vote, the Committee recommended that the full Board adopt the resolution approving the Authority's State Budget Request for FY 2018-2019.

Resolution

RESOLVED, that the proposed State Budget Request for Fiscal Year 2018-2019 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 recommended for approval by the Board for submission to, and at the request of, the New York State Division of the Budget.

Resolution Regarding the 2018 Strategic Plan

A panel of Authority Staff, led by Alicia Barton, President and CEO, provided the Committee with an overview of the Authority's Strategic Plan entitled, "*Toward a Clean Energy Future: A Strategic Outlook 2018-2021.*" Ms. Barton described the Strategic Outlook as a three-year view of NYSERDA's operating principles, role, strategies, and the planned outcomes that highlight investment areas and priority initiatives planned over the next three years to achieve impact. The Strategic Outlook presents a snapshot in time and places the Authority's initiatives within a framework of broader State energy goals. She explained that the document is meant to provide a view into NYSERDA focus areas for external audiences, as well as to provide guidance for the Authority's internal teams on priorities and expected outcomes. Ms. Barton welcomed feedback from the Members on this document.

Ms. Barton presented the policy framework and drivers that are fundamental to the mission of the Authority and provide the underpinnings of the Strategic Outlook. Those policy drivers include the Reforming the Energy Vision (REV), Clean Energy Fund, and the Clean Energy Standard regulatory proceedings, and Executive Order 166 that affirms the State's commitment of the goals of the Paris Climate Agreement and establishes economy-wide GHG reduction goals for New York. These policy initiatives seek to create a clean, resilient and affordable energy system includes efforts to transform the electric utility industry, reorient State energy programs, and ensure that the State is leading by example.

Ms. Barton discussed the Authority's principles, stating that they have been designed and have evolved around the impact that the Authority seeks to make with its customers and to glean insight from markets. She also discussed the Authority's mission outcomes and performance indicators, stating that the mission outcomes are consistent with those included in the Clean Energy Fund principles and the performance indicators, which act as a measuring stick and to which the Authority holds itself, are energy savings, bill savings, renewable energy development, increased private investment and carbon emission reductions.

In response to an inquiry by Mr. McAvoy regarding the a reference in the resolution to the performance measurements, it was determined that resolution language would be amended to focus solely on the Strategic Outlook.

In response to an inquiry by Mr. Daly regarding flexibility in the energy efficiency goals given the large influence of economic drivers such as low commodity prices, and despite the environmental benefits, Ms. Barton stated that the Authority has the flexibility to respond to market conditions and revisions in the policy, particularly in how the Authority delivers its services in keeping on track with its goals. The performance indicators will provide the necessary information to make beneficial adjustments. Ms. Joseph added that if, within bounds, the Authority can deliver a better "carbon return" on investment by employing a different solution, the Authority's activities will bias toward that approach using the flexibility afforded to it in the CEF portfolio.

In response to a statement by Mr. Koh regarding resiliency in an increasingly volatile environment, Ms. Barton explained the Authority's role in energy emergency planning and its programs related to back up generation for fueling stations and its maintenance of fuel reserves. Ms. Joseph added that these issues are top of mind and explained the three points under the REV effort, one of which specifically includes resiliency. She also provided examples of several programmatic initiatives, such as distributed energy resources and smart grid efforts, that address resiliency, noting that quantifying the metrics, or measures of success, is a challenge. Ms. Joseph added that the Authority is working with other organizations to better understand the best practices for addressing resiliency and cybersecurity and she is optimistic about progress by working with

experts in this area during the forthcoming year. John Williams, Director of Policy and Regulatory Affairs, added that efforts are underway to better understand ways to ensure that the public funding investments provided withstand the risks associated with volatility.

Ms. Barton presented nine investment areas and priority initiatives of the Authority that comprise the Authority's core programs, which include: Large-Scale Renewables (LSR)/Clean Energy Standard (CES); NY-Sun; NY Green Bank; Market Development; Innovation and Research; NY Prize; Energy Data, Planning, and Policy; Energy Emergency Preparedness; and West Valley.

In response to an inquiry by Mr. Daly regarding how these investment and priority areas fit within the overarching framework of the numerous activities of the New York State Public Service Commission, Ms. Barton suggested that the order of magnitude of each listed priority area ranges and that the comment provides an interesting suggestion as to how that might be better conveyed.

Ms. Fish complimented Authority Staff for addressing issues of energy and climate change, stating that it makes a strong statement. She also approves of the mission outcomes and performance metrics referenced throughout the document. In response to her concerns to more explicitly address local economic issues by articulating a preference for New York-based energy suppliers and supplies, Ms. Barton stated that the issues raised are high priorities and that the Authority engages in programmatic activities to support local communities. Mr. Shaw added that these considerations and preferences are embedded into the Clean Energy Fund activities.

Doreen Harris, Director, Large-Scale Renewable Program (LSR), continued the presentation by providing an update on the LSR Program which is largely responsible for implementing the CES, explaining that the CES which will transform the way energy is produced in the State and represents a major expansion of renewable resources. The Authority's role is substantial and includes procuring renewable energy credits (RECs). The Authority has also made its first payments to the Upstate New York nuclear generators in July 2017.

Ms. Harris reported that the Authority issued the largest solicitation of renewable resources in its history in tandem with one issued by the Long Island Power Authority. The Authority is using new criteria for this solicitation (70% based on price, 10% on viability, 10% on economic impact; and 10% operational flexibility and peak coincidence). The first step of the solicitation has received a very robust response and awards are anticipated in November 2017. This solicitation sets the stage for the CES and has increasing targets every year thereafter. Other elements of the CES work includes working with other stakeholders on interconnection timelines, siting, and community acceptance issues.

In response to an inquiry by Mr. Koh on the status of the percentage of electricity supplied by renewable resources, Ms. Harris provided an update on the status of the New York Generation Attribute Tracking System (NYGATS) and its first year, stating that regular reports will be issued. Ms. Barton emphasized the high priority of this activity and, despite having a long way to go in a relatively short period of time, there has been a strong market response.

Ms. Harris continued the presentation with an overview of the State's Offshore Wind efforts and the development of the Offshore Wind Master Plan. The Authority is leading the development of the Master Plan and is working closely with other State agencies and other stakeholders. She described the elements within the Master Plan as: studies and surveys; identification of leasing areas; guidelines for developers; and analysis of cost-effective procurement for wind in New York. She anticipates this Master Plan to be filed with the New York State Public Service Commission later this year and that will begin the process for its consideration for integration into the CES proceeding.

In response to an inquiry by Ms. Fish regarding preserving existing renewable resources as efforts move forward, Ms. Harris acknowledged that those resources are an important piece of the portfolio and she is looking forward to the New York State Public Service Commission's recommendations on the best way to value those resources.

In response to an inquiry by Mr. Daly regarding the availability of back up information that shows costs, respective generation amounts, and bill impacts of other forms of energy to get a better sense of the overall balance, Ms. Harris stated that reports showing some of that information will be filed with the New York State Public Service Commission by the end of the year. Ms. Barton added that such information will be provided in future presentations once actual data becomes available.

Ms. Barton agreed with a suggestion provided by Mr. Koh that the LSR effort may lend itself to scenario planning or forecasting that is dynamic, given the large and long-term investment.

Mr. Quiniones commended Ms. Harris and the team for their efforts and particularly regarding the recently-held public open houses.

David Sandbank, Director, NY-Sun provided an overview of the NY-Sun Program, the goal of which is to develop and sustain the solar market in New York to ultimately lower the cost for homeowners and businesses investing in solar power. He stated that the quantitative target for the Program is to develop 3 gigawatts of solar capacity by 2023 and, to date, the NY-Sun Program has an installed capacity and a project pipeline that could achieve about 50% of the target, showing tremendous market growth in the past few years.

Mr. Sandbank stated that, in addition to the megawatt block structure with declining incentives over time, New York's solar portfolio includes several related market development initiatives, including new initiatives to support local governments including efforts to assist landowners in this market and to reduce the balance of system costs of solar energy. He also described plans to launch a shared solar strategy focused on community solar and the low-to-moderate income sector. Mr. Sandbank also described efforts to reassess the megawatt block structure in the context of the new compensation methodology as provided for in a recent New York State Public Service Commission Order addressing the value of distributed energy resources. Lastly, and related to the resiliency issues raised earlier, Mr. Sandbank briefly described a new effort to be launched for pairing solar technologies with energy storage initiatives to grow the market and increase the value of these assets to the overall electricity grid.

Mr. Daly applauded the program and its overall approach. With regard to the low-income efforts, he applauds the efforts to use funds to reduce the bills and the footprint of customers in this sector. Mr. Sandbank added that, once customers are on board, the goal is to expose customers to additional opportunities that may be of benefit to them. Ms. Barton added the desire to expand access to clean energy resources and highlighted the National Grid community solar effort in the Buffalo area on which the Authority is partnering. Mr. Daly confirmed the robust support by the public of low-income solar initiatives.

In response to an inquiry by Ms. Fish regarding the provision of guidance and tools for local governments and agricultural landowners who are approached by solar companies, Mr. Sandbank described the Authority's efforts for written and technical assistance, as well as collaborative efforts with other Authority program efforts to provide a unified approach.

Alfred Griffin, President of the NY Green Bank provided an update on NY Green Bank activities by stating that its goals to work in collaboration with private financial institutions to accelerate and expand the availability of capital for clean energy projects that have energy and environmental benefits and are in line with the CEF, CES and REV objectives and principles. He reported on some of the most recent financial statistics as of the quarter ending June 30, 2017, and reported that the NY Green Bank has shown success in its near-term priorities in terms of closing transactions, mobilizing capital, and driving toward self-sufficiency.

Mr. Koh commended the NY Green Bank team on its targets and achievements, stating that is ahead of schedule on some of its goals. It was praised at a recent Green Bank Congress meeting as model of best practices and for risk management.

Janet Joseph, Vice President for Innovation and Strategy, continued the presentation with an overview of the Authority's Market Development portfolio. She described this portfolio as the Authority's largest, comprising over 40 percent of the investments that the Authority anticipates making over the next three years, excluding the CES. She described the goals of the Market Development interventions as facilitating markets for behind-the-meter clean

energy solutions including energy efficiency, energy storage, renewable heating and cooling, and distributed generation. Strategies will focus on increasing the scale of activity as success will be based upon a large number of transactions and will be achieved by providing actionable information and data; providing tools to lower soft costs and address implementation constraints; piloting, demonstrating and replicating high-potential technologies and innovative business models and providing financial incentives where needed.

Ms. Joseph stated that the Authority is taking a fresh look at its energy efficiency policy framework and exploring opportunities to accelerate near-term realization of energy efficiency goals as the REV market signals phase in, as this will be necessary for a trajectory that achieves the 40x30 goals. The key metric is that for every \$27 invested, a ton of carbon is reduced over the lifetime of the investment. She reported that the pipeline of the portfolio is on this trajectory, and that newer initiatives are proving to be even more successful.

Ms. Joseph reported that over the planning horizon, the Authority will have on the order of 40 to 50 interventions working in the market and there will be a need to focus on successful execution and respond quickly to market signals. She described one of the challenges the need to effectively drive progress in all market segments, and as the barriers and motivators for action in these sectors are often quite different, they necessitate a range of different strategies. Ms. Joseph provided several examples of these strategies to be used in various energy sectors.

Ms. Joseph also stated that the Market Development work seeks to advance emerging clean energy solutions including renewable heating and cooling, energy storage, on-site power, and workforce development. She focused on the development of a vibrant commercial market for renewable heating and cooling, stating that it is critical to achieving the State's greenhouse gas reduction goals. As such, the Authority has launched a range of interventions to grow this market, will work toward determining how to monetize the electric grid and carbon values for these solutions. She added that energy storage is another critical enabling technology for the clean energy future and the Authority is developing an energy storage roadmap and developing a policy framework to grow this industry.

Mr. Quiniones suggested that Authority Staff may want to build upon its transportation efforts and consider an assessment of the potential for electro-technologies, such as those emerging in the process and manufacturing industries.

Mr. Daly identified an interim opportunity to target areas of the State that are still heavily dependent on oil for heating.

NYSERDA's Technology and Business Innovation portfolio supports the research, development, and commercialization of new and innovative clean energy technologies that when deployed at scale will deliver meaningful reductions in greenhouse gas emissions. Authority Staff work extensively with the start-up community in New York and is driving business growth across four markets: smart grid, renewable and energy storage innovation, clean transportation, and advanced buildings. The goal for this work is to mobilize \$6 dollars for every dollar invested for commercialization of new clean energy solutions.

Ms. Joseph also reported that the Authority supports environmental research to provide high-quality, scientific results, and objective information on the environmental impacts of energy and to inform policy making. A significant area of recent work is in support of the off-shore wind development efforts.

Ms. Barton closed out the presentation by describing the planned funding commitments for the anticipated over the 2018-2021 period. She also encouraged the Members to provide their comments or questions on the Strategic Outlook.

Ms. Abbott suggested that, as the strategy of the Authority is to invest in areas not targeted by other entities, coupled with the status of the federal research and development efforts, at some point the Authority's underlying assumptions will require reassessment. Ms. Barton agreed that once the landscape becomes more certain, a new look will likely be warranted. Ms. Joseph added that certain mitigating activities are taking place in the Authority's collaboration with other states.

Mr. McAvoy observed that the non-electric efforts should be further highlighted in the Strategic Outlook.

Mr. Daly reiterated that cost benefit impacts and affordability should continue to be front and center. He also suggested that it would be helpful in future efforts to better identify those efforts that represent changes in policy or direction and those which are step changes.

Mr. Koh added that it would also be helpful to understand the delta that results from some of the portfolio changes that may be identified from year-to-year.

Upon the conclusion of the presentation and discussion, the Members were then asked to consider and act upon a resolution recommending approval of the Strategic Plan entitled “*Toward a Clean Energy Future - A Strategic Outlook 2018-2021.*” Based on the report on the Plan as presented, upon motion duly made and seconded, and by unanimous voice vote, the Committee recommended that the full Board adopt the resolution approving the Plan.

Resolution

RESOLVED, that the outlook for the Authority’s energy, economic environmental program priorities and strategic vision entitled *Toward a Clean Energy Future: A Strategic Outlook 2018-2021*, submitted to the Members for consideration at this meeting with such non-substantive, editorial changes and supplementary schedules as the President, in her discretion, may deem necessary or appropriate, is recommended to be adopted and approved by the Board as the Authority's updated Strategic Outlook.

Other Business

Mr. Willis indicated that the last item on the agenda was other business. There being no additional business to consider, upon motion duly made and seconded, and by unanimous voice vote, the meeting was adjourned.

Respectfully submitted,

Valerie A. Milonovich

Valerie S. Milonovich
Secretary to the Program Planning Committee