

PROGRAM PLANNING COMMITTEE
OF THE NEW YORK STATE
ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

Minutes of the 85th Meeting
Held on September 16, 2013

Pursuant to a Notice and Agenda dated September 6, 2013, the 85th meeting of the Program Planning Committee (“Committee”) of the NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY was convened at 11:00 a.m. on Monday, September 16, 2013, in the Authority’s Board Room at 17 Columbia Circle, Albany, New York and by video conference at the Authority’s New York City Office, located at 485 Seventh Avenue, 10th Floor, New York, New York.

The following members of the Committee were present in Albany, unless otherwise indicated:

Mark Willis, Committee Chair
Kevin Burke
David D. Elliman
Richard Kauffman
Elizabeth W. Thorndike, Ph.D.

Robert B. Catell was unable to attend.

Also present in either Albany or New York City were: Francis J. Murray, Jr., President and CEO of NYSERDA; Janet Joseph, Vice President for Technology and Strategic Planning; Tom Barone, Acting Vice President for Operations and Energy Services, and Jeffrey J. Pitkin, Treasurer; Hal Brodie, General Counsel; 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 (attached hereto as Exhibit A) was mailed to Committee members and the press on September 6, 2013. Each of the Committee members introduced themselves.

Approval of June 6, 2013 Minutes

The first agenda item concerned the approval of the minutes of the 84th meeting of the Committee held on June 6, 2013. Several Members suggested corrections to the draft minutes that will be incorporated into the final minutes. Upon motion duly made and seconded, and by unanimous voice vote, the corrected minutes of the 84th meeting of the Committee were approved.

Report on the Status of the Green Bank Initiative

Mr. Willis introduced Treasurer Jeff Pitkin to report on the status of the Green Bank Initiative. Mr. Pitkin began by stating that, in his January 2013 State of the State address, Governor Cuomo

announced a proposed initiative for a \$1 billion Green Bank to mobilize private capital and accelerate the deployment of clean energy by removing financing market barriers and filling financing market gaps.

Mr. Pitkin reported that, on September 9, the Authority took an important step forward in the process for implementation of the Green Bank with the filing of a Petition with the New York State Public Service Commission (Commission) requesting the Commission to reallocate and repurpose certain funds to establish a portion of the Green Bank's initial capitalization. Copies of the Petition and the accompanying final report prepared by the consultant were previously provided to the Members.

In summarizing the work completed to date, Mr. Pitkin stated that, in June, NYSERDA retained the international consulting firm Booz & Co. (Booz) to: perform a market assessment of existing financing barriers and market gaps; identify potential Green Bank financial programs, products and strategies to address the gaps and barriers; analyze the potential impacts of the deployment of Green Bank financing; and make recommendations on the organization of the Green Bank. Authority staff worked closely with Booz to complete the research and analysis, contributing its information and expertise with respect to New York's energy policies, programs and markets.

The market assessment entailed conducting approximately 90 interviews with key constituents including financial institutions, renewable energy providers, energy services companies, stakeholders, utilities and end users. These facilitated discussions were designed to elicit subject matter expert opinions on clean energy financing barriers, gaps and opportunities. The assessment identified numerous market gaps supporting the rationale for the Green Bank across all segments, including: smaller project financings; long tenor loans; loans for consumers with medium credit quality and commercial organizations with medium credit ratings; financing for commercially viable technologies yet to achieve scale; financing for projects eligible for tax credits. The assessment also identified numerous barriers in the financing of energy efficiency and renewable technologies, including: undeveloped secondary markets; lack of familiarity, understanding, or confidence in energy performance and payment data; fragmentation of vendors; and existing balance sheet burdens. The assessment also identified reasons for insufficient market demand, including: competition for capital with core-mission investments; insufficient understanding of value propositions; and split incentives.

Mr. Pitkin reported that the market assessment also reviewed the mission, organization, funding, track record, best practices and challenges of several clean energy financing organizations in the U.S. and abroad. It is expected that collaboration will be undertaken with some of these organizations to benefit from any lessons learned by them.

Staff at Booz and the Authority developed a directional estimate of the market potential for clean energy investments over the next ten years and estimated this at approximately \$85 billion. This assessment provides context to support the proposed \$1 billion capitalization of the Green Bank.

Four principal capital solutions to address these gaps and barriers were identified in the market assessment: credit enhancement arrangements with private sector lenders; warehousing and securitization of loans; direct lending or investing; and structured products.

Mr. Pitkin added that, in addition, several informational and other strategies were identified, including standardization of project and financing terms, collection and reporting of project and payment performance data, strategic partnerships, and opportunities to leverage the Green Bank's positioning to offer low-cost financing in targeted areas or to correct market pricing imperfections.

Mr. Pitkin stated that Booz also identified several critical factors necessary for the Green Bank's success. These include the need for the Green Bank to be flexible and adaptive, use of strategic partnerships to create rapid and tangible impacts, establishing confidence in the marketplace about the breadth and sustainability of the organization, and ensuring that the Green Bank operates within a State policy framework which coordinates activities for synergistic impacts.

Authority and Booz staff prepared a quantitative analysis to demonstrate potential investments, leveraging, and return on investments with the various suite of potential products and strategies identified. The assessment identified risk factors for consideration and presents a sensitivity analysis to illustrate the impacts on the Green Bank's return on investment from default risks and delays in capital deployment.

Operational considerations for the Green Bank were also assessed, including identification of necessary human resource capabilities, and initial key implementation activities to support the launch of the Green Bank.

With the completion of this assessment, on September 9, the Authority submitted a Petition to the Commission seeking an Order to reallocate and repurpose \$165.6 million in uncommitted System Benefit Charge (SBC), Energy Efficiency Portfolio Standard (EEPS) and Renewable Portfolio Standard (RPS) ratepayer funds. These funds, coupled together with \$44.7 million in funds allocated from the March, June and September Regional Greenhouse Gas Initiative (RGGI) auctions, would provide a total initial capitalization of \$210.3 million for the Green Bank. The Commission is expected to consider additional Green Bank capitalization during 2014.

The Petition notes the market transformative opportunity for New York to introduce a self-sustaining financing model to support clean energy initiatives. Mr. Pitkin explained that one of the primary benefits of the Green Bank is its ability to achieve significantly greater private capital leverage of the ratepayer funds than the current grant and incentive approach. This principally comes about through the recycling of capital deployed by the Green Bank to support private sector financing of clean energy projects. In addition, the approaches are expected to catalyze private sector investment and mobilize the capital and institutional capabilities of private market players to reach underserved markets, further increasing the penetration of clean energy technologies and increasing the leverage achieved. In addition, the Green Bank will generate fee and investment earnings which will be designed to cover its operational costs over time and potentially further grow its capitalization.

Mr. Pitkin stated that the financing techniques proposed are not new and, although novel to the clean energy sector, are well tested approaches which have been used by both private and public

organizations in the past. Specific program offerings will be designed to address portfolio and project risk assessment, and to set risk-adjusted fees and interest on the Green Bank's deployed capital in a manner designed to cover operational costs over time and preserve and grow its capitalization.

Mr. Pitkin stated that, initially, the Green Bank will operate as division of the Authority. As such, it will be subject to relevant provisions of the Public Authorities Law. It will operate within the Authority's system of internal controls to assure proper stewardship of its funding. Current policies and procedures will be reviewed and modified as necessary to ensure that the Green Bank's business needs can be met and that it can operate effectively with strategic partners and market participants. The location of the Green Bank within the Authority will allow for synergistic results by offering new strategies and approaches in concert with continuation of other activities designed to provide information and drive market demand. The Green Bank will have access to the administrative support resources of the Authority, which will be supplemented as necessary in light of the new approaches to be used, and it will have the ability to tap into existing technical staff resources and market knowledge.

Mr. Pitkin explained that an Advisory Committee will be established, including external experts in the field, to review plans and operations of the Green Bank and to provide input and advice to Authority management and relevant input from the Advisory Committee will be shared with the Board regarding various matters to be reviewed and approved by the Members through its regularly scheduled meetings.

Legal and operational issues associated with establishing the Green Bank as a subsidiary or an affiliate corporation will also continue to be investigated. If it is determined that such a course of action is feasible and beneficial, the Board will be advised and consideration will be given to the pursuit of any necessary legislative or administrative action.

With the filing of the Petition, the Commission will initiate a proceeding to seek public comment on the Petition. It is anticipated that the proceeding will seek input from stakeholders and the public through a technical conference to be scheduled in October. The proceeding is being coupled together with proceedings or Petitions looking at various changes to the RPS and EEPS programs and the Commission expected to consider these matters at its December session.

Over the coming weeks and months, the focus will be on a number of activities to support the Green Bank's implementation. Efforts are underway to select an individual to lead the Green Bank, who will report to the President and CEO. Additional staff hires will result in the addition of experienced staff capable of designing and launching specific offerings. The external Advisory Committee will be established to provide broad input on program and product offerings and design. An investment committee will also be established to review prospective deals and provide input on risk, financial, legal, and compliance issues. Efforts will be undertaken to design specific market offerings which should be ready for launch in early 2014. Current systems and processes will be reviewed, implemented, or revised as necessary to support Green Bank activities.

On behalf of the executive management team, he also recognized the many NYSERDA staff who contributed to the assessment and Petition, while also maintaining their existing responsibilities, and in particular Kevin Hale, Senior Project Manager in the Authority's R&D Energy Markets and Power Delivery department who led an internal working group team.

In response to a request from Mr. Willis to focus on the budget, particularly the aspects related to the uncommitted funds associated with the Petition, Mr. Pitkin explained that the uncommitted funds are comprised of several different funding sources. He described that the third phase of SBC funding (SBC III) are those funds provided through 2011 for which the Authority annually provides a funding status report to the Commission. In the event any of those funds remain uncommitted, the Commission can take action to repurpose those funds for other program activities. Mr. Pitkin further explained that the \$22.1 million in SBC funds were previously committed but had since become uncommitted for various reasons and a similar situation arose with regard to about \$3.5 million of first-phase EEPS funding. The Petition also identified about \$90 million in utility EEPS funding which have been reported as uncommitted. Lastly, the Authority is requesting the repurposing about \$50 million of RPS funds of the total funds that are authorized to be collected through 2024.

In response to an inquiry by Mr. Elliman, Mr. Pitkin and Mr. Brodie explained that funds approved by the Commission for Green Bank deployment but which remained uncommitted after some period of time would likely require a subsequent Order from the Commission to reallocate them for a different purpose, depending on the language in any forthcoming Commission orders. Mr. Pitkin also clarified that the \$44.7 million in RGGI proceeds identified in the Petition represent those RGGI proceeds that resulted from recent auctions and are funds beyond those that are accounted for in the current base RGGI Operating Plan.

Mr. Burke suggested that it might be useful to take a careful look at the metrics that are designed to measure program success, particularly when funds are being taken from one source (or program) to support another. These would be useful to identify expectations going forward. Mr. Pitkin added that Authority staff is in discussions with Department of Public Service staff on the development of the appropriate metrics.

In response to an inquiry by Mr. Burke, Mr. Pitkin clarified that there is no intention to engage in equity investments or product development activities within the scope of the Green Bank, but to instead engage in debt, capital, or investment positions and agreed with Mr. Burke that all investments are more likely to be with financial institutions or to further the ability to engage in the warehousing of loans, if that proves to be a prudent course.

Mr. Pitkin agreed to keep the Committee and Board apprised of future developments and the plans to implement offerings beginning in early 2014.

Revised Budget for FY 2013-14

The discussion continued with Treasurer Jeff Pitkin reporting briefly on the revisions to the Authority's Budget for Fiscal Year 2013-14, which was originally approved at the January 2013

Board meeting. The focus of the discussion was on the budget items that relate most closely to the proposed funding of the Green Bank.

Mr. Pitkin explained that the presented budget revisions assume a favorable decision and outcome by the Commission on the Green Bank Petition filed by the Authority on September 9, including funding transfer among certain programs. He also clarified questions from the Members regarding the presentation and format of Green Bank financial information going forward, the ability of the Authority's accounting systems to absorb this new type of activity, and the nature of the Authority's financial commitments going forward.

In response to inquiries and suggestions by Mr. Willis and Mr. Burke, Mr. Pitkin explained the possible options for presenting Green Bank-related financial information in future Authority budget and documents and that Green Bank activity will likely require changes to certain financial statements and disclosures.

In response to an observation by Mr. Burke regarding the Authority's practice of not entering into agreements absent the receipt of funding in advance, Mr. Pitkin noted the exception of the RPS program. However, he added that it is anticipated that the future practice with regard to the Green Bank will be consistent with the general practice and that for now Green Bank arrangements will not be entered into beyond its initial capitalization.

In response to an inquiry by Mr. Elliman with regard to whether the Authority has the appropriate accounting systems in place to accommodate the new activities, Mr. Pitkin feels that the Authority is sufficiently equipped with systems robust enough to handle the anticipated activities.

Mr. Kauffman provided comments, stating that what has been presented to the Board is a fair measure of the status of the Green Bank to date. He added that additional details regarding staffing, procedures, products, and markets are forthcoming, as those components are developed. Mr. Kauffman also stated that the route to market is to work through financial intermediaries on a wholesale basis and there must be joint incentives when it comes to risk and an alignment of interests. In addition to thanking staff for their development efforts, he added that the Green Bank is a departure from the typical Authority programs that stands on shoulders of efforts that have previously been undertaken, such as the securitization of energy efficiency loans.

Mr. Willis asked if there was any further discussion or questions regarding a recommendation by the Committee that the Board approve the resolution regarding the revisions to the FY 2013-14 Budget. There being none and based on all the reports and discussions as presented, upon motion duly made and seconded, and by unanimous voice vote, the Committee recommended that the full Board adopt the revisions to the FY 2013-14 Budget. A copy of said resolution is attached hereto as Exhibit B.

State Appropriation Request/Preliminary Spending Plan for FY 2014-15

Mr. Pitkin further reported on NYSERDA's State Appropriation Request for the next fiscal year which is submitted annually to the Division of the Budget and sets forth the Authority's requests for State appropriations.

The discussion was brief and Mr. Pitkin specifically highlighted certain aspects of the FY 2014-2015 budget that are intended to mitigate the loss of the voluntary contribution of R&D funding from the Long Island Power Authority, including proceeds of the sale of a small piece of the STEP site and a slight reduction of the reserve balance of \$3 million that staff continues to believe is sufficient.

Mr. Pitkin responded to some clarifying questions from the Members regarding funding for certain programs beyond 2015, given that current funding is authorized by the NYS Public Service Commission through either 2015 or 2016, depending on the program portfolio.

Mr. Burke also noted an overall policy observation that about 89% of the funds (comprised of SBC, RPS and RGGI funds) originate from the electric sector and that the transportation sector is responsible for most of the air emissions in the State. He noted that all of the good work achieved in the electric sector could be rendered ineffective by the lack of attention to the transportation sector.

Mr. Willis asked if there was any further discussion or questions regarding a recommendation by the Committee that the Board adopt the resolution approving the State Appropriation Request for FY 2014-15. There being none and based on all the reports and discussions regarding the State Appropriation Request and Spending 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 Authority's State Appropriation Request for FY 2014-15. A copy of said resolution is attached hereto as Exhibit C.

Report on the Impacts of the Authority's Research and Development Program Portfolio

Mr. Willis introduced Mark Torpey, Director of the Clean Energy Research and Market Development Program, who provided a briefing on the preliminary findings of a staff analysis that focused on the impacts of the Authority's Research and Development Program portfolio. At the June PPC Meeting, several of the Members asked Authority staff to explore the merits of increasing funding for its R&D Program given the results and value demonstrated to date. The Members also asked staff to review the impact of NYSERDA's R&D program, identify potential needs and opportunities, and present potential options for increasing R&D funding, within overall budget constraints.

Mr. Torpey presented the impacts, opportunities and funding opportunities for the Authority's R&D portfolio, including data that reflects the quantitative and qualitative impacts of the R&D program. Quantitative impacts for the investment time period of 1996 through 2012 include four primary metrics: the commercialization rate, product development, leveraged funding, and follow-on investment. The commercialization rate shows that that 23% of R&D product development projects yielded commercial sales and \$182 million in Authority investments in product development yields \$2 billion in gross product sales. Mr. Torpey reported that \$532 million in Authority R&D investment leveraged \$864 million in project co-funding and that Authority awardees account for 70% of the cleantech venture capital deal flow in the State. Since 2009, awardees of Authority funding opportunities have attracted \$171 million in follow-

on private capital. Mr. Torpey also noted that the results of the R&D incubator program have been stellar.

Mr. Torpey highlighted the Authority's longstanding work with Brookhaven National Laboratory, where a \$17 million Authority investment that focused on oil heat technology and demonstration has saved the State's energy consumers about \$5 billion to date in energy savings.

Mr. Torpey also provided examples of qualitative impacts of R&D efforts, unmet opportunities in the R&D space, and potential opportunities for increased R&D funding, stating that all options for increasing funding for R&D activities are being considered.


Mr. Torpey characterized the report as a working draft and encouraged the Members to provide input to the full report developed by the R&D Staff. Once the report is finalized it will be shared with the full Board.

In response to an inquiry by Mr. Elliman about in-state activity, Mr. Torpey stated that there are both domestic and international sales of some of the developed products.

Mr. Willis complimented staff on the inclusion of the qualitative information, as well as on the report as a whole.

Upon a determination that there was no other business to come before the Committee and upon motion duly made and seconded, and by unanimous voice vote of the Members, the 85th meeting of the Program Planning Committee was adjourned.

Respectfully submitted,

A handwritten signature in cursive script, reading "Valerie S. Milonovich".

Valerie S. Milonovich
Secretary to the Program Planning Committee

NOTICE OF MEETING AND AGENDA

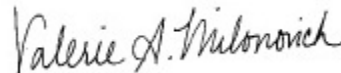
September 6, 2013

TO THE MEMBERS OF THE PROGRAM PLANNING COMMITTEE:

PLEASE TAKE NOTICE that a meeting of the Program Planning Committee (the 85th meeting) of the New York State Energy Research and Development Authority will be held in the Authority's Albany Office located at 17 Columbia Circle, Albany, New York, and by video conference in the Authority's New York City Office located at 485 Seventh Avenue, 10th floor, New York, New York, on Monday, September 16, 2013, commencing at 11:00 a.m., for the following purposes:

1. To consider and act upon the Minutes of the eighty-fourth (84th) meeting of the Program Planning Committee held on June 6, 2013.
2. To receive a report on the status of the Green Bank Initiative.
3. To receive a report on the impacts of the Authority's Research and Development Program Portfolio.
4. To receive a report from the Treasurer and to consider and act upon a resolution recommending approval of revisions to the Authority's Fiscal Year 2013-14 budget.
5. To receive a report from the Treasurer regarding the Authority's Fiscal Year 2014-15 Preliminary Spending Plan and the Authority's State Appropriation Request For Fiscal Year 2014-15 and act upon a resolution recommending approval of the State Appropriation Request for Fiscal Year 2014-15.
6. To transact such other business as may properly come before the Committee.

Members of the public may attend the meeting at either of the above locations. The Authority will be posting a video of the meeting to the web within two business days of the meeting. The video will be posted at <http://www.nyserda.ny.gov/en/About/Board-Governance/Board-and-Committee-Meetings.aspx>.



Valerie S. Milonovich
Secretary to the Program Planning Committee

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Exhibit B

Resolution No. _____

RESOLVED, that the Fiscal Year 2013-14 Budget and Financial Plan (Revised September 2013) submitted to the Members for consideration at this meeting, with such non-material, editorial changes and supplementary schedules as the President and CEO, in his discretion, may deem necessary or appropriate, be and it hereby is approved.

Exhibit C

Resolution No. _____

RESOLVED, that the proposed State Appropriation Request for Fiscal Year 2014-15 submitted to the Members for consideration at this meeting, with such non-material, editorial changes and supplementary schedules as the President and CEO, in his discretion, may deem necessary or appropriate, be and it hereby is approved for submission to, and at the request of, the New York State Division of the Budget.