



NY Green Bank
A Division of NYSERDA

NY Green Bank

Metrics, Reporting & Evaluation

Quarterly Report No. 17
(Through September 30, 2018)

Case 13-M-0412

November 14, 2018

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1 Performance at a Glance – As of September 30, 2018

Stimulating New Clean Energy Proposals in the State

NY Green Bank (“NYGB”) has received over **\$2.9 billion** in investment proposals since inception.

Strong Active Pipeline

The Active Pipeline of potential investments proceeding to close is **\$581.9 million**.¹

Driving Material Clean Energy Investments Across NYS

NYGB’s investments support clean energy projects with a total project cost of **between \$1.44 and \$1.68 billion**² in aggregate, based on Overall Investments to Date of **\$580.1 million**.

Mobilizing Capital

NYGB’s investment portfolio as a whole represents an expected mobilization ratio of Total Project Costs to NYGB funds averaging 2.7:1,³ which will be realized as planned clean energy projects are successfully implemented by NYGB’s clients and counterparties. Over 10 years, assuming periodic reinvestment in comparable transactions, the estimated **8:1** mobilization ratio remains achievable.

Revenue Growth - Maintaining Self-Sufficiency

Continued revenue growth – **\$44.4 million** in revenues has been generated since NYGB’s inception. NYGB continues to maintain self-sufficiency through the generation of annual net income.

Contributing to CEF, REV, CES and Other State Targets

NYGB’s investments to date drive estimated gross lifetime GHG reductions of **between 7.2 and 9.2 million metric tons**², equivalent to removing **between 69,500 and 88,300 cars** from the road for a period of **24 years**.

¹ Note that at any time, the value of the Active Pipeline is separate from the value of the investment portfolio. So, for example, as of September 30, 2018, the \$581.9 million in Active Pipeline does not include the \$580.1 million in closed transactions that comprises NYGB’s Overall Investments to Date.

² NYGB monitors its counterparties’ clean energy project installations throughout the duration of each investment through the receipt and review of periodic reports. Based on information received, NYGB continually manages the actual and expected energy and environmental benefits across its portfolio. As new information becomes available informing NYGB of NYS market uptake of clean energy projects, NYGB may correspondingly adjust (up or down) the overall portfolio’s high and low estimated Total Project Costs and energy and environmental metrics (identified at closing of each investment, working with the relevant clients and counterparties and reflected in Transaction Profiles). This constant monitoring and refinement of expected outcomes improves the accuracy of NYGB’s portfolio-level estimation of impact benefits as it works towards meeting the CEF objectives to support NYS CES, SEP and other clean energy goals. Given such periodic adjustments, the aggregate estimated benefits reported in Quarterly Reports are the most up-to-date estimates (and so no longer will reflect the sum of the low and high estimated benefits specified in the Transaction Profiles at the time of each transaction close).

³ Given the range of Total Project Costs that NYGB investments mobilize, the Mobilization Ratio also represents a range; currently of 2.5:1 to 2.9:1.

2 Introduction

This Quarterly Report (“**Report**”) is filed by NYGB with the New York State Public Service Commission (the “**Commission**”) pursuant to the Metrics, Reporting & Evaluation Plan developed in consultation with the New York State Department of Public Service (“**DPS**”) and filed with the Commission⁴ (the “**Metrics Plan**”).

Defined terms used in the text of this Report but not separately described have the meanings respectively given to them in the Metrics Plan.

3 Business Update

3.1 Overview

NYGB’s investment activities fall into two broad categories, respectively relating to:

- (a) Transactions that have closed, which collectively comprise NYGB’s investments; and
- (b) Transactions that are in process but not yet closed, which collectively comprise NYGB’s pipeline.

Each proposed NYGB investment is categorized by the stage it has reached in NYGB’s internal credit underwriting and transaction execution processes.

NYGB closed **three new investments** during the quarter ending September 30, 2018, adding **\$57.8 million** to NYGB’s investment portfolio. These transactions are discussed in Section 3.2.

NYGB’s overall transaction status and Active Pipeline are summarized in Figure 1,⁵ showing that since inception through September 30, 2018:

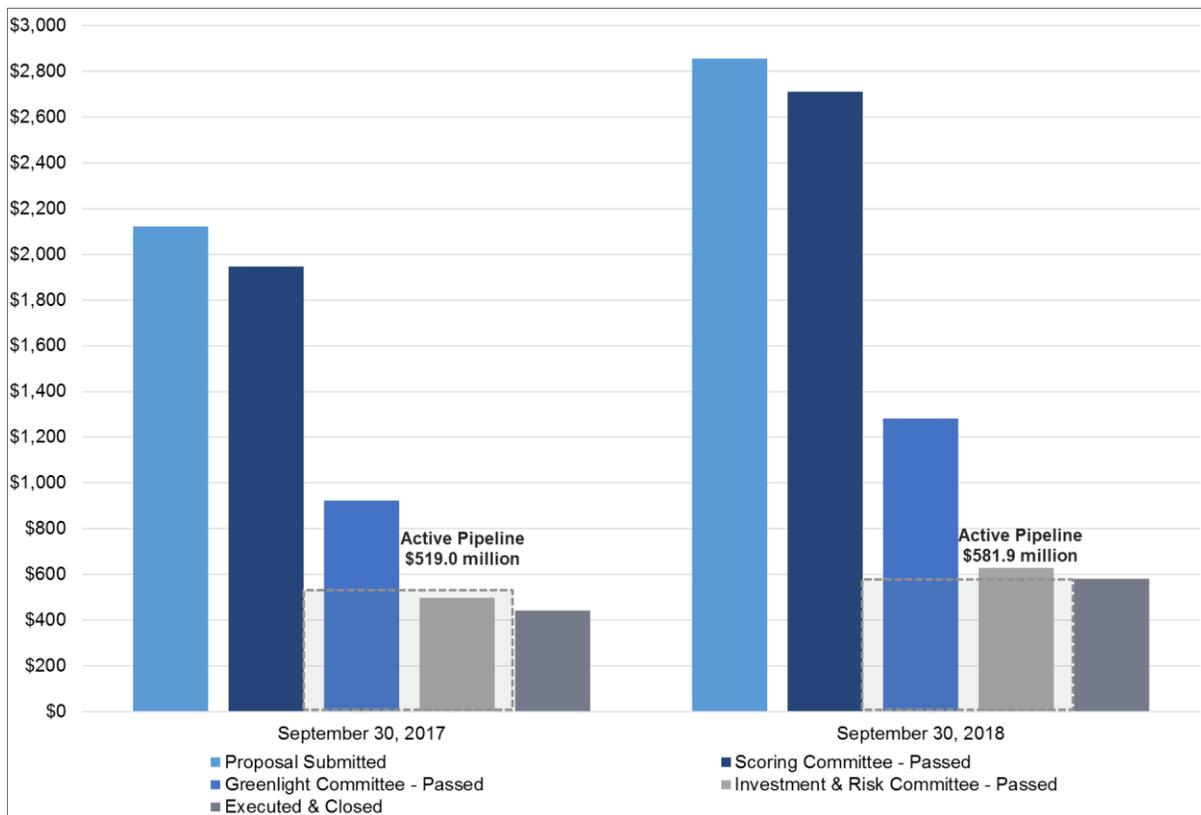
- (a) Over **\$2.9 billion** of proposals have been received and evaluated by NYGB’s Scoring Committee;
- (b) **\$2.7 billion** of proposals have passed Scoring Committee evaluation – representing potential investments that meet NYGB’s mandate and proposal evaluation criteria;
- (c) **\$1.3 billion** of proposals have received Greenlight Committee recommendation for advancement;
- (d) **\$629.0 million** of proposals have been vetted by the Investment & Risk Committee (“**IRC**”) and approved by NYSERDA’s President & CEO; and
- (e) **\$580.1 million** of transactions have been closed – comprising NYGB’s Overall Investments to Date - mobilizing public and private investments to support in the range of **\$1.44 to \$1.68 billion** in Total Project Costs for new clean energy deployment in the State.

Also, as shown in Figure 1, NYGB currently has an Active Pipeline of **\$581.9 million**.

⁴ Case 13-M-0412, “NY Green Bank – Metrics, Reporting & Evaluation Plan”, Version 3.0, dated June 20, 2016.

⁵ Note that all these amounts change over time as proposals and transactions evolve.

Figure 1. Transaction Status & Active Pipeline (\$ Millions): Year-on-Year Review



3.2 Investment Portfolio

3.2.1 Highlights

In the quarter ended September 30, 2018, NYGB closed three transactions, respectively sponsored by Delaware River Solar LLC, BlueRock Energy Solar, Inc., and New York City Energy Efficiency Corporation (“NYCEEC”). Each transaction, combined into NYGB’s portfolio, contributes to the primary CEF outcomes of GHG emissions reductions, customer bill savings, energy efficiency, clean energy generation and mobilization of private sector capital.⁶ In turn, the CEF objectives support the NYS Clean Energy Standard (“CES”) goal of 50.0% energy generation from renewable sources, and the energy efficiency target to reduce energy consumption by 185 trillion BTUs below forecasted energy use in 2025,⁷ which together further the State Energy Plan (“SEP”) goal of 40.0% reduction in GHG emissions from 1990 levels by 2030.

3.2.2 New Investments

Delaware River Solar, LLC – Supporting the Deployment of New York’s Community Solar Projects

- Reduces GHG emissions by up to 1,083,900 metric tons over the 25-year life of the underlying assets
- Generates at least 2,060,400 MWh of renewable energy over the life of the underlying projects
- Increases renewable energy installed generation capacity by up to 70.0 MW

⁶ As set out in the CEF Order (Cases 14-M-0094 et al.) issued and effective on January 21, 2016, page 40.

⁷ Announced by Governor Andrew M. Cuomo on Earth Day 2018. See www.nysed.gov/About/Newsroom/2018-Announcements/2018-04-20-Governor-Cuomo-Announces-New-Energy-Efficiency-Target-to-Cut-Greenhouse-Gas-Emissions.

Delaware River Solar, LLC (“**DRS**”) is a solar development company based out of Callicoon, NY, that finances, builds, and operates community distributed generation (“**Community DG**”) projects. DRS engaged NYGB to provide financing support for the development of the DRS Community DG portfolio in NYS.

In July 2018, NYGB and DRS closed a \$55.0 million term loan which will finance the capital costs associated with the successful construction of up to 70.0 MW of Community DG projects in NYS. This term financing, together with the \$7.0 million interconnection bridge loan executed in April 2018, will advance the development of the Community DG portfolio in NYS.

NYGB is committing a combined \$62.0 million to DRS through the term loan and bridge loan facilities. These transactions will help to demonstrate the viability of the Community DG model, drawing new investors and financial institutions into the marketplace, and ultimately lowering the cost of capital. This, in turn, is expected to benefit consumers in the form of broader access to lower-cost clean energy generation.

BlueRock Energy Solar, Inc. – Driving Standardization of Community Solar Financings in NYS

- *Reduces GHG emissions by up to 11,000 metric tons over the 25-year life of the underlying assets*
- *Generates at least 17,100 MWh of renewable energy over the life of the underlying projects*
- *Increases renewable energy installed generation capacity by at least 0.65 MW*

BlueRock Energy Solar, Inc. (“**BlueRock**”) is developing and operating a portfolio of Community DG projects in NY, with a current pipeline of 20.0 MWdc. In 2017, BlueRock partnered with Renovus Solar, Inc. to develop and build the Renovus Rock, LLC project, a 646.0 kWdc project located in Millport, NY that has been operating since April 2017. BlueRock is now the sole owner of the project. NYGB has provided the term loan of \$775,000, secured by the Renovus Rock, LLC project to support the development BlueRock’s Community DG portfolio in NYS.

This transaction is estimated to support the deployment of Community DG projects in the State which will provide commercial and residential project subscribers access to reliable, clean, low-cost energy. As there is increasingly strong demand for Community DG throughout NYS, growth of this asset class through the deployment of projects offers and requires participation by capital providers. Products like this term loan are expected to ultimately be offered by private capital providers in future to finance Community DG portfolios-at scale.

NYCEEC / Ecosave Inc. – Expanding Energy Efficiency Opportunities for Small & Medium Sized Commercial Customers in New York State

- *Reduces GHG emissions by up to 10,580 metric tons over the 15-year average life of the underlying assets*
- *Reduces electricity use by up to 15,300 MWh over the average life of the underlying measures*
- *Achieves energy savings from fuel of up to 47,710 MMBtu over the average life of the underlying measures*

NYGB is committing up to \$2.0 million to participate as a co-lender with the New York City Energy Efficiency Corporation (“**NYCEEC**”) in a construction-to-term loan for Ecosave Inc. to finance the installation of energy efficiency improvements at the Hebrew Home senior care facility in Riverdale, NYS. Ecosave Inc. is an energy efficiency services company providing turnkey design, engineering, construction, management, and maintenance services for mid-sized commercial customers through an energy services agreement (“**ESA**”) model. Using NYGB capital, energy efficiency improvements including LED lighting retrofits and Heating, Ventilation and Air Conditioning system upgrades will be installed at no upfront cost to the customer, and a portion of the resulting energy savings will be used to repay the lenders over time.

This transaction establishes greater performance history for energy efficiency projects with medium-sized, unrated, commercial and industrial customers, an asset class that historically has limited access to commercial capital. The transaction will help to demonstrate viability of the ESA model, drawing new investors and financial

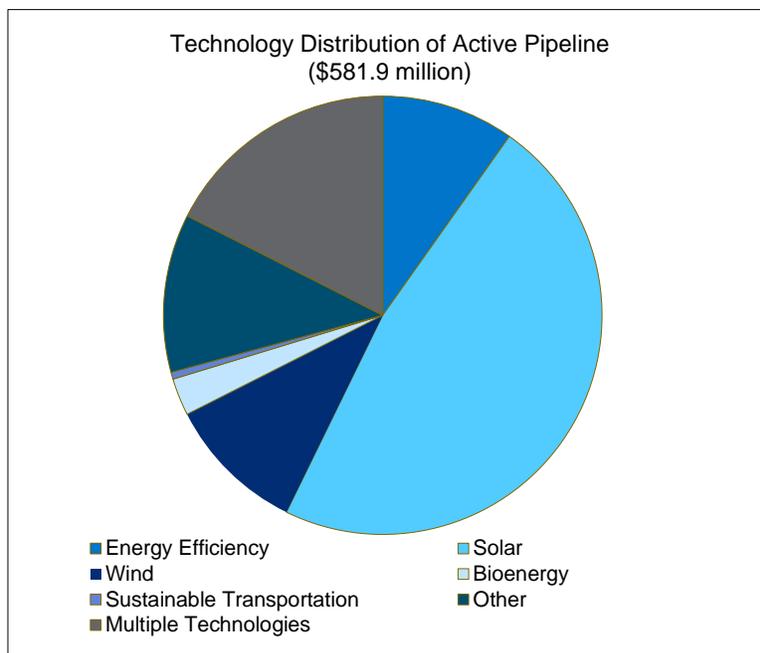
institutions into the marketplace. This fits within NYGB's strategy to increase liquidity and drive additional volume in the NYS energy efficiency sector, ultimately lowering the cost of capital for energy efficiency retrofits.

Further details on all NYGB's investments are contained in the Transaction Profiles publicly available on NYGB's website at www.greenbank.ny.gov/Investments/Portfolio, and the Transaction Profiles for the investments described above are also included in the Schedule to this Report.

3.3 Active Pipeline

Demand for NYGB investment is evidenced by the total value of proposals that have been submitted to NYGB in response to its open solicitations for investment proposals (the "**Investment RFPs**").⁸ Through September 30, 2018, proposals requesting over \$2.9 billion of NYGB capital have been received. NYGB's Active Pipeline at September 30, 2018 is \$581.9 million. Figures 2, 3 and 4 below show the distribution of proposed investments in NYGB's Active Pipeline by technology, end-use customer segment and geography.

Figure 2. Active Pipeline by Technology



⁸ Clean Energy Financing Arrangements – Request for Proposals (RFP) No. 1, Construction & Back-Leveraged Financing for Ground-Mounted Solar Generation Systems Targeting Corporate & Industrial End-Users - RFP No. 7, Efficiency & Renewables Financing Arrangements: Building & Property Owners – RFP No. 8, and Construction and Aggregation-to-Term Financing for CDG Solar Projects – RFP No. 10, all available at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

Figure 3. Active Pipeline by End-Use Customer Segment

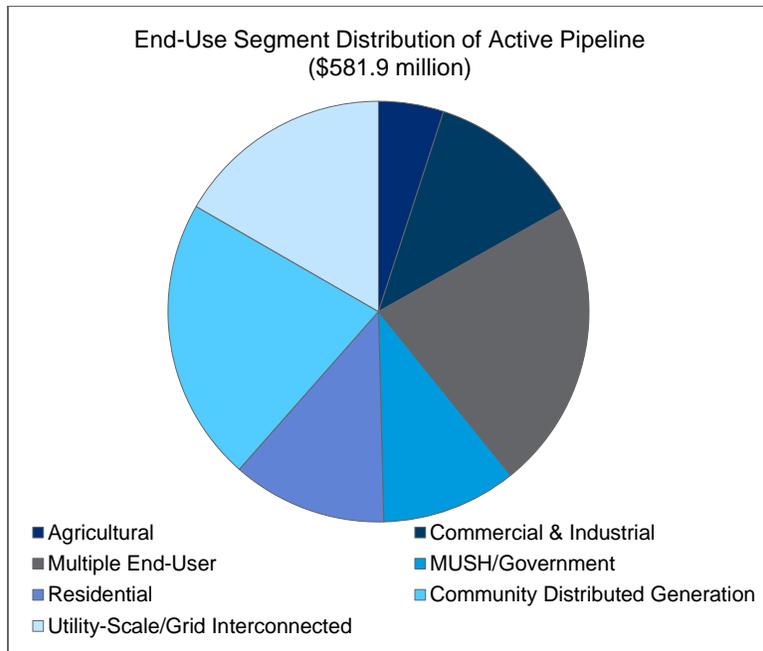
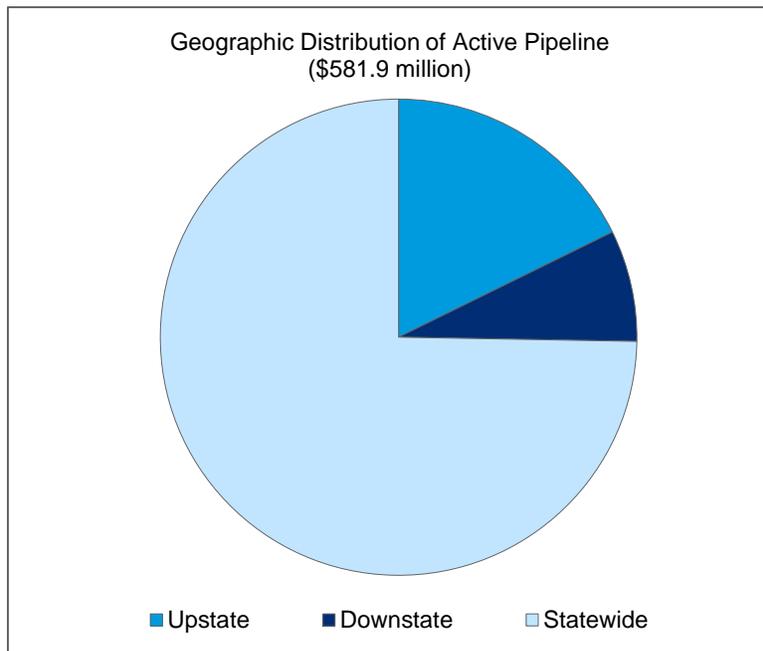


Figure 4. Active Pipeline by Geographic Distribution



3.4 Strategic, Operational & Risk Matters

In the quarter ended September 30, 2018, in addition to those matters referenced elsewhere in this Report and ongoing “business as usual” activities (e.g., origination, execution and routine outreach), NYGB’s achievements include:

- (a) Continuing Stakeholder Outreach & Communications: Highlights of specific outreach initiatives in the period to which this Report relates include:
- i. Participation in 23 events including multiple Low-to-Moderate-Income Stakeholder Convenings hosted by NYSERDA as part of NYGB’s Annual Statewide Meeting Series. NYGB representatives also participated in multiple events during the 10th Annual Climate Week in NYC, including serving as a panelist during the Built Environment – Imagining the Smart Buildings of Tomorrow event hosted by the Climate Group.
 - i. Other events included multiple NYGB counterparty milestone ceremonies – including a ribbon cutting ceremony for BQ Energy’s Beacon project, which received a \$3.1 million construction loan and term loan from NYGB – as well as the Delaware River Solar Thompson project groundbreaking. The Delaware River Solar Thompson project received financing from NYGB as one project within a larger portfolio described earlier in Section 3.2.2.
 - ii. Members of the NYGB Investment & Portfolio Management team presented at each of the three DPS/NYSERDA Technical Conferences on the Energy Storage Roadmap, held in New York City, Farmingdale, and Albany. The team spoke to specific ways in which NYGB could be helpful in financing energy storage projects in NYS by addressing existing market barriers and financing gaps that could impede project development.
 - ii. Additionally, NYGB has received positive market feedback to its recently issued [RFI 4: Financing Arrangements for Energy Storage Projects in New York State](#). These responses continue to inform NYGB of current and future business models and enable NYGB to be more proactive in engaging energy storage developers seeking to be active in NYS’s energy storage market. As evidenced by previously announced intentions to invest at least \$200.0 million in storage-related investments, NYGB continues to anticipate further activity in the storage sector and stands ready to offer creative financing solutions to support its growth.
 - iii. NYGB issued its [Summer 2018 Newsletter](#), highlighting recent transactions, portfolio and pipeline information, recent NYGB media coverage and other organizational activities.
 - iv. New Press Release Issued: On August 15, 2018 NYGB issued a press release: *NY Green Bank Announces Strong Second Quarter with Commitments Now Totaling Over \$522 Million in Support of Up to \$1.7 Billion in Clean Energy Investment Across the State*. The press release noted six transactions that had been closed over the previous quarter, including two community solar investments, and highlighted the launch of two new open solicitations: [Request for Proposal No. 10: Construction and Aggregation-to-Term Financing for Community Distributed Generation Solar Projects](#) and [Request for Information No. 4: Financing Arrangements for Energy Storage Projects in New York State](#).
- (b) Public Reporting & Metrics: Filed the Quarterly Report for the period ending June 30, 2018 (on August 14, 2018), as required by the Metrics Plan, both of which are available at www.greenbank.ny.gov/Resources/Public-Filings. NYGB will host its regular Quarterly Review Webinar on November 27, 2018 from 2pm – 4pm, to discuss NYGB’s latest developments and activities from its most recent fiscal quarter, including newly closed transactions.⁹

⁹ Details of the online registration portal can be found by clicking: [NYGB Q3 2018 Quarterly Review Webinar](#)

4 Quarterly Metrics

Required metrics for the period July 1, through September 30, 2018 are set out in [Table 1](#).¹⁰

Table 1. Quarterly Metrics

Quarterly Metric	Prior Quarter	Current Quarter
Capital Position		
▪ Authorized Capital (\$)	\$1.0 billion	\$1.0 billion
▪ Authorized Administrative Expenses (\$)	\$17.6 million	\$17.6 million
▪ Authorized Evaluation Expenses (\$)	\$4.0 million	\$4.0 million
Operational Matters		
▪ Cumulative Revenues (\$) ¹¹	\$38.9 million	\$44.4 million
▪ Cumulative Operating Expenses (\$) ¹²	\$27.4 million	\$30.0 million
▪ Direct Operating Expenses (\$)	\$16.3 million	\$18.0 million
▪ Allocated Expenses (\$)	\$11.1 million	\$12.0 million
▪ Credit Facility (if in place)		
▪ Credit Facility Amount (\$)	Not Applicable	Not Applicable
▪ Credit Facility Drawn Amount (\$)	Not Applicable	Not Applicable
▪ Credit Facility Fees & Interest (Cumulative) (\$)	Not Applicable	Not Applicable
Investment Portfolio		
▪ Committed Funds (\$)	\$91.6 million	\$116.9 million
▪ Deployed Funds (\$) ¹³	\$242.3 million	\$260.1 million
▪ Current Portfolio (\$) ¹⁴	\$333.9 million	\$376.9 million
▪ Overall Investments to Date (\$)	\$522.3 million	\$580.1 million
▪ Total Project Costs (Cumulative) (\$) ¹⁵	In the range of \$1.46 - \$1.70 billion	In the range of \$1.44 - \$1.68 billion ¹⁶

¹⁰ NYGB monitors its counterparties' clean energy project installations throughout the duration of each investment through the receipt and review of periodic reports. Based on information received, NYGB continually manages the actual and expected energy and environmental benefits across its portfolio. As new information becomes available informing NYGB of NYS market uptake of clean energy projects, NYGB may correspondingly adjust (up or down) the overall portfolio's high and low estimated Total Project Costs and energy and environmental metrics (identified at closing of each investment, working with the relevant clients and counterparties and reflected in Transaction Profiles). This constant monitoring and refinement of expected outcomes improves the accuracy of NYGB's portfolio-level estimation of impact benefits as it works towards meeting the CEF objectives to support NYS CES, SEP and other clean energy goals. Given such periodic adjustments, the aggregate estimated benefits reported in Quarterly Reports are the most up-to-date estimates (and so no longer will reflect the sum of the low and high estimated benefits specified in the Transaction Profiles at the time of each transaction close).

¹¹ Cumulative Revenues reflect quarterly fair market value adjustments related to NYGB capital held in U.S. Treasury securities, consistent with GAAP. In addition, Cumulative Revenues are always stated net of impairments.

¹² Currently includes \$121,359 in Evaluation Expenses.

¹³ Deployed Funds as presented in [Table 1](#) is net of all capital repaid to the reporting date.

¹⁴ The dollar value of the Current Portfolio is expected to fluctuate from quarter to quarter, including to reflect any decreases in Committed Funds and/or Deployed Funds. Decreases in Committed Funds could occur, for example, in connection with the release of undrawn funds at the end of an availability period or otherwise consistent with the terms of an investment, while decreases in Deployed Funds occur primarily when NYGB investments are repaid from time to time, allowing those monies to be recycled into new clean energy investments in the State, generating further benefits for ratepayers.

¹⁵ Further to the definition of "Total Project Costs (Cumulative)" in the Metrics Plan (see page 15), Total Project Costs (Cumulative) may include fair market value ("FMV") data for a subset of NYGB's investments. FMV is an estimated market valuation of fully installed energy projects provided by NYGB's counterparties and is often required for federal income tax purposes, by institutional investors and for certain grant program purposes unconnected with NYGB. As projects progress and the cost of installed equipment and labor are known and reported to NYGB by its counterparties, NYGB will seek to adjust reported values and replace FMV in its aggregated data sets and periodic reporting with reported actual costs.

¹⁶ Although new transactions were closed during this quarter that are expected to mobilize clean energy project costs in NYS, the net reduction in Total Project Costs period over period is a result of certain transactions where NYGB's ongoing funding commitment has been terminated.

Quarterly Metric	Prior Quarter	Current Quarter
▪ Mobilization Ratio	Tracking at least 3:1 on average across portfolio	Tracking at least 2.7:1 on average across portfolio ^{17 18}
▪ Portfolio Concentrations (%)¹⁹	69.0% Renewable Energy	71.8% Renewable Energy
	9.7% Energy Efficiency	9.6% Energy Efficiency
	21.3% Other	18.6% Other ²⁰
▪ Number & Type of NYGB Investments	27 – Renewable Energy	29 – Renewable Energy
	6 – Energy Efficiency	7 – Energy Efficiency
	5 – Other	5 – Other
▪ Number & General Type of NYGB Counterparties²¹	53 – Local Development Corporation; Global, Corporate and/or Investment Bank; Regional Bank; Specialty Finance Company; Energy Project Developer; Municipal, University, Schools & Hospitals; Energy Technology Provider & Vendors; Government Authority; Insurance Company; Transportation	55 – Local Development Corporation; Global, Corporate and/or Investment Bank; Regional Bank; Specialty Finance Company; Energy Project Developer; Municipal, University, Schools & Hospitals; Energy Technology Provider & Vendors; Government Authority; Insurance Company; Transportation
▪ Estimated Gross Lifetime Energy Saved by Fuel Type from Energy Efficiency Projects (MWh/MMBtu) and/or Estimated Gross Lifetime Clean Energy Generated (MWh) for Committed Funds & Deployed Funds	Estimated Gross Lifetime Energy Saved by Fuel Type (Energy Efficiency): 737,000 – 815,000 MWh; and 3.97 – 4.37 million MMBtu	Estimated Gross Lifetime Energy Saved by Fuel Type (Energy Efficiency): 749,000 – 830,000 MWh; and 4.01 – 4.42 million MMBtu
	Estimated Gross Lifetime Clean Energy Generated: 12.6 – 16.4 million MWh	Estimated Gross Lifetime Clean Energy Generated: 12.5 – 16.2 million MWh ²²

¹⁷ Although new transactions were closed during this quarter that are expected to mobilize clean energy project costs in NYS, the net reduction in Mobilization Ratio period over period is a result of certain transactions where NYGB's ongoing funding commitment has been terminated and a transaction where the financial commitment has been increased.

¹⁸ Given the range of Total Project Costs that NYGB investments mobilize, the Mobilization Ratio also represents a range; currently of 2.5:1 to 2.9:1.

¹⁹ Based on executed transactions and reflecting dollar values invested by NYGB in renewable energy and energy efficiency transactions, each as a proportion of the Current Portfolio.

²⁰ "Other" technology classification includes: CHP, sustainable transportation, fuel cells, energy storage, microgrids and other types of projects that, while falling within "clean energy", are not readily classified as either renewable energy or energy efficiency.

²¹ In reporting the number and type of NYGB counterparties, NYGB seeks to reflect counterparties that are discrete (i.e., where NYGB is involved in different transactions with the same counterparty, that party is counted only once for the purposes of this metric); and directly in the transaction with NYGB (i.e., vendors or other counterparties to NYGB's clients or expected future transaction participants are not counted).

²² Although new transactions were closed during this quarter that are expected to deploy clean energy projects in NYS, the net reduction period over period is a result of certain transactions where NYGB's ongoing funding commitment has been terminated.

Quarterly Metric	Prior Quarter	Current Quarter
<ul style="list-style-type: none"> Estimated Gross First Year²³ Energy Saved by Fuel Type from Energy Efficiency Projects (MWh/MMBtu) and/or Estimated Gross First Year Clean Energy Generated (MWh) for Committed Funds & Deployed Funds 	Estimated Gross First Year Energy Saved by Fuel Type (Energy Efficiency): 50,500 – 56,100 MWh; and 252,000 – 276,000 MMBtu	Estimated Gross First Year Energy Saved by Fuel Type (Energy Efficiency): 51,300 – 57,100 MWh; and 254,000 – 279,000 MMBtu
	Estimated Gross First Year Clean Energy Generated: 526,000 – 682,000 MWh	Estimated Gross First Year Clean Energy Generated: 521,000 – 675,000 MWh ²⁵
<ul style="list-style-type: none"> Estimated Gross Lifetime Energy Saved from CHP (MWh) for Committed Funds & Deployed Funds 	Estimated Gross Lifetime Energy Saved from CHP: 7,070 – 8,640 MWh	Estimated Gross Lifetime Energy Saved from CHP: 7,070 – 8,640 MWh
<ul style="list-style-type: none"> Estimated Gross First Year Energy Saved from CHP (MWh) for Committed Funds & Deployed Funds 	Estimated Gross First Year Energy Saved from CHP: 293 – 358 MWh	Estimated Gross First Year Energy Saved from CHP: 293 – 358 MWh
<ul style="list-style-type: none"> Estimated Gross Lifetime Energy Savings from CHP (MMBtu)²⁴ for Committed Funds & Deployed Funds 	Estimated Gross Lifetime Energy Savings from CHP: -(41,000 – 50,100) MMBtu	Estimated Gross Lifetime Energy Savings from CHP: -(41,000 – 50,100) MMBtu
<ul style="list-style-type: none"> Estimated Gross First Year Energy Savings from CHP (MMBtu) for Committed Funds & Deployed Funds 	Estimated Gross First Year Energy Savings from CHP: -(1,700 – 2,070) MMBtu	Estimated Gross First Year Energy Savings from CHP: -(1,700 – 2,070) MMBtu
<ul style="list-style-type: none"> Estimated Gross Clean Energy Generation Installed Capacity from CHP (MW), if applicable, for Committed Funds & Deployed Funds 	1.6 MW	1.6 MW
<ul style="list-style-type: none"> Estimated Gross Clean Energy Generation Installed Capacity (MW), if applicable, for Committed Funds & Deployed Funds 	442.7 – 567.0 MW	438.5 – 561.8 MW ²⁵
<ul style="list-style-type: none"> Estimated Gross Lifetime GHG Emission Reductions (metric tons) for Committed Funds & Deployed Funds 	7.27 – 9.33 million metric tons	7.21 – 9.25 million metric tons ²⁵
Investment Pipeline		
<ul style="list-style-type: none"> Active Pipeline (In the Quarter) (\$) 	\$542.2 million	\$581.9 million
Investment Process		
<ul style="list-style-type: none"> Proposals Received – Value (Cumulative) (\$) 	\$2.7 billion	\$2.9 billion
<ul style="list-style-type: none"> Approvals - Scoring Committee (Cumulative) (\$) 	\$2.5 billion	\$2.7 billion
<ul style="list-style-type: none"> Approvals - Greenlight Committee (Cumulative) (\$) 	\$1.2 billion	\$1.3 billion
<ul style="list-style-type: none"> Approvals - IRC (Cumulative) (\$) 	\$614.6 million	\$629.0 million

²³ All “estimated gross first year” metrics refer to the first year of estimated gross benefits (e.g., energy saved, installed capacity, GHGs etc.) that are expected to occur when each underlying project is fully installed. This means that estimated gross first year benefits across NYGB’s Portfolio do not (and are not intended to) correspond to installed benefits in any given year, and instead represent cumulative estimated benefits across NYGB’s Portfolio based on transactions executed through the CEF term. Note that underlying projects will usually be installed over one or more years following execution of investment agreements (reflecting project development/implementation and funding deployment cycles). The sum of all estimated gross first year measures will approximate the total annual CEF benefits goals for NYGB investments at the end of the CEF term (i.e., in 2025). As set out in Section 2.2.2 of the Metrics Plan, NYGB reports on installed energy and environmental benefits associated with NYGB’s Portfolio in the prescribed form annually, with such reporting included in the Quarterly Metrics Report for each quarter ending December 31.

²⁴ For CHP systems, energy savings in thermal unit form is computed as the difference between the natural gas displaced by the recovered thermal energy and natural gas consumption by the generator. See www.nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/2015-Distributed-Generation-CHP-Impact-Evaluation-Final.pdf for information on CHP Impact evaluation methods in NYS.

²⁵ Although new transactions were closed during this quarter that are expected to deploy clean energy projects in NYS, the net reduction period over period is a result of certain transactions where NYGB’s ongoing funding commitment has been terminated.

5 Progress Against Plan Deliverables

In its annual Business Plan, filed on June 29, 2018, NYGB identified specific deliverables (the “**Plan Deliverables**”) that collectively mark its progress in implementing key initiatives in the period April 1, 2018 through March 31, 2019 (the “**Plan Year**”).

Progress against the Plan Deliverables is required to be addressed in NYGB’s Quarterly Reports, together with a brief narrative (as appropriate) of status and an explanation of any material variances relative to expectations.

NYGB’s performance against the Plan Deliverables for the quarter ending September 30, 2018 is summarized in [Table 2](#).

Table 2. Status of Plan Deliverables (2018 – 2019)

Category	Deliverable	Status in Quarter Ending September 30, 2018
Strong Active Pipeline		
▪ Active Pipeline	▪ Maintain an Active Pipeline of at least \$450.0 million per quarter on average throughout the Plan Year.	☑ Achieved for this Quarter: Active Pipeline of \$581.9 million .
▪ Targeted Solicitation: Energy Storage	▪ Publicly issue RFI/RFP.	☑ Achieved for this Quarter: NYGB issued RFI 4 in June 2018 targeting energy storage developers and other market participants, in conjunction with the release of the NYS Energy Storage Roadmap.
	▪ Convene energy storage market participants to identify specific market needs and advance product development.	☑ Achieved for this Quarter: NYGB participated in all three of the NYSDPS/NYSERDA Technical Conferences on the Energy Storage Roadmap, presenting on NYGB financing opportunities within the storage sector.
▪ Targeted Solicitation: Solar-Plus-Storage	▪ Publicly issue RFI/RFP.	☑ Ongoing & On Track: Due to be issued in October 2018.
	▪ Convene solar-plus-storage market participants to identify specific market needs and advance product development.	☑ Ongoing & On Track: Due to be convened in November 2018.
▪ Targeted Solicitation: Pay-for-Performance	▪ Publicly issue RFI/RFP.	▪ Not Started: NYGB is continuing to work closely with NYSERDA colleagues to determine and coordinate optimal market engagement strategy as relates to Pay-for-Performance.
	▪ Convene energy efficiency market participants to identify specific market needs and advance product development.	☑ Ongoing & On Track: Due to be convened in November and December 2018.
▪ Targeted Solicitation: Tenant Improvement Financing	▪ Publicly issue RFI/RFP.	☑ Ongoing & On Track: NYGB is working closely with NYSERDA colleagues to determine and coordinate optimal market engagement strategy as relates to Tenant Improvement Financing.
	▪ Convene large property owners and	▪ Not Started: The date for this

Category	Deliverable	Status in Quarter Ending September 30, 2018
	related stakeholders to identify specific market needs and advance product development.	convening is yet to be determined and requires coordination with NYSERDA programs and initiatives.
▪ Targeted Solicitation: Clean Energy for Low-to-Moderate Income (“LMI”) End-Users	▪ Publicly issue RFI/RFP.	☑ Ongoing & On Track: Due to be issued in October 2018.
	▪ Convene LMI stakeholders to identify specific market needs and advance product development.	☑ Ongoing & On Track: Due to be convened in November 2018.
Portfolio Driving Material Clean Energy Investments Across NYS		
▪ Committed Funds	▪ Achieve an average of \$56.25 million in closed transactions per quarter.	☑ Achieved for this Quarter: \$57.8 million of closed transactions in the quarter.
	▪ Commit \$685.0 million (cumulative) to NYGB investments as of March 31, 2019.	☑ Ongoing & On Track: \$580.1 million Overall Investments to Date.
▪ Evaluation	▪ Select independent consultant(s) and finalize scope(s) of work.	☑ Achieved for this Quarter: Independent consultant selected in July 2018.
	▪ Work with NYSERDA and the independent consultant(s) to advance the baseline study of financial market transformation in accordance with the evaluation Work Plan.	☑ Ongoing & On Track: Financial Market Evaluation project commenced in July 2018, and market baselining activities are underway.
	▪ Work with NYSERDA and the independent consultant(s) to advance the impact evaluation.	☑ Ongoing & On Track: NYGB solar PV assets were included in the NY-Sun Solar PV Evaluation study conducted in early 2018. NYSERDA is expected to publish the final evaluation report by the end of 2018.
Mobilizing Private Capital		
▪ Mobilization Ratio	▪ Achieve an average, portfolio-wide Mobilization Ratio of at least 3:1, driving towards a ratio of 8:1 across all NYGB investments by the end of the CEF term in 2025.	☒ Not achieved for this Quarter: Portfolio Mobilization Ratio decreased to an average 2.7:1 in Q3 2018. ^{26 27}
	▪ Evaluate strategies to provide for third-party capital investment at the portfolio level while continuing to deliver more per ratepayer dollar for the benefit of all New Yorkers.	☑ Ongoing & On Track: NYGB continues to work with its advisors and other relevant stakeholders to evaluate third-party capital opportunities as announced by Governor Cuomo in Fall 2017.

²⁶ Given the range of Total Project Costs that NYGB investments mobilize, the Mobilization Ratio also represents a range; currently of 2.5:1 to 2.9:1. See discussion on page 10.

²⁷ Although new transactions were closed during this quarter that are expected to mobilize clean energy project costs in NYS, the net reduction in Mobilization Ratio period over period is a result of certain transactions where NYGB’s ongoing funding commitment has been terminated and a transaction where the financial commitment has been increased.

Schedule – Transaction Profiles

As required by the Metrics Plan, Transaction Profiles for each of the transactions closed during the quarter to which this Report relates are attached.

Supporting the Deployment of New York's Community Solar Projects

Delaware River Solar

In April 2018, NY Green Bank ("NYGB") entered into an agreement with Delaware River Solar, LLC ("DRS") to provide a \$7.0 million bridge loan to finance the interconnection expenses of their community distributed generation ("Community DG") projects in New York State ("NYS"). In July 2018, NYGB committed an additional \$55.0 million to participate in a term loan to finance the capital costs of DRS's Community DG portfolio of projects. These transactions are initially expected to support the deployment of up to 70.0 megawatts ("MW") of solar photovoltaic ("PV") in NYS, providing residents and businesses with a greater variety of energy choices and, ultimately, lower-cost clean energy opportunities.

Transaction Description

DRS is a NY-based solar development company based out of Callicoon, NYS, that finances, builds, and operates Community DG projects. DRS engaged NYGB to provide financing support for the development of the DRS Community DG portfolio in NYS.

Under the New York State Public Service Commission Standardized Interconnection Requirements and Application Process, developers seeking interconnections for their projects are required to make a deposit of 25.0% of the interconnection upgrade estimates followed by full payment 120 business days later. In April 2018, NYGB and DRS closed a Bridge Loan for up to \$7.0 million to finance up to 90.0% of those interconnection payments to NYS utilities, which will be used to finance interconnection expenses for up to 70.0 MW of CDG projects in NYS.¹

In July 2018, NYGB and DRS closed a second transaction that will provide \$55.0 million in term financing of the capital costs associated with the deployment of up to 70.0 MW of CDG projects in NYS.

NYGB is committing a combined \$62.0 million to DRS through the term loan and bridge loan facilities. These commitments are collectively expected to: (i) provide residential subscribers access to reliable, clean, low-cost energy; and (ii) reduce up to 43,360 metric tons of greenhouse gas ("GHG") emissions annually or up to 1,083,900 metric tons of GHG emissions over a 25-year project life. These transactions will help to demonstrate the viability of the Community DG model, drawing new investors and financial institutions into the marketplace, and ultimately lowering the cost of capital. This, in turn, is expected to benefit consumers in the form of broader access to lower-cost clean energy generation.

This Transaction Profile is provided pursuant to the updated "NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0" (the "**Metrics Plan**") developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the "**Commission**") on June 20, 2016.² This Transaction Profile contains specific information in connection with the DRS transactions (which were entered into on April

¹ Under the revised NYS Standardized Interconnection Requirements, within 60 business days of receiving the Coordinated Electric System Interconnection Review results ("**CESIR**"), interconnection applicants must pay the respective utility 25.0% of the interconnection upgrade estimates.

² Case 13-M-0412.

19 and July 9, 2018, respectively), as required by the Metrics Plan.³

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Bridge Loan	\$7.0 million
Asset Loan & Investment	Term Loan	\$55.0 million

Location(s) of Underlying Project(s)

Statewide.⁴ DRS's Community DG solar projects are in regions across NYS.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Counterparty	Delaware River Solar, LLC	Energy Project Developer
Counterparty (current)	New York State Electric & Gas Corporation Rochester Gas & Electric Central Hudson Gas & Electric	Electric Utility
Financier(s)	Tax equity provider(s)	Major U.S. Financial Institution(s)

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Solar Project Developers	Project sponsors are often expected to pay for interconnection upgrade expenses with equity funds as they finalize construction financing arrangements. This results in a relatively inefficient use of sponsor equity, limiting project deployment efforts and effectively restricting the amount of Community DG being deployed in NYS.	The Bridge Loan encourages an efficient use of sponsor equity and supports project development efforts in NYS by bridging the time period project sponsors need in order to finalize financing arrangements for projects that have completed the CESIR process. NYGB's participation creates an easier pathway forward for developers and enables greater deployment of Community DG along with other distributed generation assets throughout the State.
Capital Market Participants	As a relatively new form of clean energy distribution and therefore lesser known business model, Community DG lacks a large volume of financing precedents and has a limited performance history in NYS. As such, it is difficult for private sector capital providers to assess and price the underlying risk exposures associated with Community DG project investments.	These transactions will generate project and customer performance data, which will help draw new investors and financial institutions into the marketplace by demonstrating that competitive risk-return profiles can be achieved by Community DG enabled business models.

³ See Section 4.0, page 8 and Schedule 3.

⁴ Defined as projects located in four or more regions of the State.

Beneficiary	Market Barrier	Financing Solution
Community DG Subscribers	Due to project siting, property ownership, and consumer preference issues, on-site solar project installations may not be viable for a number NYS homeowners, renters, and businesses. This currently limits the number of solar projects getting done to those with perfectly sited homes or businesses.	These transactions support the deployment of Community DG solar projects, which provide those who are not otherwise able to install solar energy generation systems on their property (e.g., homeowners whose rooftops cannot support solar systems, renters, and those who cannot afford solar systems, etc.), with voluntary access to clean, low-cost energy, regardless of their home or business location.

Technologies Involved

Technology	Measures
Renewable Energy	Solar photovoltaic systems

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB’s minimum investment criteria specifically require that “transactions will have the potential for energy savings and/or clean energy generation that will contribute to greenhouse gas [(‘GHG’)] reductions in support of New York’s energy policies”.⁵ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on:⁶

- Estimated gross lifetime and first-year clean energy generated (MWh);
- Estimated gross clean energy generation installed capacity (MW); and
- Estimated gross lifetime and first-year GHG emission reductions (metric tons).

The estimated gross lifetime and first-year energy and environmental impacts of the credit facilities are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated clean energy generated (MWh)	1,648,300	2,060,400	65,930	82,410
Estimated clean energy generation installed capacity (MW) ⁷	56.0	70.0	Not Applicable	
Estimated GHG emission reductions (metric tons)	867,100	1,083,900	34,680	43,360

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. This market evaluation will be conducted on sectors that NYGB has supported and will occur approximately three to five years following initial NYGB capital deployments.⁸ Baseline

⁵ Case 13-M-0412, “Order Establishing New York Green Bank and Providing Initial Capitalization” issued and effective December 19, 2013 of the Commission, Ordering Clause 6 at pages 24 - 25.

⁶ See Metrics Plan, Section 2.0, pages 2 - 6.

⁷ Built clean energy generation capacity at full deployment of funds is the same for first-year and lifetime duration.

⁸ See Metrics Plan, Section 3.3 on page 7.

data will be collected in 2018 - 19 for most indicators as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long-terms.

Short-term progress indicators will identify early activity levels and will be regularly tracked for the duration of the transaction. These include, but are not limited to:

- Size (generation capacity and dollar value) of projects;
- Average and aggregate dollar value of projects;
- Renewable energy generation and GHG emissions reductions;
- Number and type of projects in development and completed; and
- Number and location of projects (by zip code).

Mid and long-term indicators will be expected to show progress through program tracking or market evaluation over time. These include, but are not limited to:

- Favorable financial performance data;
- Favorable technology performance data;
- Increased awareness in clean energy benefits amongst financing entities as a result of favorable technology performance data;
- Investment risk/default rates become increasingly attractive to investors, as a result of positive financial performance data;
- Increased financial market volume for renewable energy projects;
- Decreased project technology costs;
- Scale of clean energy investment increases, due to increased end-use market demand;
- Reduced time to execute clean energy financings; and
- Increased number of financial participants providing similar capital structures.

Proposed Method of Outcome/Impact Evaluation (by NYSERDA) & Timeframe

NYSERDA will evaluate the impact these transactions have had on the clean energy finance markets and the energy/environmental benefits delivered by this transaction.

Market evaluation will address the short, mid, and long-term indicators identified above. Methods will include analysis of program data along with interviews and surveys of market participants (project subscribers, financial community) to track information including but not limited to: participation rates, project scale information, interest in solar financing (generally and with regard to Community DG specifically), and influence of NYGB's participation on financial markets. As noted, baseline data will be collected on most key indicators in 2018 - 19 and later follow-up studies will assess progress against baseline levels. The specific timing of these efforts may be revised based on experience or other factors as the investment evolves.

Impact evaluation will use actual system performance data to understand energy and environmental outcomes. Impact evaluation is expected to include quarterly review and analysis of actual PV portfolio production data collected by DRS. Actual PV portfolio performance will be monitored and documented against expected performance. Impact evaluation will help provide verification of performance, in turn aiding the clean energy finance community in understanding risk in this technology area.

As with all NYGB investments, DRS's projects that receive an incentive or funding from other entities (e.g., utility, other NYSERDA program) will, in accordance with the Metrics Plan, be tracked in order to minimize any double-counting activity on a consolidated basis. As set out in the Metrics Plan, evaluation sampling approaches will also be used as a mechanism to estimate overlap and minimize double counting. Attempts will be made to coordinate market and impact evaluation activities for these projects that receive support from multiple sources in order to maximize the efficiency of data collection and avoid participant survey fatigue.

Driving Standardization of Community Solar Financings in NYS BlueRock Energy Solar, Inc.

NY Green Bank (“NYGB”) is providing a \$775,000 term loan (the “Term Loan”) to a subsidiary of BlueRock Energy Solar, Inc. (“BlueRock”), a NY-based solar developer and full-service energy solutions provider. The Term Loan will be used to finance the acquisition of community distributed generation (“Community DG”) solar projects in NY State (“NYS”) and for other corporate purposes. The Term Loan is secured by the Renovus Rock, LLC project, a 646.0 kW_{dc} Community DG project in Millport, NY.

Transaction Description

BlueRock is developing and operating a portfolio of Community DG projects in NY, with a current pipeline of 20.0 MW_{dc}. In 2017, BlueRock partnered with Renovus Solar, Inc. to develop and build the Renovus Rock, LLC project, a 646.0 kW_{dc} project located in Millport, NY that has been operating since April 2017. BlueRock is now the sole owner of the project. NYGB has provided the Term Loan of \$775,000, secured by the Renovus Rock, LLC project to support the development BlueRock’s Community DG portfolio in NYS.

This transaction is estimated to support the deployment of Community DG projects in the State which will provide commercial and residential project subscribers access to reliable, clean, low-cost energy. As there is increasingly strong demand for Community DG throughout NYS, growth of this asset class through the deployment of projects offers and requires participation by capital providers. Products like the Term Loan are expected to ultimately be offered by private capital providers in future to finance Community DG portfolios-at scale.

This Transaction Profile is provided pursuant to the “NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0” (the “Metrics Plan”) developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the “Commission”) on June 20, 2016.¹ This Transaction Profile contains specific information in connection with the BlueRock transaction entered into on August 31, 2018, as required by the Metrics Plan.²

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Term Loan	\$775,000

Location(s) of Underlying Project

Southern Tier: Project is located in Chemung County.

¹ Case 13-M-0412.

² See Section 4.0, page 8 and Schedule 3.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Clients	Renovus Rock, LLC	Project Company
Counterparty	BlueRock Energy Solar, Inc.	Energy Project Developer

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Solar Project Developers	Project sponsors are often expected to pay for development costs with equity funds as they finalize construction financing arrangements. This results in a relatively inefficient use of sponsor equity, limiting the scaling of project deployment efforts and effectively restricting the amount of Community DG being deployed in NYS.	This transaction encourages an efficient use of sponsor equity and supports project development efforts in NYS. NYGB's participation creates an easier path forward for developers and enables greater deployment of Community DG along with other distributed generation assets throughout the State.
Capital Market Participants	As a relatively new form of clean energy distribution and therefore lesser known business model, Community DG lacks a large volume of financing precedents and has a limited performance history in NYS. As such, it is difficult for private sector capital providers to assess and price the underlying risk exposures associated with Community DG project investments.	This transaction will generate project and customer performance data, which will help draw new investors and financial institutions into the marketplace by demonstrating that competitive risk-return profiles can be achieved by Community DG-enabled business models.
Community DG Subscribers	Due to project siting, property ownership, and consumer preference issues, on-site solar project installations may not be viable for a number NYS homeowners, renters, and businesses. This currently limits the number of solar projects getting done to those with perfectly sited homes or businesses.	This transaction supports the deployment of Community DG solar projects, which provide those who are not otherwise able to install solar energy generation systems on their property (e.g., homeowners whose rooftops cannot support solar systems, renters and those who cannot afford solar systems, etc.), with voluntary access to clean, low-cost energy, regardless of their home or business location.

Technologies Involved

Technology	Measures
Renewable Energy	Solar photovoltaic ("PV") systems

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB’s minimum investment criteria specifically require that “transactions will have the potential for energy savings and/or clean energy generation that will contribute to GHG reductions in support of New York’s energy policies”.³ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on:⁴

- Estimated gross lifetime and first-year clean energy generated (MWh);
- Estimated gross clean energy generation installed capacity (MW); and
- Estimated gross lifetime and first-year GHG emission reductions (metric tons).

The estimated gross lifetime and first-year energy and environmental impacts of the Term Loan are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated clean energy generated (MWh)	17,100	20,900	685	837
Estimated clean energy generation installed capacity (MW) ⁵	0.65	0.65	Not Applicable	
Estimated GHG emissions reductions (metrics tons)	9,000	11,000	360	440

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. Market evaluation activities commenced in 2018 on sectors such as this, that NYGB has supported since inception, consistent with the requirement for such assessments approximately three to five years following initial NYGB capital deployments.⁶ Baseline data is being collected for this sector in 2018 and will be updated in 2019 to include indicators specific to this transaction. Baseline data on indicators will be used as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long-terms.

Output indicators will identify activity levels and will be regularly tracked for the duration of the transaction. These include, but are not limited to:

- Size (generation capacity and dollar value) of acquired projects;
- Average and aggregate dollar value of acquired projects;
- Number and type of acquired projects in development and completed; and
- Number and location of acquired projects (by zip code).

Outcome indicators will be expected to show progress through program tracking or market evaluation over time. These include, but are not limited to:

³ Case 13-M-0412, “Order Establishing New York Green Bank and Providing Initial Capitalization” issued and effective December 19, 2013 of the Commission, Ordering Clause 6 at pages 24 - 25.

⁴ See Metrics Plan, Section 2.0, pages 2 - 6.

⁵ Built clean energy generation capacity at full deployment of funds is the same for first-year and lifetime duration.

⁶ See Metrics Plan, Section 3.3 at page 7.

- Increased awareness in benefits amongst financing entities as a result of favorable technology performance data;
- Favorable financial performance data;
- Favorable technology performance data;
- Market volume of BlueRock projects increases;
- Investment risk/default rates become increasingly attractive to investors, as a result of positive financial performance data;
- Increased financial market volume for clean energy projects;
- Decreased project technology costs;
- Scale of clean energy investment increases, due to increased end-use market demand;
- Reduced time to execute clean energy financings; and
- Increased number of financial participants providing similar capital structures.

Proposed Method of Outcome/Impact Evaluation (by NYSERDA) & Timeframe

NYSERDA will evaluate the impact this transaction has on the clean energy finance markets and the energy/environmental benefits delivered by this transaction.

Market evaluation will address the outcome indicators identified above. Methods will include analysis of program data along with interviews and surveys of market participants (project subscribers, financial community) to track information including but not limited to: participation rates, project scale information, interest in solar financing (generally and with regard to Community DG specifically), and influence of NYGB's participation on financial markets. As noted, baseline data is being collected on most key indicators in 2018 and later follow-up studies will assess progress against baseline levels. The specific timing of these efforts may be revised based on experience or other factors as the investment evolves.

Impact evaluation will assess the performance of the project funded under the Term Loan to verify that the array is generating clean energy within the estimated range set forth in this Transaction Profile.

As with all NYGB investments, projects that receive an incentive or funding from other entities (e.g., utility, other NYSERDA program) will, in accordance with the Metrics Plan, be tracked in order to minimize any double-counting activity on a consolidated basis. As set out in the Metrics Plan, evaluation sampling approaches will also be used as a mechanism to estimate overlap and minimize double counting. Attempts will be made to coordinate market and impact evaluation activities for these projects that receive support from multiple sources in order to maximize the efficiency of data collection and avoid participant survey fatigue.

Expanding Energy Efficiency Opportunities for Small & Medium Sized Commercial Customers in New York State

NYCEEC / Ecosave Inc.

NY Green Bank (“NYGB”) is committing up to \$2.0 million to participate in a construction-to-term loan for Ecosave Inc. to finance the installation of energy efficiency improvements at a senior care facility in New York State (“NYS”). As a co-lender with the New York City Energy Efficiency Corporation (“NYCEEC”), NYGB’s participation in this transaction supports at least 12,230 MWh of electricity savings, and 38,170 MMBtu of fuel savings to the customer. The transaction also establishes greater performance history for energy efficiency projects with small-to-medium-sized, unrated commercial customers.

Transaction Description

Ecosave Inc. is an energy efficiency services company providing turnkey design, engineering, construction, management, and maintenance services for mid-sized commercial customers through an energy services agreement (“ESA”) model. NYGB is committing \$2.0 million alongside capital from NYCEEC to finance an ESA between Ecosave and the Hebrew Home at Riverdale, a senior care facility in the Bronx. Using NYGB capital, energy efficiency improvements including LED lighting retrofits and Heating, Ventilation and Air Conditioning (“HVAC”) upgrades will be installed at no upfront cost to the customer, and a portion of the resulting energy savings will be used to repay the lenders over time.

This transaction establishes greater performance history for energy efficiency projects with medium-sized, unrated, commercial and industrial (“C&I”) customers, an asset class that historically has reduced access to commercial capital. The installation is expected to reduce at least 560 metric tons of greenhouse gas (“GHG”) emissions annually or 8,460 metric tons of GHG emissions over the 15-year project life. The transaction will help to demonstrate viability of the ESA model, drawing new investors and financial institutions into the marketplace. This fits within NYGB’s strategy to increase liquidity and drive additional volume in the NYS energy efficiency sector, ultimately lowering the cost of capital for energy efficiency retrofits.

This Transaction Profile is provided pursuant to the updated “NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0” (the “Metrics Plan”) developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the “Commission”) on June 20, 2016.¹ This Transaction Profile contains specific information in connection with the NYCEEC/Ecosave transaction entered into on September 28, 2018, as required by the Metrics Plan.²

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Construction-to-Term Loan	\$2.0 million

Location(s) of Underlying Project(s)

New York City. The project is located in New York City.

¹ Case 13-M-0412.

² See Section 4.0, page 8 and Schedule 3.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Client	Ecosave	Energy Project Developer
Counterparties (current)	NYCEEC Hebrew Home at Riverdale	Specialty Financial Institution Healthcare Provider

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Capital Market Participants	On an individual basis, there is limited private capital support for small to mid-sized energy efficiency transactions. However, insurance companies and funds are more likely to participate on an aggregated basis once a portfolio of projects has achieved meaningful scale.	NYGB's participation in this and other small to mid-sized energy efficiency transactions enables the aggregation of portfolios that private capital providers can participate in at scale. NYGB's role as an aggregator enables larger institutions to participate in portfolios of small to mid-sized transactions that individually might not meet scale thresholds.
Commercial and/or Non-Profit Customers	Commercial and/or non-profit entities often require low upfront costs and immediate savings to justify undertaking energy improvement projects. They are also often looking for an off-balance sheet solution. To offer this type of solution, developers must have access to financing to cover the upfront costs associated with an ESA.	NYGB and NYCEEC are providing capital for an energy efficiency developer to offer an off-balance sheet solution that is cash flow positive for the customer from day one. NYGB's involvement helps to grow the market for this type of transaction, which can be replicated for other commercial and non-profit customers, resulting in energy and cost savings for more small and medium-sized businesses in NYS.

Technologies Involved

Technology	Measures
Energy Efficiency	LED lighting, HVAC, variable frequency drives, energy recovery wheel (i.e., rotary heat exchanger), building automation system

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB's minimum investment criteria specifically require that "transactions will have the potential for energy savings and/or clean energy generation that will contribute to GHG reductions in support of New York's energy policies".³ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on:⁴

- Estimated gross lifetime and first-year electricity savings from efficiency measures (MWh);
- Estimated gross lifetime and first-year fuel savings from efficiency measures (MMBtu); and
- Estimated gross lifetime and first-year GHG emission reductions (metric tons).

³ Case 13-M-0412, "Order Establishing New York Green Bank and Providing Initial Capitalization" issued and effective December 19, 2013 of the Commission, Ordering Clause 6 at pages 24 - 25.

⁴ See Metrics Plan, Section 2.0, pages 2 - 6.

The estimated gross lifetime and first-year energy and environmental impacts of the term loan are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Electricity savings (MWh)	12,230	15,300	820	1,020
Energy savings (fuel) (MMBtu)	38,170	47,710	2,540	3,200
GHG emission reductions (metric tons)	8,460	10,580	560	705

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. Market evaluation activities commenced in 2018 on sectors such as this, that NYGB has supported since inception, consistent with the requirement for such assessments approximately three to five years following initial NYGB capital deployments.⁵ Baseline data is being collected in 2018 and will be updated in 2019 to include indicators specific to this transaction. Baseline data on indicators will be used as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long-terms.

Output indicators will identify early activity levels and will be regularly tracked for the duration of the transaction. These include, but are not limited to:

- Number and type of projects in development and completed;
- Average and aggregate dollar value of projects;
- Number and location of projects;
- Size of projects; and
- Energy savings and GHG emission reductions.

Outcome indicators will be expected to show progress through program tracking or market evaluation over time. These include, but are not limited to:

- Favorable financial performance data;
- Favorable technology performance data;
- Increased awareness of energy efficiency benefits amongst financing entities as a result of favorable technology performance data;
- Market volume of energy efficiency projects increases;
- Investment risk/default rates become increasingly attractive to investors, as a result of positive financial performance data;
- Increasingly positive view of banks and institutional investors on investment value of energy efficiency receivables;
- Scale of energy efficiency investment increases, due to increased end-use market demand;
- Replication of finance model by other developers;
- Decreased project technology costs;
- Decreased financing costs;
- Increased number of energy efficiency financings;
- Increased number of financial participants providing similar capital structures;
- Increased financial market volume for energy efficiency projects; and
- Reduced time to execute energy efficiency financings.

⁵ See Metrics Plan, Section 3.3 at page 7.

Proposed Method of Outcome/Impact Evaluation (by NYSERDA) & Timeframe

NYSERDA will evaluate the impact this transaction has had on the clean energy finance markets and the energy/environmental benefits delivered by this transaction.

Market evaluation will address the short, mid, and long-term indicators identified above. Methods will include analysis of program data along with interviews and surveys of market participants (customers, developers, financial community) to track information including but not limited to: project scale information, interest in energy efficiency financing, and influence of NYGB's participation on financial markets. As noted, baseline data is being collected on most key indicators in 2018 and later follow-up studies will assess progress against baseline levels. The specific timing of these efforts may be revised based on experience or other factors as the investment evolves.

Impact evaluation will use actual performance data to understand energy and environmental outcomes. Impact evaluation is expected to include annual review and analysis of actual energy savings data collected by Ecosave. Actual energy savings performance will be monitored and documented against expected performance. Impact evaluation will help provide verification of performance, in turn aiding the clean energy finance community in understanding risk in this technology area.

As with all NYGB investments, Ecosave projects that receive an incentive or funding from other entities (e.g., utility, other NYSERDA program) will, in accordance with the Metrics Plan, be tracked in order to minimize any double-counting activity on a consolidated basis. As set out in the Metrics Plan, evaluation sampling approaches will also be used as a mechanism to estimate overlap and minimize double counting. Attempts will be made to coordinate market and impact evaluation activities for these projects that receive support from multiple sources in order to maximize the efficiency of data collection and avoid participant survey fatigue.