



NY Green Bank
A Division of NYSERDA

NY Green Bank

Annual Review 2017 – 18
and
Annual Business Plan 2018 – 19

Case 13-M-0412

June 29, 2018

Contents

Letter from the President of NY Green Bank 1

Part I: NY Green Bank Overview

1. NY Green Bank Overview 4

- 1.1 Review & Plan Purpose 4
- 1.2 Mission 5
- 1.3 Key Investment Criteria 6
- 1.4 Other Investment Considerations 6
 - 1.4.1 Additionality 6
 - 1.4.2 Transformation of Clean Energy Financing Markets 7
 - 1.4.3 Impact & Public Benefits 7
 - 1.4.4 Transaction Size & Participation 7
- 1.5 Goals & Key Performance Indicators 8
- 1.6 Impact & Reporting 9
 - 1.6.1 Methodology to Assess NYGB Impact 10
 - 1.6.2 Impact Reporting Process 10

Part II: Annual Review 2017 – 18

2. Annual Review 2017 – 18 14

- 2.1 Performance in the 2017 – 18 Plan Year 14
- 2.2 2017 – 18 Plan Deliverables 18
- 2.3 Continued Portfolio Growth & Active Pipeline Commentary 19
 - 2.3.1 Commentary on the Active Pipeline 20
- 2.4 Financial Performance & Self-Sufficiency 22
 - 2.4.1 Revenues, Expenses & Net Income 22
 - 2.4.2 Capital & Liquidity Management 24
- 2.5 Impact Benefits for all New Yorkers 25
- 2.6 Issued Targeted Solicitations 27
- 2.7 Enhanced Investment Proposal Submission Process & Data Collection 28
- 2.8 Proposer, Capital Provider & Stakeholder Engagement 28
 - 2.8.1 Proposer & Capital Provider Engagement 28
 - 2.8.2 Other Stakeholder Engagement 29
- 2.9 Evaluation, Measurement & Verification 29
 - 2.9.1 Impact Evaluation 29
 - 2.9.2 Financial Market Transformation 30
- 2.10 Scaled Portfolio Management 30
- 2.11 Risk Framework & Processes 30
- 2.12 Additional Activities 31
 - 2.12.1 Strategic Advisory & Capital Arranger Services 31
 - 2.12.2 Green Bank Network Activities 31
 - 2.12.3 Continued NYS Leadership 32

Part III: Annual Business Plan 2018 – 19

3. Annual Business Plan 2018 – 19 34

- 3.1 2018 – 19 Plan Deliverables 34
- 3.2 Build, Maintain & Actively Manage the NYGB Pipeline 36
- 3.3 Remain Self-Sufficient 36
- 3.4 2018 – 19 Activities to Meet Objectives & Deliverables 37
 - 3.4.1 Focus on CDG Solar Projects 37
 - 3.4.2 Focus on Energy Efficiency Markets 38

3.4.3	Focus on Energy Storage and Solar-Plus-Storage.....	38
3.4.4	Focus on LMI Communities	39
3.4.5	Work With Other Existing NYS Energy Programs & Initiatives.....	39
3.4.6	Mobilize Further Capital to Invest in NYS Sustainable Infrastructure	40
3.4.7	Perform Baseline Financial Market Transformation and Impact Evaluations	41
3.4.8	Maintain Transparency.....	41
3.4.9	Constantly Improve Operations & Follow Best Practices	41
3.4.10	Attract & Retain Required Staff.....	42

4. Glossary & Definitions	43
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Figures

Figure 1: Mission Statement.....	5
Figure 2: Key Investment Criteria.....	6
Figure 3: First-Year Impact Calculation Methodology	10
Figure 4: Estimating Impact & Reporting Benefits.....	12
Figure 5: 2017 – 18 Overarching Objectives & Summary Results.....	14
Figure 6: Overall Investments to Date, Month-By-Month, for Previous Two Fiscal Years (\$ millions)	20
Figure 7: Transaction Status & Active Pipeline (\$ millions): Year-on-Year Review	20
Figure 8: Cumulative Revenues vs. Cumulative Expenses (\$ millions).....	23
Figure 9: NYGB On Track to Meet Key CEF Goals as of March 31, 2018	26
Figure 10: Estimated Portfolio Lifetime GHG Emissions Reductions as of March 31, 2018.....	27
Figure 11: 2018 – 19 Plan Objectives	34
Figure 12: Governance & Oversight Environment.....	57
Figure 13: Transaction Process.....	60

Tables

Table 1: Goals, Key Performance Indicators & Metrics.....	8
Table 2: 2017 – 18 Plan Deliverables & Status.....	18
Table 3: New Transactions, FY ended March 31, 2018 (\$ millions)	19
Table 4: Net Income (\$ thousands)	24
Table 5: Allocated Ratepayer Capital Position (\$ thousands).....	25
Table 6: 2018 – 19 Plan Deliverables.....	35
Table 7: Actual & Forecast Revenues, Expenses & Net Income (Loss) (\$ millions)	37
Table 8: Key Business Risks	54

Schedules

Schedule 1: 2017 – 18 Investments	49
Schedule 2: Risk Management & Oversight Framework.....	53
Schedule 3: Investment Process	60

Letter from the President of NY Green Bank

During the fiscal year ending March 31, 2018, NY Green Bank continued to implement Governor Andrew M. Cuomo's vision of working in collaboration with the private sector to accelerate clean energy deployment in New York State and to transform financing markets. At fiscal year-end, NY Green Bank had closed \$457.5 million in cumulative transactions toward fulfilling its mission. To the best of our knowledge, no other investment manager in the United States with an exclusively sustainable infrastructure credit focus has closed as many transactions and committed as much capital as NY Green Bank.

The 2017 – 18 fiscal year was transformative for NY Green Bank. NY Green Bank closed its first transactions in the second half of the fiscal year ending March 31, 2016, and in the fiscal year ending March 31, 2017 continued to commit capital at a pace above expectations. In the 2017 – 18 fiscal year, NY Green Bank matured as an investment management organization. We continued to develop a strong pipeline and close on commitments as in past years and also actively managed a large portfolio of transactions that had closed in prior periods. In addition to sourcing, structuring, negotiating and executing new commitments, we reviewed portfolio performance on a monthly and quarterly basis; managed hundreds of portfolio fundings along with interest and principal payments; negotiated dozens of waivers and amendments; and prepared, publicly released and presented quarterly and annual reports (both financial and environmental).

Not only did NY Green Bank maintain its self-sufficiency during fiscal year 2017 – 18, but also generated revenues such that cumulative revenues exceeded cumulative expenses since inception. NY Green Bank committed \$111.4 million to new investments, the majority of which financed new asset classes and business models where we provided substantial additionality in capital deployment to sustainable infrastructure throughout New York State. Examples include bike share, fuel cells, and interconnection finance, each of which was innovative in terms of the business model and/or the credit structuring technique utilized. Furthermore, each transaction contributed to the maintenance of an average portfolio-wide expected total value of projects deployed in the New York State of at least three times NY Green Bank's commitment.

As the largest Green Bank in the nation, NY Green Bank intends to accelerate our momentum and impact in fiscal year 2018 – 19, and to support key initiatives of Governor Cuomo that are expected to result in substantial market activity in New York State. Such activities include solar-plus-storage, stand-alone storage, energy efficiency supported by new pay-for-performance initiatives, and small utility-scale Clean Energy Standard solicitations. In addition, we expect to finance a substantial portion of transactions currently in our growing active pipeline, which includes community distributed generation, a model that has benefited from NY Green Bank's willingness to lead the market with innovative financing approaches.

NY Green Bank will also work to overcome financing issues that are likely to arise as new transactions and business models evolve around electric vehicle charging infrastructure, controlled environment agriculture, offshore wind and anaerobic digestion. We will continue to be proactive, innovative, solutions-oriented and responsive to market participants as we support the deployment of clean energy and sustainable infrastructure financing in New York State. We will work to prudently manage our portfolio and be transparent in reporting both our financial and environmental results and impact. We will continue to invest in our organizational infrastructure and in growing our team in a manner that will provide a platform for greater clean energy deployment and portfolio management volumes for years to come.

As relates to Governor Cuomo's announcement in Fall 2017 that NY Green Bank would seek at least an additional \$1.0 billion from the private sector and expand its investment activities nationally, we will continue to explore various potential capital-raising and expansion opportunities, all of which will deliver even greater benefits to New Yorkers.

Thank you to Governor Cuomo, the NY Green Bank team, our NYSERDA colleagues, our Advisory Committee, private market participants and counterparties, and our many other constituents for your support of NY Green Bank's contributions to the achievement of New York State's climate and clean energy goals. This is an exciting time for NY Green Bank and the clean energy markets. There is much to be accomplished and I'm

confident that the talent and dedication of the NY Green Bank team and our valued colleagues and constituents will enable us to fulfill our objectives.

Sincerely,

A handwritten signature in blue ink, appearing to read "Alfred Griffin". The signature is stylized and cursive.

Alfred Griffin
President

June 29, 2018

Part I

NY Green Bank Overview

1. NY Green Bank Overview

NY Green Bank (“**NYGB**”) is a \$1.0 billion investment fund designed to accelerate clean energy deployment in NYS and is globally recognized as a leading sustainable infrastructure investor. NYGB’s participation in a growing number of transactions spurs clean energy development in New York State (“**NYS**” or the “**State**”), with benefits for New York residents and more broadly. NYGB is a division of the New York State Energy Research and Development Authority (“**NYSERDA**”).

Since its formation, NYGB has worked to increase the size, volume and breadth of sustainable infrastructure investment activity throughout the State, expand the base of investors focused on NYS clean energy and increase market participants’ access to capital on commercial terms. To achieve these objectives, NYGB collaborates with the private sector to develop transaction structures and methodologies that overcome typical clean energy investment barriers. These barriers include challenges in evaluating risk and addressing the needs of distributed energy and efficiency projects where underwriting may be oriented toward larger opportunities and/or toward groups of somewhat homogeneous investments that make up larger portfolios.

NYGB invests where there are limited precedents, less familiar asset structures and/or deal structuring complexities that require specialized skillsets. NYGB applies project and structured finance transaction approaches that isolate project assets, allocate and protect against downside risks to the greatest possible extent and monetize low volatility project-generated cash flows to generate appropriate risk-adjusted returns.

NYGB focuses on opportunities that create attractive precedents, standardized practices and roadmaps that capital providers can readily replicate and scale. As funders “crowd in” to a particular area within the sustainable infrastructure landscape, NYGB moves on to other areas that have received less investor interest.

To solve client problems in real-time and address capital provider needs, NYGB operates within private sector time horizons and commercial norms. For more information on NYGB’s growing investment portfolio (“**Investment Portfolio**”) please see www.greenbank.ny.gov/Investments/Portfolio. For general information and to see how industry participants and capital providers can do business with NYGB, please see www.greenbank.ny.gov.

Defined terms used, but not separately described, in the text of this document have the meanings given to them in Part IV.

1.1 Review & Plan Purpose

NYGB has prepared this Annual Review 2017 – 18 and Annual Business Plan 2018 – 19 (the “**Review and Plan**”) to inform all stakeholders, existing and potential clients, counterparties and all other interested entities of NYGB’s:

- (a) Activities and performance in the 2017 – 18 fiscal year; and
- (b) Strategic objectives for 2018 – 19 fiscal year, together with deliverables and a discussion of the activities NYGB will undertake to achieve these objectives.

To help navigate the information contained in this document, this Review and Plan has been structured into three separate parts:

- (a) Part I: NY Green Bank Overview, providing information about NYGB’s mission and role in the context of energy strategy within NYS;
- (b) Part II: Annual Review, describing the activities of NYGB in 2017 – 18 and its performance against the previous business plan; and
- (c) Part III: Annual Business Plan 2018 – 19.

NYGB seeks to maintain alignment with the strategic direction provided by the NYS Public Service Commission (the “**Commission**”) in the “Order Authorizing the Clean Energy Fund Framework” issued and effective January

21, 2016 (the “**CEF Order**”).¹ This includes, importantly, that NYGB activities continue to contribute directly to the objectives of the current State Energy Plan (“**SEP**”) and Clean Energy Standard (“**CES**”) “through [NYGB’s] ability to drive down costs associated with meeting [SEP and CES] objectives.”²

This Review and Plan also reflects NYGB’s role in New York’s Clean Energy Fund (“**CEF**”), which was created pursuant to the CEF Order. The CEF is a \$5.3 billion commitment over 10 years³ and is part of Governor Cuomo’s Reforming the Energy Vision (“**REV**”) strategy to advance clean energy growth and innovation, while driving economic development across NYS and reducing ratepayer collections. For more information on the CEF and REV strategy, see www.nyserda.ny.gov/About/Clean-Energy-Fund and www.ny.gov/programs/reforming-energy-vision-rev.

Each investment made by NYGB contributes to the primary CEF outcomes of greenhouse gas (“**GHG**”) emissions reductions, customer bill savings, energy efficiency, clean energy generation and mobilization of capital. In turn, the CEF objectives support the CES goal of 50.0% energy generation from renewable sources and the SEP initiatives that are equivalent to a 23.0% reduction in building GHG emissions from 2012 levels and a 40.0% reduction in GHG emissions from 1990 levels – all to be achieved by 2030.

In addition, NYGB reviews its business against targets to further the above, including various energy-related announcements made by Governor Cuomo, key energy-related initiatives of NYS under REV, CES and SEP, in addition to the programmatic priorities of NYSERDA.

This Review and Plan is a product of NYGB’s annual strategy review and business planning process contemplated at its Inception.⁴ Previous business plans (respectively the “**2014 Plan**”,⁵ “**2015 Plan**”,⁶ “**2016 Plan**”⁷ and “**2017 Plan**”⁸) are available at www.greenbank.ny.gov/Resources/Public-Filings.

1.2 Mission

NYGB’s mission is set out in [Figure 1](#).

Figure 1: Mission Statement

To accelerate clean energy deployment in New York State
by working in collaboration with the private sector
to transform financing markets

The key elements of NYGB’s mission are to collaborate with private sector participants, implement solutions that overcome market barriers and transform financial markets to attract greater private sector investment in clean energy by enabling greater scale, new and expanded asset classes and increased liquidity.

NYGB observed many common financial market barriers to clean energy and sustainable infrastructure projects in the State that constrain growth in the sector, including: lack of transaction standardization; insufficient scale and volume; unfamiliar project sponsors and counterparty credits; inadequate data on underlying debt (or equity) investments and/or technology performance; and underdeveloped or nonexistent capital markets for clean energy projects. Variation in these themes exists across investments, with such barriers limiting investment at scale into otherwise attractive renewable energy, energy efficiency and other sustainable infrastructure opportunities.

¹ Cases 14-M-0094 et al., page 74.

² *Ibid.*

³ January 2016 through December 2025.

⁴ “**Inception**” means the inception of NYGB pursuant to and as of the date of, the Initial Capitalization Order in December 2013. Case 13-M-0412, “Order Establishing New York Green Bank and Providing Initial Capitalization”, issued and effective December 19, 2013 (the “**Initial Capitalization Order**”), Ordering Clause 5, page 24.

⁵ NY Green Bank Business Plan, Case 13-M-0412, filed June 2014.

⁶ NY Green Bank Business Plan, Case 13-M-0412, filed June 2015.

⁷ NY Green Bank Business Plan, Case 13-M-0412, filed June 2016.

⁸ NY Green Bank Business Plan, Case 13-M-0412, filed June 2017.

NYGB follows certain important operating principles to increase private sector market participation:

- (a) Focusing on wholesale capital markets (that is, providing structured financial products to developers and specific projects that result in clean energy benefits for all New Yorkers at scale – rather than funding consumers/homeowners directly);
- (b) Structuring financial products to foster replicable sustainable infrastructure investments;
- (c) Pricing financial products consistently with commercial approaches to credit quality and risk, earning a return on investment to preserve and grow NYGB’s capital base;
- (d) Collaborating with, rather than competing against market participants that: (i) can engage, or (ii) are already engaging the financial markets, but where that engagement or progress is constrained by a lack of available financing; and
- (e) Recycling its capital into new clean energy projects when income is generated and as investments mature or are realized, maximizing the impact of its capital across multiple deployments.

1.3 Key Investment Criteria

NYGB’s key investment criteria, applied to all potential transactions, are defined by the Commission in the Initial Capitalization Order and are reproduced in [Figure 2](#).⁹

Figure 2: Key Investment Criteria

1. Transactions will have expected financial returns such that the revenues of NYGB on a portfolio basis will be in excess of expected portfolio losses;
2. Transactions will be expected to contribute to financial market transformation in terms of:
 - Scale;
 - Improved private sector participation;
 - Level of awareness and confidence in clean energy investments; and/or
 - Other aspects of market transformation; and
3. Transactions will have the potential for energy savings and/or clean energy generation that will contribute to GHG emissions reductions in support of New York’s clean energy policies.

1.4 Other Investment Considerations

In applying the key investment criteria, NYGB also considers additionality, market transformation, impact benefits and transaction size and participation, each of which is discussed below.

1.4.1 Additionality

Additionality is the unique benefit that NYGB brings to the proposed financing or investment arrangement if any proposed project:

- (a) Would likely not occur given the current state of the private markets; or
- (b) Might occur in the private markets but would likely:
 - i. Involve less favorable terms as to tenor, cost, fees and other key transaction terms;

⁹ Ordering Clause 6, pages 24 – 25.

- ii. Not happen at the market breadth needed to scale the sector;
- iii. Not involve the same level of focus on the NYS market; and/or
- iv. Not happen as quickly.

1.4.2 Transformation of Clean Energy Financing Markets

NYGB also assesses each proposed investment's contribution to clean energy financial market transformation in NYS through the:

- (a) Type and amount of capital applied to total project costs (referred to as mobilization);
- (b) Ability to scale or replicate the transaction to drive larger volume(s) of clean energy and sustainable infrastructure finance; and
- (c) Increased awareness of and confidence in clean energy and sustainable infrastructure investments, driven by and reflected in:
 - i. Evolution of private sector institutional underwriting; and
 - ii. Progress made toward capital markets solutions for:
 - Contract standardization;
 - Aggregation; and
 - Clean energy financial performance data collection and utilization.

1.4.3 Impact & Public Benefits

NYGB also considers the expected impact and public benefits of potential investments as determined by:

- (a) Estimated energy savings and/or clean energy generation;
- (b) Other estimated GHG reduction benefits to the extent included in proposed project(s) (outside those achieved through direct energy savings and/or clean energy generation); and
- (c) The strength of the plan pursuant to which a counterparty (or designated third-party) tracks, records and reports performance data.

1.4.4 Transaction Size & Participation

NYGB considers various transaction sizes and participation levels (i.e., senior secured debt, equity), but largely expects its participation in any investment opportunity (whether related to a single asset or project portfolio) to fall within the range of \$5.0 – \$50.0 million.

Details of the types of transactions that NYGB considers, including illustrative guidelines for eligible technologies, are included in NYGB's open solicitations for proposals (the "**Investment RFPs**").¹⁰ NYGB provides additional request for proposal ("**RFP**") resources to aid prospective proposers in the RFP process such as an indicative term sheet and a template for reporting quarterly impacts.¹¹

¹⁰ At the time of this Review and Plan, NYGB has four open investment solicitations, all of which are continuous: RFP 1: "Clean Energy Financing Arrangements"; RFP 7: "Construction & Back-Leveraged Financing for Ground-Mounted Solar Generation Systems Targeting Corporate & Industrial End-Users"; RFP 8: "Efficiency & Renewables Financing Arrangements: Building & Property Owners"; and RFP 10: "Construction and Aggregation-to-term Financing for CDG Solar Projects". All Investment RFPs and access to the portal for the online submission of investment proposals are available at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

¹¹ See www.greenbank.ny.gov/Work-with-Us/RFP-Resources.

1.5 Goals & Key Performance Indicators

The mission and key investment criteria shape NYGB’s goals, which in turn drive NYGB’s business operations and tactical initiatives. Additionally, NYGB’s goals guide all stakeholders (such as employees, clients, counterparties, industry participants, investors, ratepayers and the public) as to where NYGB will focus its efforts and resources.

To manage NYGB’s performance, NYGB sets key performance indicators (“KPIs”) and tracks them to assess NYGB’s progress toward its goals. These KPIs tie to NYGB’s metrics and periodic reporting pursuant to the Metrics, Reporting & Evaluation Plan Version 3.0 (the “Metrics Plan”).¹² KPIs and metrics are measures that may be used to evaluate NYGB’s performance and provide transparency into and accountability for NYGB’s activities. These KPIs are set out in Table 1.¹³

Table 1: Goals, Key Performance Indicators & Metrics

NYGB Goals	Key Performance Indicators	Metrics
Attract Capital to Clean Energy Markets in NYS	▪ Mobilizing capital	▪ Mobilization Ratio: ^{14,15} Total Project Costs (Cumulative) to NYGB Overall Investments to Date
	▪ Portfolio driving material clean energy investments across NYS	▪ Total Project Costs (Cumulative) enabled by NYGB (\$)
	▪ Growing portfolio	▪ Overall Investments to Date (\$)
	▪ Strong Active Pipeline	▪ Active Pipeline (\$)
	▪ Stimulating new clean energy proposals in NYS	▪ Investment Proposals Received (Cumulative) (\$)
Be Self-Sufficient	▪ Revenue growth paving the way to self-sufficiency	▪ Revenues (Cumulative) (\$) ▪ Expenses (Cumulative) (\$)
Deliver Energy & Environmental Impact Benefits	▪ Contributing to CEF objectives and in turn REV and the CES (by supporting increased deployment of renewable energy, distributed energy and energy efficiency)	▪ Estimated energy and environmental benefits: <ul style="list-style-type: none"> - Lifetime and First-Year energy saved by fuel type from energy efficiency projects (MWh/MMBtu); - Lifetime and First-Year clean energy generated (MWh); - Lifetime and First-Year energy saved from CHP (MWh/MMBtu); - Clean energy generation installed capacity (MW)

¹² Case 13-M-0412, filed with the Commission on June 20, 2016.

¹³ Table 1 contains selected metrics that most directly tie to NYGB’s goals and is not intended to be a complete listing of all metrics on which NYGB reports. For these details, see NYGB’s Quarterly and Annual Metrics reports available at www.greenbank.ny.gov/Resources/Public-Filings.

¹⁴ “**Mobilization Ratio**” represents the number of dollars of Total Project Costs mobilized for each dollar committed to investments by NYGB and comprises the ratio of Total Project Costs (Cumulative) to Overall Investments to Date (the latter capped at the total amount of capitalization received from NYS ratepayers).

¹⁵ Note that Mobilization Ratio includes the effects of capital recycling. Central to achieving NYGB’s objectives is its ability to efficiently recycle funds. Unlike a pool of public funds that is dispensed once to qualifying projects as non-refundable grants or subsidies, funds entrusted to NYGB are disbursed under commercial arrangements generating investment income and requiring repayment in accordance with agreed terms for each product and counterparty. This means that as each dollar from NYGB cycles through successive investments, benefits will compound. The effective rate of accumulation of these benefits is directly tied to the weighted average holding periods of the financial products that NYGB provides to its clients. Further, as the commercial markets expand into and increasingly accommodate sustainable infrastructure finance needs previously supported by NYGB, the multiplier effect on NYGB’s activities and investments will continue.

NYGB Goals	Key Performance Indicators	Metrics
		<ul style="list-style-type: none"> from CHP; - Clean energy generation installed capacity (MW); and - GHG emissions reductions (metric tons); and ▪ Installed energy and environmental benefits: <ul style="list-style-type: none"> - Energy saved by fuel type from energy efficiency projects (MWh/MMBtu) and/or actual clean energy generated (MWh); - Primary energy saved from CHP (Btu); - Clean energy generation installed capacity (MW); and - GHG emissions reductions (metric tons).

The NYGB goals, KPIs and Metrics flow through all aspects of NYGB's business from investment and portfolio management to risk and compliance, operations and finance and legal and regulatory – aligning the entirety of NYGB's activities against its goals.

NYGB files quarterly metrics reports describing its performance for ratepayers, regulators and other stakeholders. In addition, pursuant to the Metrics Plan, NYGB reports on installed energy and environmental performance across the Investment Portfolio on an annual basis and separately also files an annual financial metrics report (“**Annual Financial Metrics Report**”) focused largely on financial and risk metrics, including NYGB's audited financials (“**Audited Financials**”). All Annual Financial Metrics Reports and Audited Financials are available at www.greenbank.ny.gov/Resources/Public-Filings.

1.6 Impact & Reporting

One of NYGB's key investment criteria is to ensure that transactions have the potential for energy savings and/or clean energy generation that contribute to GHG emissions reductions in support of REV, CEF and SEP objectives. Specific impacts that are tracked include estimated clean energy generation, installed capacity, energy savings from efficiency measures as well as estimated GHG emissions reductions (collectively, “**Impact Benefits**”).

The CEF Order includes 10-year estimates measured as cumulative annual benefits of various defined measures.¹⁶ The estimated contribution of NYGB's Investment Portfolio over the useful life (“**Useful Life**”) of all underlying projects (collectively, the “**Projects**”) toward each of those estimates comprises the impact benefit objectives (“**Impact Benefit Objectives**”) and includes:¹⁷

- (a) 62.0 million megawatt hours (“**MWh**”) clean energy generated;
- (b) 137.0 million British Thermal Units (“**MMBtu**”) saved through efficiency;
- (c) 29.0 million metric tons of GHG emissions reductions; and
- (d) A Mobilization Ratio of 8:1.

Central to measuring and monitoring impact are the concepts of estimated benefits for both first-year (“**First-Year**”) and lifetime (“**Lifetime**”) durations. First-Year refers to estimates of energy savings and clean energy generation in NYS for all projects expected to be installed and placed in service the first year after the availability period for NYGB capital has expired. In most cases, this does not coincide with the first year of NYGB's investment, considering delayed draw schedules while projects are being constructed and/or portfolios of distributed assets are being assembled. First-Year metrics are also the basis for calculating the lifetime energy savings of the projects that benefit from NYGB investment (“**Lifetime**” benefits), depending on the expected Useful

¹⁶ CEF Order, Ordering Clause 2, page 106.

¹⁷ CEF Order, page 41.

Life of the technologies deployed.

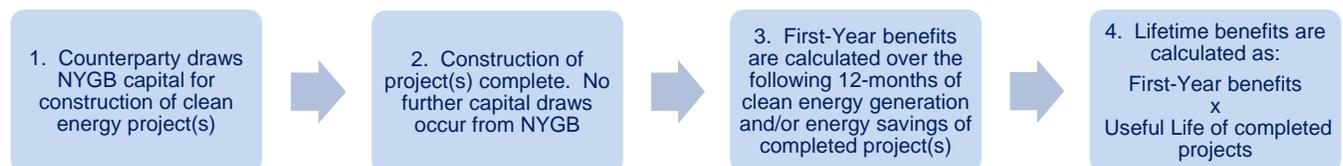
1.6.1 Methodology to Assess NYGB Impact

In managing its investment process and activity to achieve the Impact Benefit Objectives, NYGB engages the counterparties during the structuring and negotiation phase of each new investment. NYGB assesses the scope of all Projects included in any proposed investment and determines data sets and calculations needed to estimate the corresponding potential Impact Benefits. Estimates reflect the sustainable infrastructure or clean energy technologies utilized, installed capacity, number of systems to be deployed, operational yield of systems (i.e., capacity factors), industry-accepted electrical and fuel energy conversion factors and Useful Life of systems. To control for exogenous factors (e.g., project ramp times, delays and seasonality), NYGB works with counterparties to identify low and high estimates of expected Impact Benefits on both a Lifetime and First-Year basis.¹⁸ To ensure that the impact assessment methodology for any given investment is consistent with NYSERDA's methodologies for the CEF as a whole, NYGB leverages the experience of NYSERDA's performance management team.

After a transaction has received a recommendation to proceed from NYGB's Greenlight Committee (as shown in [Figure 13](#)), NYGB estimates the First-Year and Lifetime metrics in NYS for all projects associated with NYGB investments. Once energy savings and/or clean energy generation are estimated, NYGB calculates the estimated GHG emissions reductions – for both First-Year and Lifetime – utilizing electrical and fuel energy conversion factors consistent with the CEF.

[Figure 3](#) illustrates the steps involved in the calculation of First-Year metrics for a typical clean energy technology project such as solar photovoltaic ("PV") or energy efficiency. GHG emissions estimation methodologies can vary depending on the technology type, (e.g., the methodology for sustainable transportation projects for bike share platforms focuses on developing increased ridership to maximize the use of the bicycles and further offset traditional fossil fueled means of transportation).

Figure 3: First-Year Impact Calculation Methodology



Under the CEF and pursuant to the evaluation requirements set out in the Metrics Plan, NYSERDA carries out baseline impact evaluation efforts after a critical mass of investment types close and conducts follow-up evaluations to assess the accuracy of the estimation methods used by NYGB.¹⁹

1.6.2 Impact Reporting Process

Once a new investment is closed, NYGB publishes a summary description of the transaction on its website

¹⁸ All First-Year metrics are estimates and refer to the first year of estimated benefits (e.g., energy saved, installed capacity, GHG reductions) which are expected to occur when each underlying project is fully installed. This means that estimated 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 the portfolio based on transactions executed throughout the CEF term. Note that underlying projects are usually installed over one or more years following execution of investment agreements (reflecting project development/implementation and funding deployment cycles). The sum of all estimated First-Year measures approximates 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 investments in the prescribed form annually, with such reporting included in the Quarterly Metrics Report for each quarter ending December 31.

¹⁹ Metrics Plan, Section 3.0, pages 6 – 8.

(“**Transaction Profiles**”).²⁰ Transaction Profiles include estimates of the impact NYGB’s participation in the investment is expected to have in terms of incremental clean energy benefits in NYS and financial market transformation. The transparency provided by Transaction Profiles highlights both NYGB-specific activities and the evolving available financing techniques that can be utilized to expand sustainable infrastructure in the State, for the benefit of potential clients and counterparties, as well as for stakeholders.

Pursuant to the reporting requirements set out in the Metrics Plan, NYGB aggregates the estimated Impact Benefit ranges from the Transaction Profiles and reports the cumulative estimated Impact Benefits in its Quarterly Metrics Reports and webinars.²¹ These aggregate estimates inform all interested stakeholders of how NYGB is performing on an incremental quarterly basis and towards overall CEF goals.

NYGB reports on the installed or actual (“**Actual**”)²² energy and environmental benefits of its Investment Portfolio on an aggregate basis each year. These annual reports reflect:

- (a) Performance data periodically received from NYGB’s clients and counterparties for clean energy installations made pursuant to and with the benefit of NYGB investments, as required by negotiated investment terms, in aggregate; and
- (b) Technology performance and conversion factors, consistent with NYSERDA’s overall reporting practices, as applicable.

NYGB reports on Actual energy and environmental performance each calendar year during the term of the CEF once a year in February.²³

NYGB also submits periodic performance data for inclusion into other public reports, including the CEF (quarterly and annually), Regional Greenhouse Gas Initiative (“**RGGI**”) status reports and plans (quarterly and annually, respectively), the “Operations and Accomplishments and Mission Statement and Performance Measurement Annual Report” (i.e., NY Performs) and other applicable State reporting requirements.

Figure 4 presents an illustrative example of the calculation of Impact Benefits.

²⁰ Pursuant to the requirements of the Metrics Plan, Transaction Profiles are the primary public document describing NYGB’s individual investments. NYGB Transaction Profiles can be found at www.greenbank.ny.gov/Investments/Portfolio.

²¹ Quarterly Metrics Report and webinars can be found at <https://greenbank.ny.gov/Resources/Public-Filings> and www.greenbank.ny.gov/Resources/Publications-and-Events respectively.

²² “**Actual(s)**” means Impact Benefits associated with installed projects, as opposed to estimated benefits before installation is complete.

²³ NYGB has reported Actuals in the Quarterly Metrics Report for the years ending December 31, 2016 and December 31, 2017. See Table 2 of each report, available at www.greenbank.ny.gov/Resources/Public-Filings.

Figure 4: Estimating Impact & Reporting Benefits

Calculation of Impact Benefits – An Illustrative Example

In 2018, Clean Energy Co. secured \$20.0 million of financing from NYGB with a three-year availability period. At closing, Clean Energy Co. plans to install five clean energy systems in NYS. Each system has a 20-year Useful Life and contributes an estimated incremental 5,000 metric tons of GHG emissions reductions per year of operation. A system's First-Year savings are then 5,000 metric tons, and the estimated Lifetime savings are 100,000 metrics tons in NYS (i.e., 5,000 metric tons x 20 years). The entire project would contribute an estimated First-Year savings of 25,000 metric tons (i.e., 5 systems x 5,000 First-Year savings per system), and an estimated Lifetime savings of 500,000 metric tons in NYS over the 20-year Useful Life (i.e., 5 systems x 5,000 First-Year savings per system x 20 years).

At the time of transaction close, NYGB would include the estimated 500,000 metric tons of GHG reductions as part of its estimated Impact Benefits, tied to its Overall Investments to Date and reported in the applicable Quarterly Metrics Report.

Over the three-year availability period, NYGB monitors its borrower's progress and reports summary data relating to the actual systems deployed (aggregated across NYGB's entire portfolio) each year.

In 2021, at the end of the three-year availability period, NYGB would assess if all five systems were installed and placed in service as expected. If, for example, more than five were built, NYGB would then adjust the estimated aggregated portfolio benefits to account for the actual systems placed in service in NYS. This adjustment is referred to as a "**True-Up**", a practice that is continuously exercised throughout the life of the CEF. True-Ups have a positive effect where more systems are built than expected, or per system output is greater than anticipated. If fewer than expected systems are built, or per system output is less than anticipated, NYGB would also adjust its reported impact accordingly.

Part II

Annual Review 2017 – 18

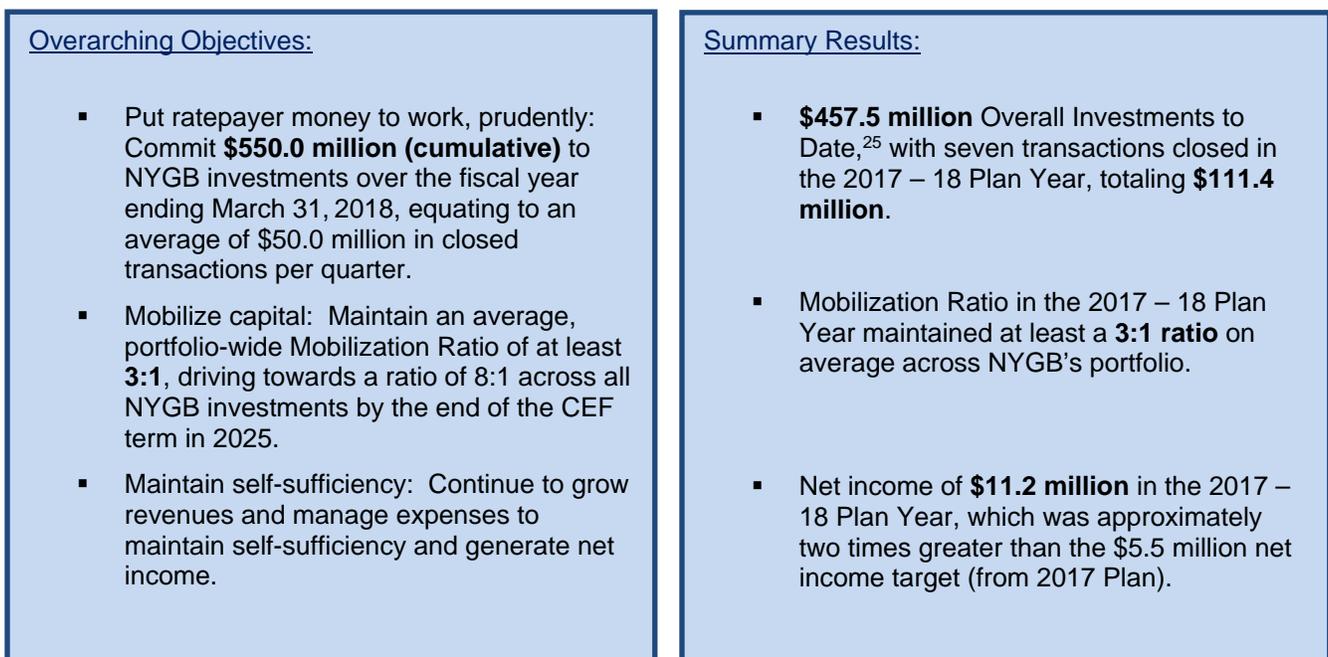
2. Annual Review 2017 – 18

In this Part II, NYGB discusses its progress over the previous fiscal year²⁴ (“**2017 – 18 Plan Year**”), with respect to its objectives set out in the 2017 Plan. Additional detail is provided on NYGB’s performance and activities – both investment and operational – including a discussion of NYGB’s financial performance and impact.

2.1 Performance in the 2017 – 18 Plan Year

As shown in [Figure 5](#), NYGB established three overarching objectives for the 2017 – 18 Plan Year: (1) commit \$200.0 million to clean energy investments to reach cumulative commitments of \$550.0 million; (2) mobilize private capital and maintain an average portfolio-wide expected total value of projects deployed in the State of at least three times NYGB’s commitment; and (3) continue to grow revenues and manage expenses to maintain self-sufficiency and generate net income. NYGB met the three times mobilization objective and exceeded its net income objective to maintain self-sufficiency but fell short of its objective to commit \$200.0 million to new investments during the year to reach \$550.0 million in cumulative commitments.

Figure 5: 2017 – 18 Overarching Objectives & Summary Results



With \$457.5 million of Overall Investments to Date at March 31, 2018, NYGB achieved \$92.5 million less than anticipated. In any structured finance and investment business, transaction flow and execution tend to be lumpy, reflecting a myriad of market and developer-specific conditions. This is amplified in the nascent or “near-frontier” markets where NYGB operates, so variability in the amount and timing of new investments is to be expected. NYGB exceeded its \$200.0 million investment target in 2016 – 17 by almost the same amount of the miss in 2017 – 18: \$91.6 million.

In 2016 – 17, a large portion of NYGB’s new commitments funded residential solar projects. In the 2017 – 18 Plan Year, in part due to the early market activities of NYGB, the residential solar market gained greater access to private market financing liquidity. Although a positive sign for the residential solar market and an indication that NYGB efforts to transform the market are working, this resulted in residential solar being a much smaller

²⁴ NYSERDA/NYGB’s fiscal year is from April 1 to March 31.

²⁵ “Overall Investments to Date” means, at any time, the aggregate of all Committed Funds since Inception (but excluding approved investments that have not been executed at the relevant time), expressed in dollars.

proportion of NYGB investments in the 2017 – 18 Plan Year.

NYGB expected the Community Distributed Generation (“**CDG**”) market – one that received a substantial amount of NYGB effort and focus – to be a primary area of new clean energy deployment in NYS in 2017 – 18. However, a variety of market conditions described further in Section 2.3.1 (i.e., tariffs and tax law changes), drove a longer execution path for CDG transactions than expected. Although the market’s uncertainties appear to be resolving and CDG activity accelerating, NYGB did not benefit from this in the 2017 – 18 Plan Year, partially explaining NYGB’s shortfall against its commitment objective. Nevertheless, NYGB’s early and substantial support of CDG, including: (i) broad and continuous interaction with key market participants; (ii) development of underlying financing structures; (iii) issuance of term sheets to multiple developers; (iv) preparation of loan documentation; (v) issuance of RFP 10: “Construction & Aggregation-to-Term Financing for Community Distributed Generation Solar Projects”; (vi) contributing “know-how” to developers, energy service companies and financiers in terms of financing and scaling the innovative CDG business model; and (vii) interconnection bridge loan financings, served as positive influences on CDG market development to date.

The momentum provided to developers and other CDG market participants by NYGB’s deep knowledge and readiness to provide financing is meaningful for market development even where project timelines are extended for reasons beyond NYGB’s direct control. One example of market development is increased willingness of developers and their potential equity/tax equity providers to invest time and energy in pursuit of CDG in part because of NYGB’s readiness to provide substantial structured debt facilities to such projects.

Although several CDG transactions in the Active Pipeline²⁶ did not close in the 2017 – 18 Plan Year, the capital committed and funded by NYGB to non-solar projects exceeded that of any prior year. Examples included fuel cells and bike share. NYGB is consistently focused on, and proactive with respect to, areas of potential market activity where it can accelerate the deployment of all CEF eligible forms of clean energy deployment. This has been the case since Inception, including in the 2017 – 18 Plan Year. Other transaction types in the Active Pipeline during the 2017 – 18 Plan Year that NYGB continues to advance toward closing include anaerobic digestion, low-to-moderate income (“**LMI**”) multifamily energy efficiency, large commercial energy efficiency, small commercial energy efficiency, hospital combined heat and power (“**CHP**”), controlled environment agriculture, tax equity sale leaseback credit enhancement, electric vehicle (“**EV**”) fleet lease finance and energy storage.

²⁶ “**Active Pipeline**” means, at any time and for any period, the sum (expressed in dollars) of the proposed NYGB investment amount in all NYGB active transactions in the Pipeline where, in relation to each transaction: (a) there is agreement in principle between the parties; (b) there is momentum in moving the transaction forward; (c) conditions to investment are expected to be met; and (d) NYGB is dynamically proceeding toward and through “greenlight” recommendation, Investment & Risk Committee (“**IRC**”) approval and transaction execution. Unlike other metrics that are cumulative measures since NYGB’s Inception, Active Pipeline is a point in time measure. As momentum behind individual transactions fluctuates while advancing toward execution due to various factors, including many not under NYGB’s control, transactions may move in and out of the Active Pipeline.

Investment Performance at a Glance

As of March 31, 2018

Stimulating Clean Energy Investment in the State

As a result of NYGB's ongoing new market development, during the 2017 – 18 Plan Year, NYGB received new investment proposals totaling **\$533.0 million**. Since Inception, NYGB has received proposals to invest over **\$2.6 billion** of capital. NYGB invested **\$111.4 million** in seven transactions during the 2017 – 18 Plan Year.

Strong Active Pipeline

The Active Pipeline of potential investments proceeding toward close was **\$704.2 million**.²⁷

Driving Material Sustainable Infrastructure Investments Across NYS

NYGB's Investment Portfolio supports clean energy projects with Total Project Costs (Cumulative) **between \$1.4 and \$1.6 billion** in aggregate, based on Overall Investments to Date of **\$457.5 million**.

Mobilizing Capital

NYGB's Investment Portfolio represents an expected Mobilization Ratio in line with the target level of **3:1**,²⁸ which will be realized as planned sustainable infrastructure projects are successfully implemented by NYGB's clients and counterparties. Over 10 years, assuming periodic reinvestment in comparable transactions, the expected Mobilization Ratio remains on track to meet or exceed **8:1**.

Revenue Growth – Maintaining Self-Sufficiency

NYGB continues to maintain self-sufficiency with achieved net income for the 2017 – 18 Plan Year at **\$11.2 million**. Since inception, NYGB has generated **\$32.6 million** in revenue with **\$19.7 million** in the 2017 – 18 Plan Year alone.

Contributing to CEF Objectives, REV and the CES

NYGB's Overall Investments to Date drive estimated lifetime GHG emissions reductions of **between 6.3 and 8.1 million metric tons**, equivalent to removing **between 61,435 and 78,530 cars** from the road for a period of **23 years**.²⁹

²⁷ The value of the Active Pipeline (\$704.2 million) is separate from, and does not include, Overall Investments to Date (\$457.5 million).

²⁸ Given the range of Total Project Costs (Cumulative) that NYGB investments mobilize, the Mobilization Ratio also represents a range; of 3.0:1 to 3.6:1 as of March 31, 2018.

²⁹ NYGB monitors its counterparties' clean energy and sustainable infrastructure project installations during each investment through the receipt and review of periodic reports. NYGB continually monitors actual and expected energy and environmental benefits across its overall portfolio. As new information becomes available on the NYS market uptake of sustainable infrastructure projects, NYGB may increase or decrease the overall portfolio's high and low estimated Total Project Costs and energy and environmental metrics. This constant monitoring and refinement of expected outcomes improves the accuracy of NYGB's overall portfolio level estimations of impact benefits. Given these periodic adjustments, the aggregate estimated benefits reported in Quarterly Metrics Reports will be the most current and accurate estimate.

Operational Performance at a Glance

As of March 31, 2018

Organizational Infrastructure Developed to Manage Growing Portfolio

NYGB solidified its proposal intake process, fund administration procedures, and client relationship management (“**CRM**”), pipeline and portfolio management system, which collectively serve as a foundation capable of supporting continued portfolio and organizational growth.

High Degree of Transparency

NYGB made **seven** public filings (i.e., Quarterly Metrics Reports, Annual Financial Metrics Report, 2017 Plan and Financial Statements), issued **seven** press releases, hosted **four** webinars and published its seasonal newsletters during the 2017 – 18 Plan Year.³⁰ It also reported on periodic CEF, RGGI and other State disclosures.

Improving Portfolio Management

In parallel with portfolio growth, NYGB scaled its portfolio management function to monitor ongoing compliance, manage all fundings, track all modifications to investment agreements, generate related reports and manage transaction collateral.

Continued Outreach to Market Participants & Stakeholders

NYGB continued to engage stakeholders through presentations at **58** industry events and participation in a total of **73** events, along with hosting its annual Statewide Meeting Series, developing and participating in roundtables and working groups, via email notifications and updates, multiple social media platforms and interviews with journalists and interested market participants.

Robust Investment Administration

NYGB deployed more than **\$120.0 million** in the 2017 – 18 Plan Year across more than **90** separate disbursements, averaging **one to two** fundings every week. NYGB also managed more than **100** separate repayments and received more than **200** interest payments, all in connection with the **30 transactions** in the Investment Portfolio.

³⁰ All are available at www.greenbank.ny.gov/News-and-Media/In-The-News, www.greenbank.ny.gov/Resources/Public-Filings and www.greenbank.ny.gov/Resources/Publications-and-Events.

2.2 2017 – 18 Plan Deliverables

NYGB described its specific deliverables for the 2017 – 18 Plan Year in the 2017 Plan. NYGB succeeded in meeting all deliverables with the exception of committing \$550.0 million (cumulative) to NYGB investments.

Table 2: 2017 – 18 Plan Deliverables & Status

Category	Deliverable	Status for Plan Year Ending March 31, 2018
Strong Active Pipeline		
<ul style="list-style-type: none"> Active Pipeline 	<ul style="list-style-type: none"> Maintain an Active Pipeline of at least \$300.0 million on average throughout the year. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: Average Active Pipeline of \$621.2 million per quarter.
<ul style="list-style-type: none"> Streamline Investment Proposal Submission Process & Data Collection 	<ul style="list-style-type: none"> Create an online portal for the submission of Investment RFPs to NYGB with straight-through processing and data collection in NYGB's CRM system to make management and reporting tools more efficient and effective. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: In May 2017, NYGB launched the online portal for submission of investment proposals to NYGB pursuant to all current Investment RFPs.³¹
Portfolio Driving Material Clean Energy Investments Across NYS		
<ul style="list-style-type: none"> Committed Funds 	<ul style="list-style-type: none"> Commit \$550.0 million (cumulative) to NYGB investments, equating to an average of \$50.0 million in closed transactions per quarter during the 2017 – 18 Plan Year. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Not Achieved for the Plan Year: As of March 31, 2018, NYGB committed \$457.5 million (cumulative) to new clean energy investments, equating to an average of \$27.9 million per quarter during the 2017 – 18 Plan Year. See <u>Section 2.1</u> for discussion of this item.
<ul style="list-style-type: none"> Issue CDG RFP/RFI 	<ul style="list-style-type: none"> Publicly Issue RFP/RFI. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: Issued RFP 10 "Construction & Aggregation-to-Term Financing for Community Distributed Generation Solar Projects".³²
<ul style="list-style-type: none"> Issue Interconnection Bridge Loan RFP/RFI 	<ul style="list-style-type: none"> Publicly issue RFP/RFI. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: Issued RFI 3 "Financing Interconnection Payments for Clean Energy Projects in NYS" which closed on March 30, 2018.
<ul style="list-style-type: none"> Perform Initial Evaluation Activities 	<ul style="list-style-type: none"> Engage with independent evaluators to conduct a baseline assessment for both financial market transformation and energy and environmental impact of NYGB's Investment Portfolio. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: Evaluation activities have commenced.
Mobilizing Private Capital		
<ul style="list-style-type: none"> Mobilization Ratio 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Achieved for the Plan Year: Current quarter Mobilization Ratio on track at least 3:1 on average across NYGB's portfolio.³³

³¹ The online portal for submission of investment proposals to NYGB can be accessed for each investment RFP at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

³² *Ibid.*

³³ Given the range of Total Project Costs that NYGB investments mobilize, the Mobilization Ratio also represents a range; currently of 3.0:1 to 3.6:1.

The 2017 Plan also outlined the key activities NYGB would undertake in the 2017 – 18 Plan Year to meet its mission and goals. The balance of this [Part II](#) specifically addresses deliverables and performance in each activity area.

2.3 Continued Portfolio Growth & Active Pipeline Commentary

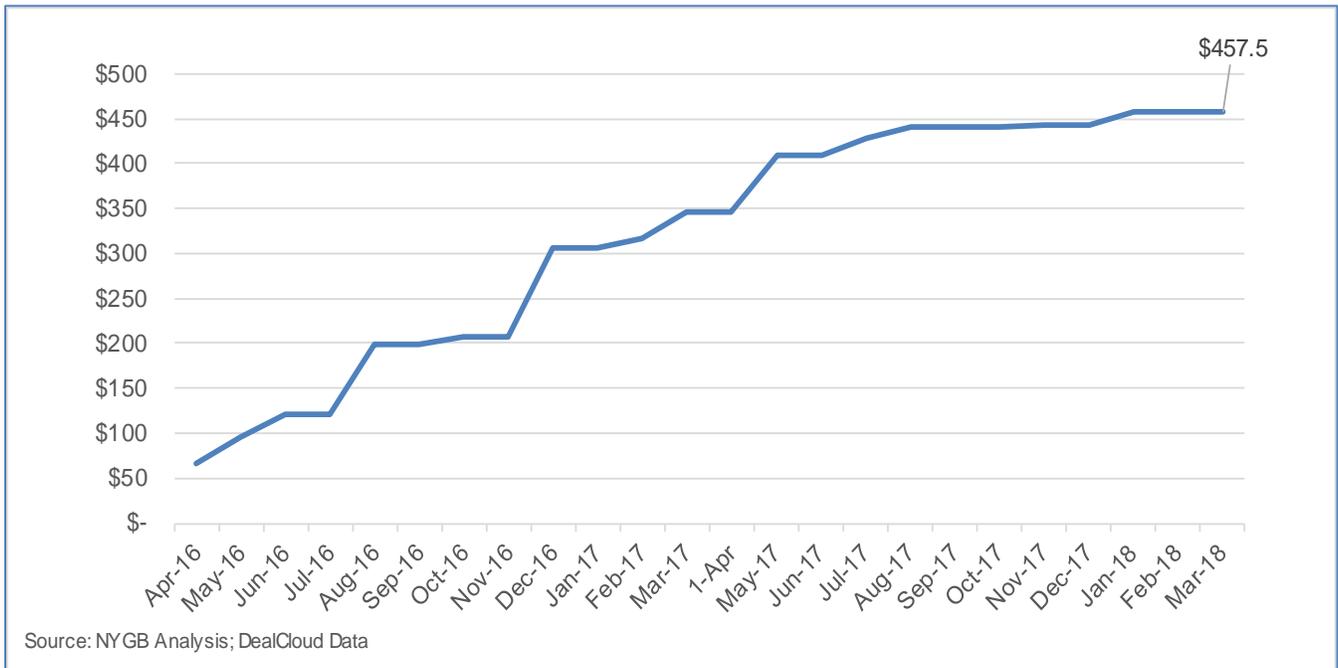
Since closing its first transaction in Fall 2015, NYGB’s Investment Portfolio has continued to grow. In the 2017 – 18 Plan Year, NYGB closed seven investments, investment extensions or upsizes totaling \$111.4 million. These new transactions are outlined in [Table 3](#).

Table 3: New Transactions, FY ended March 31, 2018 (\$ millions)

New Transactions	Short Description	Newly Committed Amounts	Closing Date
Sunrun – Neptune	Residential Solar Term Loan	\$15.0	May 9, 2017
Motivate – Citi Bike	Bike Share	48.3	May 18, 2017
Plug Power – Upsize	C&I Fuel Cell Leases	20.0	July 21, 2017
Cypress Creek Bridge Loan	Bridge Loan for Interconnection Advances	11.5	August 2, 2017
BQ – Beacon	Municipal, University, School and Hospital (“MUSH”) Solar Project Financing	3.1	November 8, 2017
Cypress Creek Bridge Loan – Upsize	Bridge Loan for Interconnection Advances	13.5	December 19, 2017
Sunrun – Construction Loan Facility and Post-Construction Aggregation Facilities (Maturity and Deployment Period Extensions)	Residential Solar Revolver and Aggregation Facility	-	February 23, 2018 and March 27, 2018
Total		\$111.4	

Each transaction helps facilitate clean energy and sustainable infrastructure development in NYS in collaboration with private sector participants and is described further in [Schedule 1](#). The trend of NYGB’s investment activity over the past two fiscal years is shown in [Figure 6](#).

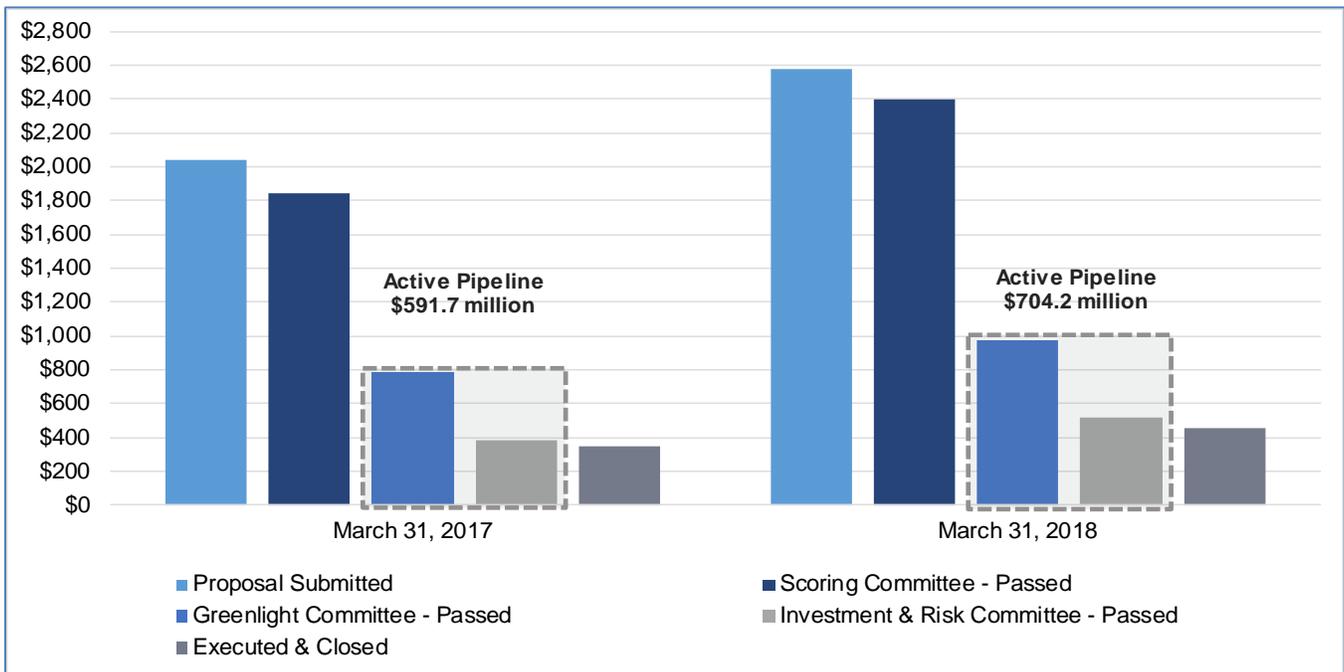
Figure 6: Overall Investments to Date, Month-By-Month, for Previous Two Fiscal Years (\$ millions)



2.3.1 Commentary on the Active Pipeline

NYGB received over \$2.6 billion in investment proposals from Inception through March 31, 2018, resulting in an Active Pipeline of \$704.2 million as of March 31, 2018. The Active Pipeline continues to be diversified across technology, location and end-user segments.

Figure 7: Transaction Status & Active Pipeline (\$ millions): Year-on-Year Review



A significant portion of NYGB's Active Pipeline during the 2017 – 18 Plan Year was comprised of solar projects as two solar industry-related uncertainties played out. First, in early 2017, two domestic solar panel manufacturers petitioned the United States International Trade Commission (“**ITC**”) for competitive relief against imported solar panels. In September 2017, the ITC upheld the petition and voted in favor of levying tariffs and other import restrictions, the details of which were not announced until January 2018. Resultant uncertainty slowed the market nationally, as project developers waited for the release of details on any new tariffs. While the tariffs ultimately imposed will impact solar costs, project developers have largely resumed planning new projects now that the trade case has been decided.

The Federal tax bill that became law in December 2017 caused material uncertainties for the renewables industry while various proposals were debated. The new law leaves the extended tax credit structure for wind and solar power mostly unchanged but does not revise tax credits for other technologies such as CHP and energy efficiency. Additionally, a provision called the Base Erosion Anti-Abuse Tax (“**BEAT**”) was imposed. The BEAT affects companies' ability to use renewable energy tax credits to offset foreign-transaction taxes by limiting the value of credits that can be applied.³⁴ This, in conjunction with the decrease in corporate tax rate from 35.0% to 21.0%, negatively affected the availability of tax-equity, which is a key source of financing in clean energy markets.

Despite the issues affecting the development of solar projects during the 2017 – 18 Plan Year, NYGB experienced robust growth in its solar pipeline (especially for CDG projects) during the second half of the fiscal year as the trade case and tax law uncertainties resolved. NYGB currently has a substantial Active Pipeline of CDG projects and market participants appear highly motivated to finance and implement these projects. Ownership of a number of projects has changed hands in recent months, in some cases resulting in initial developers choosing not to build and finance but instead determine if an attractive sale price can be negotiated. NYGB generally expects that projects that have acquired new equity sponsorship will proceed once the acquisition has closed.

Recent announcements and publications, from Governor Cuomo, together with those of NYSEERDA programs including examples below, are stimulating further activity in the NYGB pipeline and help NYGB shape its origination activities for the 2018 – 19 Plan Year (“**2018 – 19 Plan Year**”) as discussed in Section 3.4. Examples of key State initiatives include:

- (a) In June 2017, Governor Cuomo, joined by Governors Jay Inslee of Washington and Jerry Brown of California, launched the United States Climate Alliance (the “**Alliance**”).³⁵ The Alliance is a national and growing bipartisan coalition of Governors committed to reduce GHG emissions consistent with the Paris Agreement. Through the Alliance, there has been strong interest to collaborate, generate and manage sustainable infrastructure investment from other states.
- (b) On January 3, 2018, in his State of the State address, Governor Cuomo announced an energy storage goal of 1,500 megawatts (“**MW**”) in NYS by 2025 – the largest commitment per capita of any state – alongside NYGB's commitment of \$200.0 million to finance energy storage projects that meet its investment criteria.³⁶
- (c) On January 29, 2018, NYSEERDA published its New York Offshore Wind Master Plan³⁷ as an important first step toward achieving Governor Cuomo's nation-leading offshore wind energy development goal of 2,400 MW by 2030.
- (d) On March 9, 2018, Governor Cuomo announced \$1.4 billion in awards for 26 large-scale renewable energy projects, driven by the CES. This is the largest single commitment to renewable energy by a state in United States (“**U.S.**”) history.³⁸

³⁴ See www.greenbiz.com/article/what-new-tax-law-means-renewables.

³⁵ See www.usclimatealliance.org.

³⁶ See www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage-Program/Energy-Storage-Roadmap.

³⁷ See www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/New-York-Offshore-Wind-Master-Plan.

³⁸ See www.nyserda.ny.gov/About/Newsroom/2018-Announcements/2018-03-09-Governor-Cuomo-Announces-Formal-Request-for-New-York-Exclusion-From-Federal-Offshore-Drilling-Program.

- (e) In April 2018, Governor Cuomo announced an ambitious new energy efficiency target for the State. The 2025 energy efficiency goal aims to cut emissions and energy costs by incentivizing building developers, commercial and institutional building owners and residential households to pursue building improvements to reduce energy consumption by 185 trillion British Thermal Units (“**Btu**”) below forecasted energy use in 2025, which is equivalent to the energy consumed by 1.8 million New York homes.³⁹
- (f) On April 26, 2018, NYSEDA and the Department of Public Service (“**DPS**”) published a comprehensive white paper describing the strategies and initiatives to achieve the new 2025 energy efficiency goal.⁴⁰
- (g) NY-Sun’s programmatic priority program “Solar for All”, to support no-cost solar for 10,000 New Yorkers and address LMI energy efficiency opportunities.⁴¹

NYGB is consistently active across a spectrum of clean energy market opportunities to ensure that its investment targets are met. Working to structure financial solutions that specifically help to implement and scale key initiatives within NYS, like those above, remains a priority.

2.4 Financial Performance & Self-Sufficiency

Selected financial highlights are discussed in this [Section 2.4](#). Detailed financial information is included in NYGB’s Audited Financials, and published in NYGB’s Annual Financial Metrics Report filed on June 29, 2018.

2.4.1 Revenues, Expenses & Net Income

NYGB’s Investment Portfolio generated significant Operating Revenues for the 2017 – 18 Plan Year. As such, NYGB maintained its self-sufficiency (i.e., generation of net income) and exceeded its annual net income target as stated in the 2017 Plan.⁴² Specifically, NYGB generated \$19.7 million in revenues, incurred \$8.5 million in expenses and produced \$11.2 million in net income. While revenues were strong, NYGB’s net income was higher than plan in part due to budgeting for some expenses that did not realize but are now expected to be incurred in the next fiscal year.

Following NYGB’s achievement of self-sufficiency through the generation of net income a year earlier than planned (i.e., by the end of 2016 – 17), in the second quarter of 2017, NYGB achieved another first: cumulative breakeven. At this point, NYGB’s cumulative revenues exceeded its cumulative expenses. Cumulative breakeven is illustrated in [Figure 8](#).

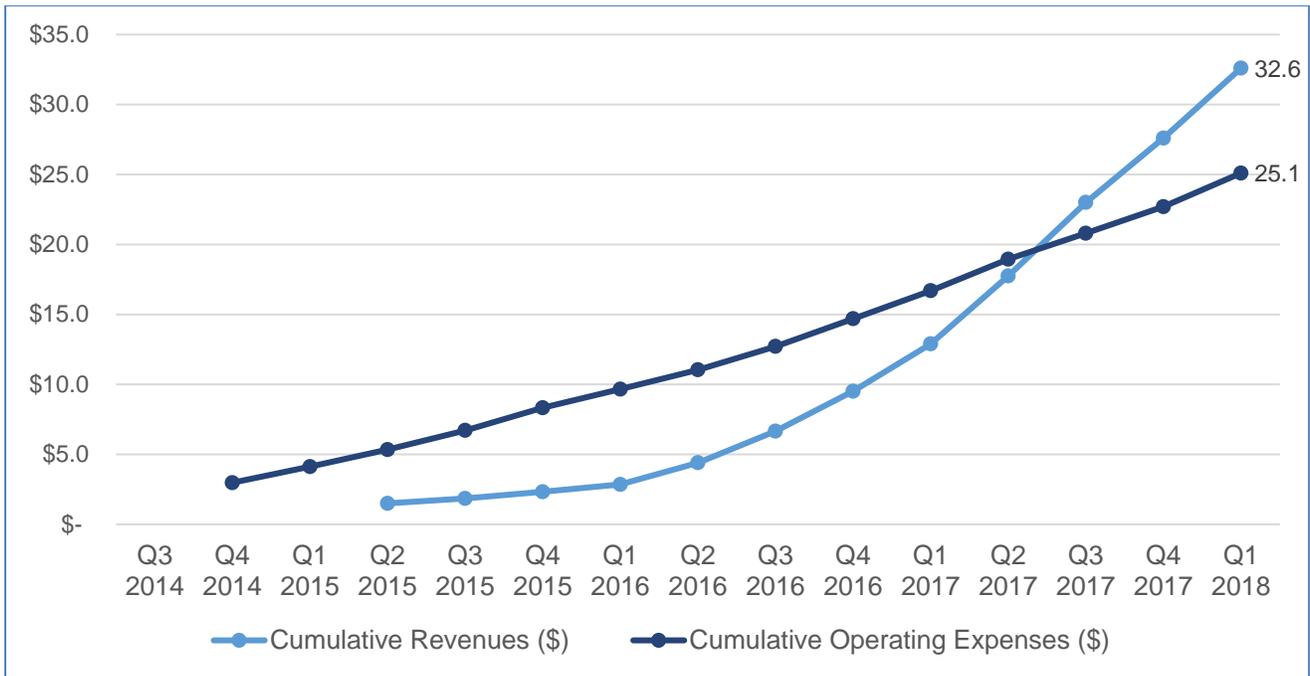
³⁹ See www.nyserda.ny.gov/About/Newsroom/2018-Announcements/2018-04-20-Governor-Cuomo-Announces-New-Energy-Efficiency-Target-to-Cut-Greenhouse-Gas-Emissions.

⁴⁰ See www.nyserda.ny.gov/About/Publications/New-Efficiency.

⁴¹ See portal.nyserda.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt00000FnoJKAZ.

⁴² 2017 Plan, page 32 available at www.greenbank.ny.gov/-/media/greenbanknew/files/nygb-2017-business-plan.pdf.

Figure 8: Cumulative Revenues vs. Cumulative Expenses (\$ millions)



As shown in [Table 4](#) below, Total operating revenues increased \$9.6 million (109.1%) from the prior year. A provision for losses on loans and financing receivables in the amount of \$844,000 was recorded as of March 31, 2018. As noted in Quarterly Metrics Reports, impaired amounts (i.e., the amount of any provision for losses) are offset against revenues, such that cumulative revenues in the quarterly reports are net of impairments.

Total operating expenses increased \$1.4 million (20.3%), most significantly driven by increases in salaries and benefits and program operating costs. Salaries and benefits (including NYGB staff salary expenses (\$2.9 million), NYSERDA allocated administrative salary expenses (\$1.2 million), and allocated fringe benefit expenses (\$1.6 million)) increased \$1.3 million (30.8%) from the prior year. This occurred due to an increase in NYGB’s staffing as well as an increase in the overall pool of allocable NYSERDA expenses of which NYGB pays its *pro rata* share (which is calculated based on NYGB’s direct staffing costs as a proportion of NYSERDA’s program staffing costs).

Investment related expenses, which include legal and other costs incurred for various portfolio investments, were 16.3% less than the previous year generally reflecting lower transaction volumes and higher counterparty reimbursement rates.

Program operating costs increased \$0.2 million (26.0%) due to an increase in professional service expenses (e.g., consultants and temporary employees, including costs of third-party fund administration services). General and Administrative Expenses, which include allocable costs such as rent, utilities and insurance declined \$0.1 million (6.0%) due to a decrease in the allocable cost as compared to the prior year. Depreciation and NYS Assessments reflect NYGB’s allocable share of NYSERDA’s depreciation and NYSERDA’s cost recovery fee (“CRF”) assessment from the State, respectively. The dollar amount of the CRF allocation declined due to a decrease in NYGB’s *pro rata* share for the year, while the dollar amount of depreciation accounted for by NYGB increased in line with an increase in NYSERDA’s overall depreciation year-over-year.

Investment income increased \$0.4 million (47.0%), directly reflecting NYGB’s higher average investment balance due to capital contributions of \$109.7 million and from capital repayments beginning to occur as portfolio investments become more established.

Table 4: Net Income (\$ thousands)

	March 31, 2018	March 31, 2017	% Change 2017 - 2018
Operating revenues:			
Fees	\$2,484	3,399	-26.9%
Loans and financing receivables interest	16,703	5,373	210.9%
Provisions for losses on loans and financing receivables	(844)	-	100%
Total operating revenues	18,343	8,772	109.1%
Operating expenses:			
Salaries and benefits	5,716	4,371	30.8%
Investment related expenses	435	520	-16.3%
Program operating costs	1,152	914	26.0%
General and administrative expenses	920	979	-6.0%
Depreciation	154	124	24.2%
NYS assessments	86	124	-30.6%
Total operating expenses	8,463	7,032	20.3%
Operating income	9,880	1,740	467.8%
Non-operating revenues:			
Capital contributions ⁴³	9,529	-	100.0%
Investment income	1,354	921	47.0%
Total non-operating revenues	10,883	921	1,081%
Income before transfers	20,763	2,661	680.3%
Transfers in	100,152	150,000	-33.2%
Change in net position	120,915	152,661	-20.8%
Net position, beginning of year	365,236	212,575	n/a
Net position, end of year	486,151	365,236	33.1%
Net Income (Loss)	\$11,234	2,661	322.2%

Source: NYGB Financial Statements; NYGB Analysis

2.4.2 Capital & Liquidity Management

The CEF Order established incremental ratepayer collections in varying amounts from 2016 through 2025 totaling \$631.5 million to complete funding of NYGB's authorized \$1.0 billion capital. NYGB's cash and invested capital balances reflect its initial \$218.5 million capitalization in December 2013, a capital installment of \$150.0 million received in August 2016 and further aggregate capital contributions of \$109.7 million received through March 31, 2018.

NYGB receives incremental capital contributions through NYSERDA as capital is committed. An additional \$521.8 million in capitalization is expected to be provided based on the Commission's approval of \$1.0 billion in funded capitalization. NYSERDA funds these contributions either from a transfer of existing cash and investment balances (of certain Commission authorized programs, i.e., transfers in), or from the CEF ratepayer collections held by the electric utilities under the BAYG approach (i.e., capital contributions), consistent with the CEF Order. NYGB's forecasted liquidity needs are fully addressed through access to allocated capital installments, or by a

⁴³ As part of U.S. generally accepted accounting standards, the Governmental Accounting Standards Board requires capital contributions made to NYGB from NYSERDA's available cash and investment balances to be treated as transfers, while those derived directly from the Bill-As-You-Go ("BAYG") approach be accounted for as nonoperating revenues to NYGB. As a result, additions to NYGB's capital during the fiscal year equal the sum of "Capital contributions" under Non-operating revenues and "Transfers in", which appear in the Statement of Revenues, Expenses and Changes in Fund Net Position. Therefore the \$9.5 million shown as capital contributions in Table 4 represents only part of the capitalization received by NYGB during the year.

credit facility if and when required, as described in the CEF Order.⁴⁴

Table 5 presents NYGB's allocated ratepayer capital position, which reflects the funding of ratepayer capital installments to NYGB pursuant to Commission Orders.^{45,46}

Table 5: Allocated Ratepayer Capital Position (\$ thousands)

	March 31, 2018	March 31, 2017
Allocated Ratepayer Capital (beg)	\$368,526	\$218,526
Transfers In	100,152	150,000
Capital Contributions	9,529	-
Allocated Ratepayer Capital (end)	\$478,207	\$368,526

Source: NYGB Financial Statements, NYGB Analysis

2.5 Impact Benefits for all New Yorkers

At the end of the 2017 – 18 Plan Year, NYGB's Investment Portfolio was estimated to have resulted in between 380.3 and 492.3 MW of clean energy installed capacity and produced estimated lifetime clean energy generation of between 10.7 and 14.1 million MWh in NYS. Specifically, the Investment Portfolio is estimated to contribute at least 236.3 MW of new installed capacity to the residential energy sector, with another 23.0 MW (minimum, expected) to be installed in the C&I and MUSH end-user segments. CDG projects in the Investment Portfolio are expected to contribute an additional 121.0 MW.

NYGB remains on track to achieve certain key CEF goals. Figure 9 shows NYGB's progress as of March 31, 2018 toward CEF goals related to Overall Investments to Date and reduction of GHG emissions.

NYGB's clean energy and sustainable infrastructure investments in the 2017 – 18 Plan Year translate to between 6.29 – 8.13 million metric tons in expected lifetime GHG emissions reductions, a 47.7% increase from the 4.26 – 6.37 million metric tons estimated at the end of the 2016 – 17 Plan Year (based on low estimates). This is equivalent to removing between 61,435 and 78,530 cars from the roads for a period of 23 years. At December 31, 2017 NYGB's Overall Investments to Date of \$457.5 million had delivered 94,673 metric tons of GHG emissions reductions to New Yorkers, a year-over-year increase of over 200.0%. This GHG emissions reduction will further increase as NYGB's counterparties draw down on capital commitments to fund new clean energy project installations, and NYGB closes new transactions in the 2018 – 19 Plan Year and beyond. Figure 10 shows the expected realization of estimated GHG emissions reductions, as of March 31, 2018, over the CEF term as clean energy and sustainable infrastructure projects are completed, put into service and operated over their expected useful lives.⁴⁷

From an energy efficiency perspective, NYGB maintained several investments in CHP, fuel cell technology, light emitting diode lighting retrofits, heating, ventilation and air conditioning and other building retrofits. The energy efficiency investments in the Investment Portfolio are expected to contribute an estimated range of 3.97 – 4.37 million MMBtu cumulative lifetime net fuel energy savings from fuel efficiency measures (net of CHP fuel usage),

⁴⁴ CEF Order, page 108.

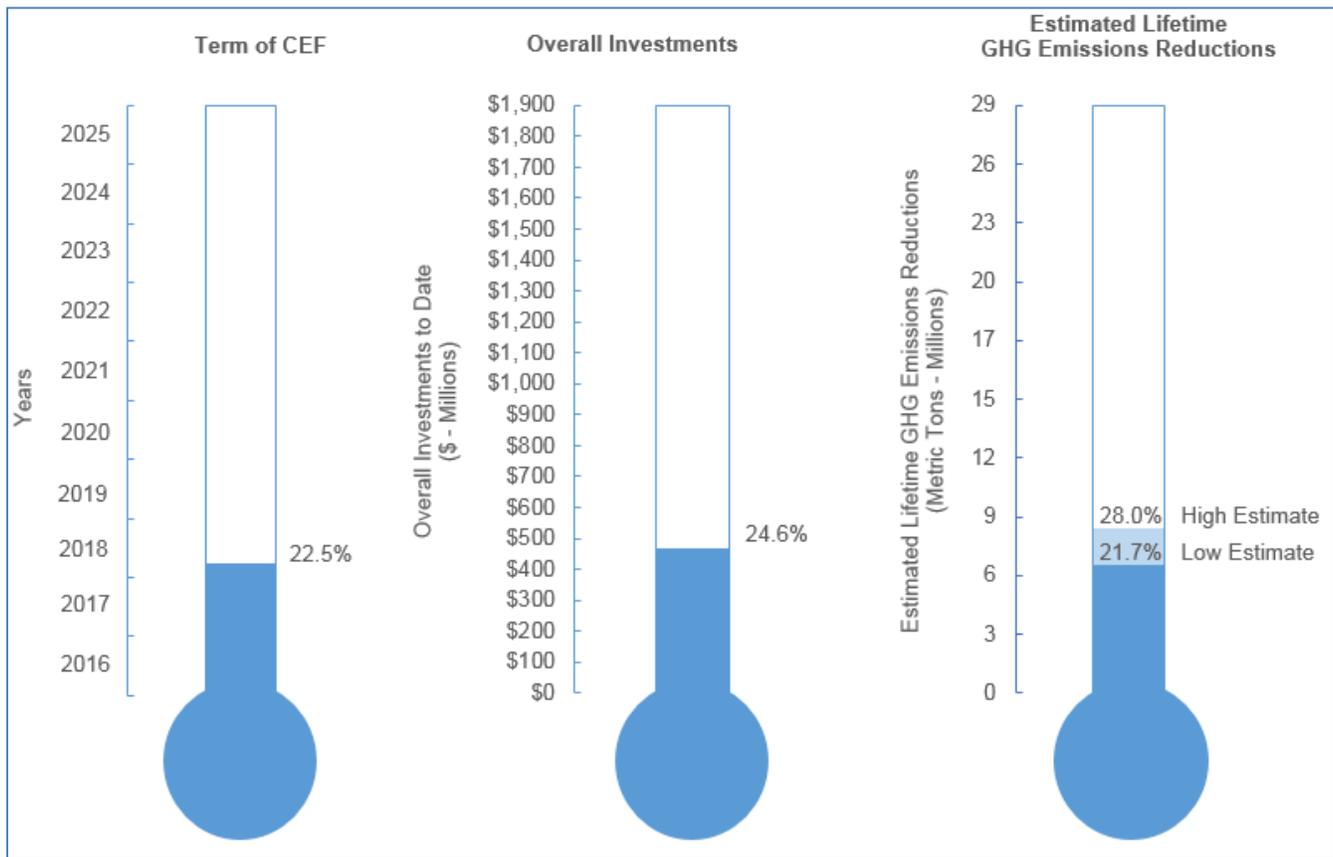
⁴⁵ Part of NYGB's establishment involved the authorization of \$17.5 million of the initial capitalization of \$218.5 million for start-up and administration expenses. At March 31, 2018, NYGB's cumulative (direct and indirect) operating expenses were \$25.2 million and for the same period, NYGB's cumulative (operating and non-operating) revenues totaled \$32.6 million. Since the \$17.5 million in administrative expenses has now been expended, NYGB's ongoing expenses are being met by revenues, with excess revenues being applied to NYGB's investment activities. At March 31, 2018, such excess revenues totaled \$24.9 million (i.e., calculated as the sum of \$32.6 million and \$17.5 million, less cumulative expenses of \$25.2 million).

⁴⁶ NYGB manages one investment that was funded by a Department of Energy grant for \$500,000. The grant is considered contributed capital in NYGB's Annual Financial Statements, but it does not count toward the \$1.0 billion capitalization. Therefore, the Allocated Ratepayer Capital excludes this grant.

⁴⁷ Impact Benefit realization is non-linear as the deployment of clean energy and sustainable infrastructure projects in NYS occurs over varying multi-year periods, reflecting the rate at which counterparties develop new projects. This is represented by the lagged profile between the high and low estimates of the Investment Portfolio for the 2017 – 18 Plan Year.

and 737,000 – 815,000 MWh cumulative lifetime energy savings.

Figure 9: NYGB On Track to Meet Key CEF Goals as of March 31, 2018



As illustrated in Figure 9 above – left to right – as of March 31, 2018, 22.5% of the 10-year CEF term had elapsed. At the same time, NYGB had invested 24.6% of its target for the term. NYGB expects to recycle its \$1.0 billion authorized capital almost twice by 2025, resulting in \$1.9 billion in overall investments and mobilization of \$8.0 billion in Total Project Costs (Cumulative) in NYS. Figure 9 shows that NYGB’s \$457.5 million Overall Investments to Date as of March 31, 2018 was 24.6% of the way to the \$1.9 billion target. NYGB’s Investment Portfolio is also on track to meet its GHG emissions reductions target, with estimated GHG emissions reductions from existing projects in the range of 21.7% to 28.0% of the 29.0 million metric tons goal.⁴⁸

With an aggregate estimated total project cost in the range of \$1.4 billion to \$1.6 billion, NYGB’s Investment Portfolio as of March 31, 2018 is estimated to generate three times its value in total clean energy project costs on average across the Investment Portfolio. This trajectory is expected to achieve at least the required eight times multiple over the CEF’s 10-year life.⁴⁹

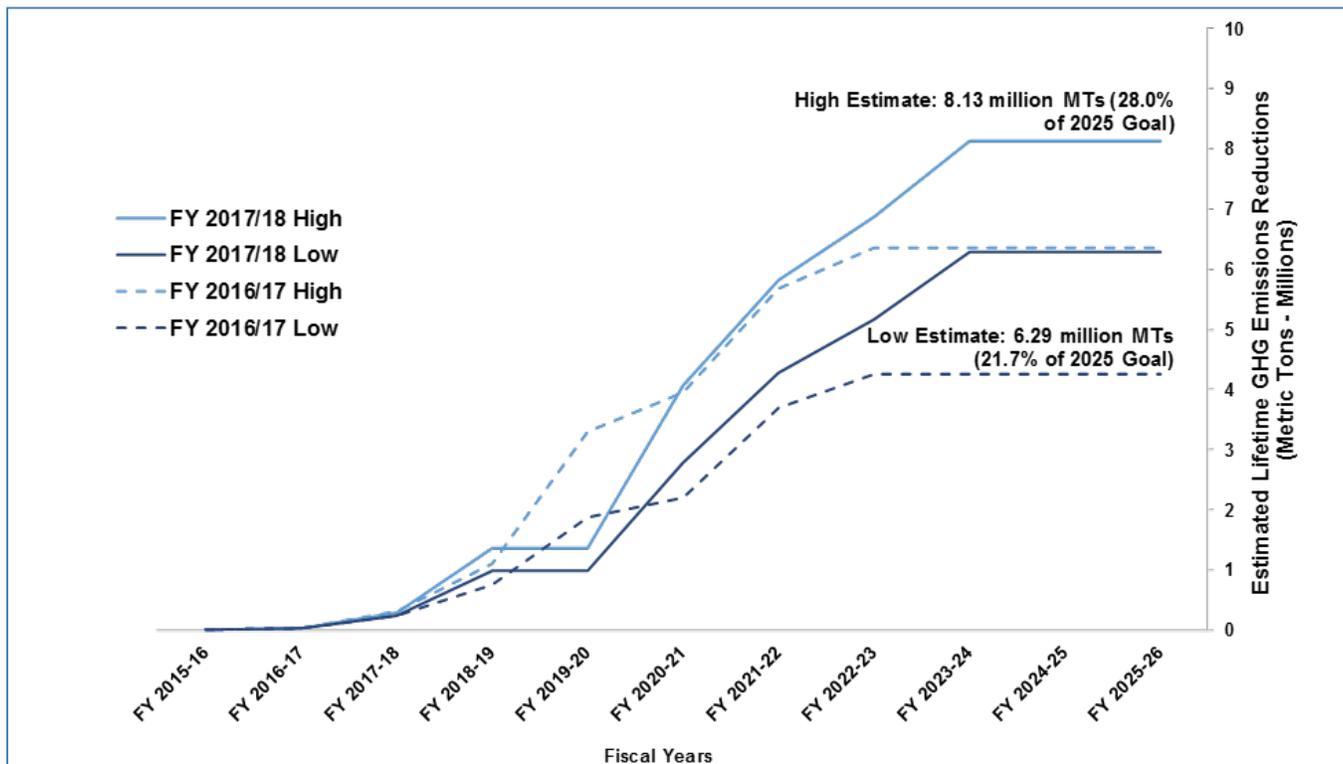
Clean energy and sustainable infrastructure projects are developed during the applicable capital availability period, which can vary from less than one year to over five years. Capital committed can either be deployed in full at the time of transaction closing, or throughout the availability period (e.g., when certain milestones are achieved, such as when permits are issued, equipment orders placed, or funds are drawn to pay for delivery and construction). Figure 10 illustrates a year-on-year comparison of the Investment Portfolio’s realization of Lifetime GHG Emissions Reductions on an installed basis. The First-Year benefits of the Investment Portfolio as of March

⁴⁸ For a complete list of NYGB’s estimated impact benefits as of March 31, 2018, see Metrics, Reporting & Evaluation, Quarterly Report No. 15 (Through March 31, 2018), available at www.greenbank.ny.gov/-/media/greenbanknew/files/2018-Q1-NYGB-Quarterly-Report.pdf.

⁴⁹ *Ibid.*

31, 2018 are expected to be fully realized in 2023.

Figure 10: Estimated Portfolio Lifetime GHG Emissions Reductions as of March 31, 2018



NYGB reports actual energy and environmental impacts annually, at the end of each calendar year.⁵⁰ NYGB’s counterparties reported an incremental 85.9 MW of clean energy installed capacity in the State in the calendar year ending December 31, 2017. This brings NYGB’s cumulative progress of installed projects to 134.3 MW out of the estimated 378.7 MW in NYS, in aggregate, over the life of the underlying transactions. For perspective, at December 31, 2016, NYGB expected to stimulate 173.2 MW of clean energy over periods averaging two to three years. Since then, NYGB’s portfolio of estimated installed capacity has increased to 378.7 MW.

2.6 Issued Targeted Solicitations

NYGB issued the following RFPs and Requests for Information (“**RFIs**”) in the 2017 – 18 Plan Year. Each solicitation generally represents the culmination of multi-month planning processes, including gathering industry and stakeholder feedback. NYGB’s activity in the clean energy and sustainable infrastructure financing markets allows for identification of project types that are impeded by market barriers and financing gaps. NYGB subsequently tailors solicitations to address those barriers.

- (a) *Construction and Aggregation-to-Term Financing for CDG Solar Projects (“**RFP 10**”)*: RFP 10 is targeted at developers and/or owners of solar projects that: (i) are in advanced stages of development; (ii) form part of the Commission’s Community Distributed Generation Program;⁵¹ (iii) are compensated under the Value of Distributed Energy Resources (“**VDER**”) Phase One Tariff; (iv) comply with all applicable provisions established under the Uniform Business Practices for Distributed Energy Resource Suppliers; (v) generate power using Tier-1 technology; (vi) earn revenue by selling volumetric or monetary credits to project members under revenue contracts; and (vii) are 500 kW to 2 MW in size, ground-mounted,

⁵⁰ See Table 2 of Quarterly Metrics Report filed for the quarters ended December 31, 2016 and 2017, respectively, available at www.greenbank.ny.gov/Resources/Public-Filings.

⁵¹ For more information, see Case 15-E-0082, Order Establishing a Community Distributed Generation Program and Making Other Findings (issued July 15, 2015).

canopy-mounted or non-residential rooftop solar projects at a single location.

- (b) *Financing Interconnection Payments for Clean Energy Projects in NYS (“RFI 3”)*: RFI 3 targeted private investors seeking to finance interconnection expenses involved in developing clean energy projects. Private finance is necessary to support grid upgrades, as required by utilities, to increase clean energy generation throughout NYS. The purpose of this RFI was to acquire information to assist NYGB’s assessment of the availability of interconnection financing for clean energy.

All of NYGB’s ongoing solicitations, together with all related documentation and instructions, are publicly available on NYGB’s website at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations. All proposals are reviewed as they are received.

2.7 Enhanced Investment Proposal Submission Process & Data Collection

In May 2017, NYGB launched an online portal for the submission of all investment proposals.⁵² Automating the proposal intake process created a more seamless process for proposers and potential clients and increased the operational efficiency of managing proposals. Automation also supports enhanced pipeline visibility and management. The new intake process is robust, scalable and supports the ongoing growth of NYGB.

During the 2017 – 18 Plan Year, NYGB launched an “RFP Resources” web page. These additional resources include illustrative guidelines for eligible technologies, an indicative term sheet and a template for periodic reporting of Impact Benefits. These resources help proposers and potential clients develop robust and thorough proposals, streamlining the deal structuring and underwriting processes. Since automating the intake process and implementing the RFP Resources page, NYGB can score most proposals within two weeks of receipt.

2.8 Proposer, Capital Provider & Stakeholder Engagement

During the 2017 – 18 Plan Year, NYGB staff participated in 73 industry events and acted as presenters at 58. NYGB engaged in further outreach through its annual Statewide Meeting Series, discussions following the release of two RFPs/RFIs, clean energy and sustainable infrastructure industry roundtables, working groups, Quarterly Metrics Report webinars, press releases, regular mailings and interviews with clean energy and sustainable infrastructure industry stakeholders. These activities were supplemented by numerous press releases and informational and other interviews with members of the press.

2.8.1 Proposer & Capital Provider Engagement

NYGB engages market participants on an ongoing basis through consistent outreach efforts. During the 2017 – 18 Plan Year, NYGB:

- (a) Supported Governor Cuomo’s energy storage target by committing at least \$200.0 million to finance storage-related investments and to drive down costs of the strategic deployment of energy storage where the grid needs it most;⁵³
- (b) Hosted several industry roundtables for market participants from various segments of the clean energy marketplace, including energy storage, C&I energy efficiency, and CDG sectors, focusing on financing gaps and market barriers hindering wide-scale deployment throughout the State;
- (c) Initiated a series of meetings with several CDG developers seeking to advance projects under the VDER guidelines, with a focus on ongoing financing issues throughout the transition process;
- (d) Held conversations with family offices and other investors seeking to deploy capital toward meeting certain environmental, social and governance (“**ESG**”) and socially responsible investment goals in NYS, to advance efforts to ensure that investments advance non-financial outcomes in measurable ways; and
- (e) Held informal market-sounding discussions with stakeholders and potential participants in NYGB’s

⁵² The new online portal for submission of Investment RFPs to NYGB can be accessed by clicking “Submit Proposal Online” under each RFP, available at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

⁵³ See www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-state-state-new-yorks-clean-energy-jobs-and-climate.

anticipated third-party capital raise, to gauge market receptivity and interest. NYGB also engaged developers of clean energy and sustainable infrastructure projects that operate both in and beyond NYS.

2.8.2 Other Stakeholder Engagement

NYGB promotes general organizational awareness to stakeholder groups, including but not limited to NYS ratepayers, environmental groups, and economic development groups. During the 2017 – 18 Plan Year, NYGB:

- (a) Conducted the 2017 Statewide Meeting Series, where NYGB senior managers visited each economic development region of the State to learn more about specific financing opportunities. Regions visited included Western New York, Central New York, Finger Lakes, Southern Tier, Long Island, the North Country and the Mohawk Valley;
- (b) Redesigned and re-launched NYGB's website and marketing materials to provide compelling visual images and alignment with NYSERDA and NYS branding guidelines, messaging and overall narrative;
- (c) Issued five press releases, including three from Governor Cuomo's office, regarding particularly significant NYGB activities with material impact on achieving State's climate goals. Additionally, NYGB issued seasonal newsletters highlighting recently released RFPs/RFIs and Investment Portfolio developments, along with email notifications and regular updates via NYGB's Quarterly Report webinars, to ensure NYS ratepayers and other interested parties are kept updated on NYGB's latest activities including third-party capital and national expansion efforts;
- (d) Contributed to the "Unlocking Private Capital to Finance Sustainable Infrastructure" report issued by the Environmental Defense Fund⁵⁴ as a proposed framework to facilitate NYS and local governments in mobilizing private investment to repair existing, or build new, infrastructure. A case study describing NYGB's role in providing innovative solutions for sustainable infrastructure financing was highlighted in the report; and
- (e) Conducted numerous interviews with reporters, researchers and industry stakeholders about NYGB's capital solutions to advance clean energy deployment, ESG related investing, public-private partnerships and role in the State's evolving clean energy transition.

2.9 Evaluation, Measurement & Verification

In the fourth quarter of the 2016 – 2017 Plan Year, NYSERDA and NYGB commenced the specific design of a long-term review process of the NYGB Investment Portfolio, including creation of a framework to determine how to complete a baseline evaluation for both financial market transformation and energy and environmental impact in NYS.⁵⁵ Transaction Profiles⁵⁶ outline the planned market characterization baseline and market transformation potential, along with the proposed method of outcome evaluation and timeframe, for each NYGB investment.

2.9.1 Impact Evaluation

The purpose of impact evaluation is to validate the overall energy, environmental and economic impacts attained from investment of NYGB funds into different clean energy technologies. Impact evaluation ensures appropriate accountability for these key metrics and uses the most cost-effective and least burdensome methods (for both NYGB and its counterparties). Given that NYGB invests in a variety of clean energy technologies, in which other NYSERDA programs may also play a part, NYGB works closely with the NYSERDA Market Characterization and Evaluation group to determine when NYSERDA program evaluations can be utilized.

Impact evaluations follow industry standard approaches as defined by the International Performance Measurement & Verification Protocol ("IPMVP") and other industry standards/best practices and will be conducted

⁵⁴ See www.business.edf.org/blog/2017/09/21/funding-sustainable-infrastructure-for-resilient-communities.

⁵⁵ A baseline evaluation is the initial measurement of a metric or indicator collected early in the investment term. Establishing a baseline evaluation allows an assessment of the effect of NYGB's investment activity. The baseline evaluations are followed up with periodic evaluations to track impacts.

⁵⁶ See www.greenbank.ny.gov/Investments/Portfolio.

in a manner consistent with other ratepayer funded programs. IPMVP offers current best-practice techniques to quantify the energy savings performance of energy efficiency measures for various types of projects.⁵⁷

At the date of this Review and Plan, NYSERDA has reviewed installations completed between 2011 and 2016 for systems of all sizes and covering the residential, commercial, industrial, and not-for-profit sectors. NYSERDA is in the process of finalizing its impact evaluation of the NY-Sun program. Given that NYGB has multiple investments in residential and commercial solar, where the NY-Sun program has also played a part, NYSERDA will include NYGB's solar projects completed prior to 2017 in the Solar Photovoltaic Program Impact Evaluation. This report is expected to be published by NYSERDA in 2018.

2.9.2 Financial Market Transformation

Financial market evaluation will establish baseline levels for key indicators of market change (e.g., addressing market barriers and financing gaps, and awareness, knowledge, and investor confidence related to financing sustainable infrastructure projects for the financial community, developers, and end-users), which NYGB will track as it continues to grow its Investment Portfolio and activity in the market.

Along with the NYSERDA Market Characterization and Evaluation group, NYGB developed the Evaluation Framework and Master Plan ("**Master Plan**"). The Master Plan was reviewed by DPS in the second quarter of the 2017 – 18 Plan Year.

2.10 Scaled Portfolio Management

NYGB added dedicated resources to scale portfolio management and investment administration efforts in the 2017 – 18 Plan Year. These resources further strengthen NYGB's onboarding of new transactions, fundings, compliance monitoring and transaction exit workflows. In addition, and consistent with industry-wide shifts towards greater information security, NYGB worked both internally and with its counterparties to further secure document sharing platforms. This effort served to support the ongoing security and maintenance of confidential and/or private information related to the Investment Portfolio.

2.11 Risk Framework & Processes

NYGB is exposed to two types of risks: those inherent in its investment and portfolio management activities and those driven by internal and external factors that impact its ability to perform as an enterprise. NYGB must effectively manage its exposure to both categories of risk to grow its Investment Portfolio, remain self-sustaining, and contribute to CEF, CES, and SEP objectives.

During the 2017 – 18 Plan Year, NYGB refined the procedures it had previously put in place to identify, assess and mitigate investment risk in the evaluation of prospective transactions and transaction participants and credit underwriting. NYGB follows established funding protocols for its portfolio and operations (specifying conditions that must be satisfied prior to NYGB funding) and monitoring criteria consistent with investment approvals. Funding protocols also require multiple levels of approvals from both investment and control functions and seek to reflect industry best practices.

NYGB has investment monitoring processes in place including monthly, quarterly and annual transaction reviews to assess performance; quarterly reviews that compare operating, financial results and investment value with expectations; and quarterly portfolio and pipeline reviews with the Investment and Risk Committee ("**IRC**"). NYGB assesses the risk associated with each transaction individually (assigning a "shadow rating") and monitors these

⁵⁷ Best practice approaches generally applicable to NYGB projects can be described in two categories: retrofit isolation and whole facility. The retrofit isolation approach examines certain equipment or systems that have been impacted by the energy-efficiency project. The whole facility approach more broadly considers change in total energy use and de-emphasizes the performance of any specific equipment. For renewable energy projects (e.g., solar and onshore wind) metering is expected to be in place in most cases and will be used to determine electricity production (either through meter reads or through utility bill analysis), to the greatest possible extent. Where such meter readings or bill analysis are not possible, requisite data will be extrapolated from a sample of projects.

risks on an individual and portfolio basis, maintaining overall risk of loss within defined limits.

In reflecting industry best practices, during the 2017 – 18 Plan Year, NYGB reviewed its current policies and procedures and compared them to what is required of a Registered Investment Adviser (“**RIA**”).⁵⁸ While NYGB is not required to be a RIA, as part of organizational awareness, NYGB developed an understanding of the types of processes, practices and controls required of investment entities that are regulated by the Securities Exchange Commission.

Further information with respect to NYGB’s risk management and oversight framework is included in Schedule 2.

2.12 Additional Activities

2.12.1 Strategic Advisory & Capital Arranger Services

In Fall 2017, Governor Cuomo announced that NYGB would explore options to raise at least an additional \$1.0 billion in private sector funds to invest at a portfolio level as well as national expansion. Investing third-party capital at the portfolio level will benefit New Yorkers by mobilizing more private sector capital to be invested in the State, meaning more is done per dollar of ratepayer capital. In addition, third-party capital will enable NYGB to invest in projects in NYS and across the U.S., accelerating even greater scale, standardization, and diversification of NYGB clean energy and sustainable infrastructure investments. This will, in turn, increase liquidity and private sector participation, which even if occurring outside NYS can be expected to reduce financing costs, improve resiliency and increase clean energy choices that will also benefit New Yorkers. NYGB’s investments will remain consistent with its current mandate as well as within the eligible technical scope of the CEF.

NYGB issued an RFP for Strategic Advisory & Capital Arranger Services (“**RFP 9**”). RFP 9 has closed and an advisor, Moelis & Company, has been selected to provide financial advisory and capital placement services and the advisory work is underway. The advisor will work with NYSERDA and NYGB to evaluate options for third-party capital, subject to receipt of any required State-related approvals.

2.12.2 Green Bank Network Activities

Since its launch in December 2015, the international Green Bank Network (“**Network**”) has developed its website, providing a large selection of valuable green financing resources,⁵⁹ held quarterly group calls, hosted webinars, published white papers and other collateral materials that are distributed broadly in the market and collected a range of materials related to green banks around the world. As a founding member of the Network, NYGB remains actively involved, continuing to demonstrate NYS leadership. As greater interest in green bank models continues to emerge from states, municipalities, nations and global organizations, the Network serves as a unique resource for “how to” information on a range of topics. The Network provides input to transaction and technology types along with evaluation methodologies, all of which help members leverage applicable lessons learned elsewhere and potentially expedite the speed with which they can deliver on their mandates.

NYGB and the Connecticut Green Bank, in coordination with the Green Bank Network, jointly hosted the Fifth Annual Green Bank Congress on September 18, 2017 in New York City. Green Bank Network members, government officials, development banks and private sector partners from around the world gathered to discuss how green banks stimulate the “crowding in” of private capital and how to apply the green bank approach to the emerging markets.

Additionally, on December 12, 2017, the Coalition for Green Capital hosted the first gathering of all states and other entities interested in public-private green financing approaches to discuss the next phase of the green bank movement and what is needed to further increase clean energy investment. NYGB discussed its success with building a sustainable infrastructure portfolio and platform and highlighted best practices for other states seeking to implement the green bank approach.

⁵⁸ See www.sec.gov/divisions/investment/iaregulation/memoia.htm.

⁵⁹ See www.greenbanknetwork.org.

Finally, NYGB worked closely with the Network to develop a Network brief titled “How Green Banks Assess and Report Impacts,”⁶⁰ which is intended to demonstrate to public sector stakeholders the effectiveness of using Green Bank funds to achieve public policy goals and to show private capital providers that Green Banks are able to achieve both financial and non-financial (e.g., environmental impact) results. This report will serve investors that look to align their portfolios with climate goals and was launched in conjunction with an informational webinar.

2.12.3 Continued NYS Leadership

In response to a growing number of inquiries from interested parties around the world, NYGB presented on its mission, evaluation process and other elements of the business to a wide variety of stakeholders during the 2017 – 18 Plan Year. Those audiences included: members of the Luxembourg government seeking to better understand how NYGB leverages private sector capital to advance clean energy capital markets; delegates from the Canadian government seeking to understand NYGB’s ability to finance a variety of sustainable infrastructure projects; representatives from the Swedish government with interest in NYGB’s financing model; representatives from the Development Bank of Southern Africa who were looking into, and in the early stages of, establishing their own form of a green bank; representatives from the Moroccan government seeking to build a relationship and to better understand NYGB’s positioning in NYS and in global markets more broadly; and delegates from Japan who also sought to learn more about NYGB’s model. Furthering interest in the NYGB model is a key driver to originate new transactions and attract private sector capital to invest in NYS.

⁶⁰ See: www.nrdc.org/resources/how-green-banks-assess-and-report-impacts.

Part III

Annual Business Plan 2018 – 19

3. Annual Business Plan 2018 – 19

NYGB made \$457.5 million in Overall Investments to Date as of March 31, 2018 and remains focused on overcoming market barriers and financing gaps in clean energy investment in NYS by sourcing, structuring, negotiating and entering investments that meet its investment criteria on commercial terms. As such, NYGB will continue to:

- (a) Respond to market needs including those at the “near frontier” of sustainable infrastructure investment (e.g., energy efficiency, energy storage and solar-plus-storage) in this 2018 – 19 Plan Year;
- (b) Progress investments in the existing Active Pipeline toward close to the maximum possible extent under NYGB control; and
- (c) Manage its existing Investment Portfolio to deliver the clean energy outcomes expected.

In the 2018 – 19 Plan Year, NYGB’s key objectives are to commit an additional \$225.0 million (\$685.0 million on a cumulative basis) to new investments, materially advance efforts relating to raising third-party capital in order to further mobilize capital into NYS sustainable infrastructure and to remain self-sufficient. These key objectives are shown below in [Figure 11](#).

Figure 11: 2018 – 19 Plan Objectives

- Put ratepayer money to work, prudently: Commit **\$685.0 million** (cumulative) to NYGB investments over the fiscal year ending March 31, 2019, with an average of **\$56.25 million** in closed transactions per quarter.
- Mobilize capital: Maintain an average, portfolio-wide Mobilization Ratio of at least **3:1** (the ratio of Total Project Costs (Cumulative) to NYGB Overall Investments to Date), driving towards a ratio of at least **8:1** across all NYGB investments by the end of the CEF term in 2025.
- Maintain self-sufficiency: Continue to grow revenues and manage expenses to maintain self-sufficiency and generate net income.

In addition, NYGB seeks to strengthen its Active Pipeline and perform baseline financial market transformation and impact evaluations, as discussed further in [Section 3.2](#) and [Section 3.4.7](#), respectively.

3.1 2018 – 19 Plan Deliverables

NYGB 2018 – 19 Plan Deliverables (collectively, the “**Plan Deliverables**”) are set out in [Table 6](#) below to inform all NYGB stakeholders of NYGB’s key deliverables in its pursuit of the key objectives in this 2018 – 19 Plan Year.

Table 6: 2018 – 19 Plan Deliverables

Category	Deliverable
Strong Active Pipeline	
<ul style="list-style-type: none"> Active Pipeline 	<ul style="list-style-type: none"> Maintain an Active Pipeline of at least \$450.0 million per quarter on average throughout the Plan Year.⁶¹
<ul style="list-style-type: none"> Targeted Solicitation: Energy Storage 	<ul style="list-style-type: none"> Publicly issue RFI/RFP. Convene energy storage market participants to identify specific market needs and advance product development.
<ul style="list-style-type: none"> Targeted Solicitation: Solar-Plus-Storage 	<ul style="list-style-type: none"> Publicly issue RFI/RFP. Convene solar-plus-storage market participants to identify specific market needs and advance product development.
<ul style="list-style-type: none"> Targeted Solicitation: Pay-for-Performance 	<ul style="list-style-type: none"> Publicly issue RFI/RFP. Convene energy efficiency market participants to identify specific market needs and advance product development.
<ul style="list-style-type: none"> Targeted Solicitation: Tenant Improvement Financing 	<ul style="list-style-type: none"> Publicly Issue RFI/RFP. Convene large property owners and related stakeholders to identify specific market needs and advance product development.
<ul style="list-style-type: none"> Targeted Solicitation: Clean Energy for LMI 	<ul style="list-style-type: none"> Publicly Issue RFI/RFP. Convene LMI stakeholders to identify specific market needs and advance product development.
Portfolio Driving Material Clean Energy Investments Across NYS	
<ul style="list-style-type: none"> Committed Funds 	<ul style="list-style-type: none"> Commit \$685.0 million (cumulative) to NYGB investments as of March 31, 2019. Achieve an average of \$56.25 million in closed transactions per quarter.
<ul style="list-style-type: none"> Evaluation 	<ul style="list-style-type: none"> Select independent consultant(s) and finalize scope(s) of work. Work with NYSERDA and the independent consultant(s) to advance the baseline study of financial market transformation in accordance with the evaluation Work Plan. Work with NYSERDA and the independent consultant(s) to advance the impact evaluation.
Mobilizing Capital	
<ul style="list-style-type: none"> Mobilization Ratio 	<ul style="list-style-type: none"> 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. Evaluate strategies to provide for third-party capital investment at the portfolio level while continuing to deliver the same or greater benefits to all New Yorkers using less ratepayer capital.

Progress against Plan Deliverables will be reported in Quarterly Metrics Reports, filed pursuant to the Metrics Plan, together with a brief narrative (as appropriate) of status and an explanation of any material variances relative to expectations. This is in addition to the normal scope of quarterly reporting, including with respect to Impact Benefits.

⁶¹ Increased from \$300.0 million in previous plan years, reflecting NYGB as a more established investor with greater deal flow at the date of this Review and Plan.

3.2 Build, Maintain & Actively Manage the NYGB Pipeline

The quality, depth and breadth of the Active Pipeline are fundamental drivers of NYGB's continued success. Accordingly, several of NYGB's 2018 – 19 activities aim at ongoing development and maintenance of a strong pipeline, and active management of the pipeline itself. This will be achieved through continuing outreach to, and interaction with, a wide variety of potential proposers and via NYGB's regular collaboration with its clients, counterparties and NYSERDA colleagues.

NYGB will increase its quarterly goal for a strong Active Pipeline by \$150.0 million, to at least \$450.0 million on average this 2018 – 19 Plan Year to correspond with the objective to deliver \$685.0 million (cumulative) Overall Investments to Date as of March 31, 2019. NYGB will seek to originate transactions in coordination with, and leveraging, NYSERDA initiatives. Ensuring this objective is met requires that NYGB develop new products and open new investment channels by way of targeted investment solicitations that follow from the REV, CEF and State strategies, and which complement NYSERDA's programmatic priorities. In addition, NYGB will continue to reach out to market participants and other clean energy stakeholders (e.g., through roundtables and other industry convenings or events).

In support of its priorities, NYGB will issue RFIs and/or RFPs in each of the following markets, alongside convenings of relevant stakeholders as described earlier in [Table 6](#):

- (a) Energy Storage;
- (b) Solar-Plus-Storage;
- (c) Pay-for-Performance;
- (d) Tenant Improvement Finance; and
- (e) Clean Energy for LMI.

In addition, NYGB will continue to actively manage its pipeline to promote conversion of leads to proposals, and proposals to closed transactions. Such actions include:

- (a) Continuation of weekly pipeline meetings where the NYGB team discusses and prioritizes actions with respect to all transactions that are advancing to close;
- (b) Continuously evaluating and updating the probability of close and the anticipated closing date of each investment to ensure that environmental and financial impact(s) are realized.

3.3 Remain Self-Sufficient

NYGB is focused on remaining self-sufficient in the 2018 – 19 Plan Year and, as of the time of this Review and Plan,⁶² forecasts its Revenues, Expenses and Net Income as shown in [Table 7](#) below.

⁶² Forecast has been updated from the NYSERDA budget in January 2018 to reflect activity in the Investment Portfolio as of the date of this Review and Plan.

Table 7: Actual & Forecast Revenues, Expenses & Net Income (Loss) (\$ millions)

	Actual FY '15 - 16	Actual FY '16 - 17	Forecast FY '17 - 18	Actual FY '17 - 18	Forecast FY '18 - 19
Revenues ⁶³	\$1.9	9.7	18.0	19.7	20.3
Expenses	5.5	7.0	12.5	8.5	12.9
Direct Expenses ⁶⁴	2.9	4.8	6.4	5.5	6.9
Indirect Expenses ⁶⁵	2.6	2.3	4.2	3.0	4.0
Net Income Before Non-Operating Expenses	(3.6)	2.7	7.3	11.2	9.4
Non-Operating Expenses ⁶⁶	-	-	1.9	0.0	2.0
Net Income (Loss)	\$(3.6)	2.7	5.5	11.2	7.4

Source: NYGB Audited Financials; NYGB analysis

3.4 2018 – 19 Activities to Meet Objectives & Deliverables

NYGB plans to commit \$225.0 million (\$685.0 million on a cumulative basis) in the 2018 – 19 Plan Year. To deliver this objective, and consistent with prior practice, NYGB will:

- (a) Undertake active outreach to the market, via convenings and other efforts to identify areas of opportunity, including those related to key State initiatives;
- (b) Management of its Active Pipeline with rigor and efficiency;
- (c) Adopt a programmatic approach to providing financing in support of key State initiatives where possible; and
- (d) Identify key constraints and mitigants to move projects forward, including expeditiously implementing mitigants under NYGB's control.

Where capital is the key constraint for economically viable projects, NYGB will clearly signal that it stands ready with terms for specific transaction types to stimulate interest among developers and other capital providers. Using the CDG market as an example, certain projects now appear ready to proceed subject to finalizing tax equity commitments. Where tax equity is the key constraint, NYGB will work with developers and their potential tax equity partners to be creative in providing structures and terms to accelerate such commitments. NYGB will continue to communicate its willingness to provide this type of financial support as a measure to mitigate delays by other capital providers. In addition to tax equity credit enhancements, NYGB will encourage discussion with developers to identify other capital needs that it may be well-placed to meet.

Where capital is not the key constraint, NYGB will communicate such constraints to other stakeholders (including NYSERDA, DPS, etc.) to ensure mitigants, wherever possible, are achieved. In this way, NYGB will continue to be proactive in working against delay in closing new transactions.

3.4.1 Focus on CDG Solar Projects

NYGB expects to play a role in overcoming market barriers and financing gaps currently faced by CDG solar projects in NYS in the near-term. Of the \$704.2 million in NYGB's Active Pipeline as of March 31, 2018, 57.0% are solar project proposals and 40.0% are CDG solar opportunities – a \$150.0 million investment opportunity.

⁶³ Forecasted Revenues for FY '18 – 19 assume \$225.0 million in new commitments and revenues from fees and interest on committed and deployed capital (including reductions in outstanding loans and receivable balances that have occurred as of the date of this Review and Plan) as well as a provision for losses on loans and financing receivables.

⁶⁴ Direct Expenses include: Salaries & Direct Benefits; Transaction Expenses; Sales, General & Administrative.

⁶⁵ Indirect Expenses include: NYSERDA allocations. Indirect Expenses were lower in FY '17 – 18 than on a comparable basis with the FY '18 – 19 forecast because a portion of NYGB's resources during FY '17 – 18 were secured through temporary services, which are not subject to NYSERDA Allocations.

⁶⁶ Non-Operating Expenses include: Evaluation, third-party capital legal and strategic advisory services.

This opportunity is reflected in various ways across the market including NY-Sun's receipt of 236 applications for CDG incentives in 2017 – which is equivalent to approximately 500.0 MWs of pipeline projects. In total there are approximately 680.0 MWs of solar CDG in the NYS pipeline that are either complete or in progress, confirming the demand for this type of project.

NYGB remains committed to provide structured financial solutions for CDG solar projects as this is a significant opportunity to scale investment and drive further access to sustainable infrastructure for end-users in the State. NYGB will advance CDG solar projects already in its Active Pipeline and encourage further demand for construction and aggregation-to-term financing, including by way of RFP 10.

3.4.2 Focus on Energy Efficiency Markets

NYGB will issue an RFI/RFP in connection with general terms to finance “Pay-for-Performance” or “Pay-As-You-Save” business models that are expected to play a key role in the energy efficiency market. Innovative energy efficiency loan products that cover the upfront costs to install home energy efficiency measures, where the loan provider may monetize the energy savings on the utility bill, are needed in the market.

In addition, NYGB will work with market participants and its NYSERDA colleagues, to advance opportunities supporting the commercial, industrial and residential energy efficiency market in NYS as follows:

- (a) *Tenant Improvement Finance*: NYGB will convene large property owners and management companies to understand how it may finance energy efficiency measures that would occur in the build-out or retrofit of a facility. NYGB will explore an approach that maintains the owner-tenant relationship by providing capital on a wholesale basis for use by building owners/managers to offer financing solutions to their tenants for qualified improvements. The debt service could be structured so ongoing tenant debt service payments are less than anticipated energy savings, with a payback period shorter than the remaining lease term. By working with multiple major property owners, NYGB would seek to achieve scale and standardization, which will ultimately provide better value propositions to tenants and attract private sector capital providers.⁶⁷
- (b) *Develop GJGNY Loan Performance Data*: Following NYSERDA's / Green Jobs Green New York's (“GJGNY”) provision of anonymized loan repayment performance information for the GJGNY portfolio on the Open NY platform, NYGB will work with GJGNY to drive scale in the marketplace and improve the platform for use by capital providers, rating agencies and other interested providers.⁶⁸
- (c) *Net-Zero/Passive Buildings*: NYGB will work with NYSERDA colleagues and the RetrofitNY program managers and other market participants to develop financial solutions that would expand the underwriting of, price competition in, and financial structures for net-zero emission/passive energy building design and deep energy retrofits.⁶⁹

3.4.3 Focus on Energy Storage and Solar-Plus-Storage

In his 2018 State of the State address, Governor Cuomo announced a 1,500 MW energy storage target for NYS by 2025. In support of this key Governor initiative, NYGB has committed to provide at least \$200.0 million for storage-related investments to help drive down costs and to strategically deploy energy storage to where the grid needs it most. In addition, NYSERDA and DPS recently released their “Energy Storage Roadmap” for public comment. NYGB release an RFI⁷⁰ to support the recommendations outlined in the Energy Storage roadmap to understand the current market issues related to energy storage economics, including forecast cost curves, how to achieve necessary investment scale, the economics of the current value stack and potential rate changes. Upon completing the RFI process, NYGB expects to structure one or more financial products, with consideration of various incentives, to address current market barriers that include high current installation costs that are expected

⁶⁷ NYSERDA, DPS “New Efficiency: New York”, page 44, available at www.nyserdera.ny.gov/-/media/Files/Publications/New-Efficiency-New-York.pdf.

⁶⁸ *Ibid* page 46.

⁶⁹ *Ibid* page 47.

⁷⁰ See RFI 4: Financing Arrangements for Energy Storage Projects in New York State at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

to decrease over time. NYGB will build upon the knowledge gained through the work described in this [Section 3.4.3](#) to issue a separate RFI/RFP for Solar-Plus-Storage projects in NYS.

3.4.4 Focus on LMI Communities

NYGB will seek opportunities to ensure that the benefits of clean and resilient energy, and sustainable infrastructure, are available for all end-users. NYGB is focused on financing solutions that will serve LMI communities and will issue a targeted solicitation to address such communities. This RFI/RFP, for example, may provide loss reserves, or other financial solutions, to CDG projects serving LMI communities.

NYGB will convene LMI stakeholders, market participants and NYSERDA colleagues to better understand specific financing gaps and design potential financing structures in this market segment. Such events would target large affordable housing property owners and managers to increase their awareness of NYGB and its potential financing structures.

NYGB will consider how to invest in Low-Income Opportunity Zones. Low-Income Opportunity Zones are a new community development program established by Congress in the Tax Cuts and Jobs Act of 2017 to encourage long-term investments in low-income urban and rural communities nationwide. This program could create opportunities to bolster private clean energy investments in certain low-income census tracts designated by Governor Cuomo. Opportunity funds will be able to make tax-advantaged investments in these zones. NYGB may engage with the relevant State entities to explore forming and/or managing one or more Opportunity Funds to raise private capital and direct clean energy investments in the designated Opportunity Zones.⁷¹

Lastly, NYGB will work closely with its colleagues at NY-Sun to advance NY-Sun's programmatic priority program "Solar for All", to support no-cost solar for 10,000 New Yorkers and to address LMI energy efficiency opportunities.⁷²

3.4.5 Work With Other Existing NYS Energy Programs & Initiatives

NYGB will capitalize on opportunities for new investment opportunities that further align various agencies' and authorities' efforts by providing financial solutions to developing areas of the market that meet NYGB's investment criteria, including:

- (a) *Offshore Wind*: On January 29, 2018, NYSERDA published its New York Offshore Wind Master Plan⁷³ as an important first step toward achieving Governor Cuomo's nation-leading offshore wind energy development goal of 2,400 MW by 2030. NYGB recognizes that offshore wind energy procurement structures under consideration (e.g., Fixed Renewable Energy Certificate procurement; or Bundled Power Purchase Agreements) can provide effective means of reducing offshore wind financial risk. In addition, opportunities exist in the offshore wind energy supply chain, which is robust, and faces financing barriers. NYGB may act as a lender and/or provider of credit enhancements, particularly in the offshore wind supply chain.
- (b) *Large-Scale Renewables*: On March 9, 2018, Governor Cuomo announced \$1.4 billion in awards for 26 large-scale renewable energy projects, driven by the CES, the largest single commitment to renewable energy by a state in U.S. history.⁷⁴ Awardees included 22 utility-scale solar farms, three wind farms and one hydroelectric project. One of the wind farms features an energy storage component, marking the first time a large-scale renewable energy project has done so in NYS. Several projects have already broken ground and all projects are expected to be operational by 2022, adding over 1,380 MWs of capacity and generating over 3.2 million MWh annually.
- (c) *Microgrids*: NY Prize⁷⁵ is NYSERDA's first-in-the nation competition to help communities create

⁷¹ See RFI 4: Financing Arrangements for Energy Storage Projects in New York State at www.greenbank.ny.gov/Work-with-Us/Open-Solicitations.

⁷² See www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-state-state-new-yorks-clean-energy-jobs-and-climate.

⁷³ See www.governor.ny.gov/news/governor-cuomo-releases-first-nation-offshore-wind-master-plan-guide-new-yorks-development.

⁷⁴ See www.governor.ny.gov/news/governor-cuomo-announces-formal-request-new-york-exclusion-federal-offshore-drilling-program.

⁷⁵ See www.nyserda.ny.gov/All-Programs/Programs/NY-Prize.

microgrids (i.e., standalone energy systems that can operate independently in the event of a power outage). Community microgrids are at an early stage of development because they involve many end-user segments and are much more complex than “within the fence” microgrids serving a single user. NY Prize offered support for microgrid feasibility studies (Stage One) and audit-grade engineering design and business planning (Stage Two), and now for project build-out and post-operational monitoring (Stage Three). Eighty-Three Stage One winners were announced in July 2015. In April 2017, the NY Prize Selection Committee approved up to \$1.0 million in funding for 11 designs across NYS. Stage Two Design RFP studies are in process. Project builds will occur following a competitive RFP process to be held in the next year. In any event, both for projects within NY Prize and those microgrids that may be advancing separate from it, NYGB is prepared to facilitate financings for projects meeting its investment criteria. NYGB will continue to work with NY Prize awardees and other microgrid developers as their projects mature to a level where they are financeable.

- (d) *Clean Heating & Cooling Technologies:* In October 2017, NYSERDA announced the first five of 35 sites on Long Island that will receive heating and cooling systems under the State’s demonstration projects, alongside National Grid, which announced two geothermal demonstration projects.⁷⁶ The NYSERDA framework, the “Renewable Heating and Cooling Policy Framework: Options to Advance Industry Growth and Markets in New York,”⁷⁷ sets out policy options and market-based solutions for the medium term and identifies approaches for longer term action. NYGB views this proposal and related framework as an opportunity to advance clean energy technology deployment in NYS by coupling structured financial solutions with the rebate program and other activities that should drive demand.
- (e) *Biomass Projects:* NYGB has determined that CEF-compliant biomass projects (e.g., anaerobic digestion, biomass-to-energy, landfill-gas recovery, etc.) represent a sustainable infrastructure financing opportunity that is currently unsupported by private capital. NYGB will continue to explore pathways to identify pipeline opportunities in NYS and facilitate the activities required to attract third-party capital to invest in and develop this asset class.

3.4.6 Mobilize Further Capital to Invest in NYS Sustainable Infrastructure

There is a meaningful set of institutional investors seeking investments in sustainable infrastructure across the U.S. that require scale only available at a portfolio level. To date, NYGB has achieved its mission by ensuring private capital is invested alongside NYGB capital on a transaction-by-transaction basis (e.g., such as with tax-equity). However, today, with a large and diverse NYGB portfolio, there is now an opportunity to:

- (a) Continue to deliver the NYGB mission;
- (b) Mobilize more capital in NYS than could otherwise be achieved; and
- (c) Utilize fewer ratepayer dollars.

NYGB seeks to accelerate the mobilization of private capital and achieve an 8:1 ratio⁷⁸ by the end of 2025. In the 2018 – 19 Plan Year, NYGB will determine a strategy for third-party capital investment at the portfolio level while continuing to deliver the same or greater benefits to all New Yorkers using less ratepayer capital, subject to all required NYS approvals. NYGB’s investments are expected to remain consistent with its current mandate as well as within the eligible technical scope of the CEF which will ensure that the value of NYGB-financed project assets in NYS is always equal to or greater than the capital provided by NYS ratepayers.

⁷⁶ See www.nyserdera.ny.gov/About/Newsroom/2017-Announcements/2017-10-19-National-Grid-and-NYSERDA-Announce-Clean-Heating-and-Cooling-Demonstration-Projects-for-LI-Residents.

⁷⁷ For more information regarding Governor Cuomo’s announcement and the NYSERDA framework, see www.nyserdera.ny.gov/About/Newsroom/2017-Announcements/2017-02-07-Governor-Cuomo-Announces-Proposal-for-Rebate-Program-for-RHC.

⁷⁸ The ratio of Total Project Costs (Cumulative) to NYGB Overall Investments to Date (the latter capped at the total amount of capitalization received from NYS ratepayers).

3.4.7 Perform Baseline Financial Market Transformation and Impact Evaluations

Pursuant to the CEF Order and CEF Information Supplement,⁷⁹ NYGB's portfolio is subject to baseline evaluation, and ongoing evaluations as the portfolio grows throughout the 10-year term of the CEF. Through the development of the Metrics Plan, which involved extensive stakeholder, DPS and NYSERDA input, NYGB identified a set of financial and environmental impact metrics that are publicly reported quarterly and annually. Consistent with the Metrics Plan, NYSERDA has engaged qualified and independent third-parties to evaluate NYGB's portfolio to assess both the financial market transformation as well as the energy and environmental impact of NYGB investments by focusing on product categories and other data reflected in NYGB public reporting.

Each Transaction Profile describes the impact that NYGB's participation is expected to have in that transaction in terms of both incremental clean energy benefits in NYS and clean energy financial market transformation. Transaction Profiles further outline the planned market characterization baseline and market transformation potential, along with the proposed evaluation method and timeframe for each transaction.

The primary goals of the financial market baseline evaluation are to:

- (a) Establish a baseline using historical tracing methods to measure market conditions in 2013, prior to the formation/launch of NYGB;
- (b) Assess the overall progress of NYGB towards meeting its market transformation goals, including addressing market barriers and financing gaps, increasing investor confidence and achieving scale in clean energy financing; and
- (c) Provide important information and feedback to help NYGB further target and refine its product offerings to maximize the uptake, deployment and effectiveness of its ongoing activities.

NYGB coordinates with NYSERDA to identify areas where baseline evaluation activities may be combined to address the needs of both NYGB and NYSERDA through a single evaluation effort. The plan for the two types of evaluation being undertaken are as follows:

- (a) *Financial Market Evaluation:* In the last quarter of the 2017 – 18 Plan Year, NYSERDA and NYGB prepared a Financial Market Transformation Evaluation Work Plan ("**Work Plan**"). The Work Plan was released to NYSERDA's qualified pool of independent evaluation consultants for mini-bid in the first quarter of the 2018 – 19 Plan Year. An independent consultant has been selected to perform the work and the study is planned to commence in the second half of the 2018 – 19 Plan Year.
- (b) *Impact Evaluations:* For NYSERDA programs with impact evaluations planned to commence in 2018 or early 2019, NYGB will work with NYSERDA staff when developing the scope ensuring the inclusion of projects and technologies supported by NYGB activities. These NYSERDA programs include, but are not limited to, the Multifamily Performance Program, Existing Facilities, Commercial New Construction, and Home Performance with ENERGY STAR®, including all transactions executed through March 31, 2018.

3.4.8 Maintain Transparency

NYGB will continue to provide extensive information to its stakeholders and the public, including through required filings such as its annual business plan, quarterly and annual metrics reports, and Transaction Profiles for all closed investments. This information is available on NYGB's website. NYGB will also continue to report its progress by way of newsletters, quarterly webinars and various other outreach efforts with a large range of stakeholders and other market participants.

3.4.9 Constantly Improve Operations & Follow Best Practices

- (a) *Continued Emphasis on Investment Evaluation & Portfolio Management:* As investment volumes increase and drive efficiencies of scope and scale, NYGB will remain prudent and adhere to the

⁷⁹ Case 14-M-0094, submitted by NYSERDA on June 25, 2015, available at documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={FC3FBD53-FBAC-41FB-A40E-3DA0A5E0866A}.

Commission's key investment criteria, emphasizing rigor in the diligence process, oversight of each commitment and active portfolio management. Through a judicious approach to staffing, NYGB will ensure it has sufficient resources to continue origination, conversion and ongoing monitoring in connection with existing investment execution, and management as the Investment Portfolio grows.

- (b) *Continue Best-Practice Risk Management:* Effective risk management efforts ultimately result in higher return on investments and greater public benefits, both of which advance NYGB's goal of maintaining self-sufficiency and help ensure that NYGB remains a prudent steward of the considerable ratepayer funds with which it is entrusted. NYGB will continue efforts to prioritize excellence in its risk and compliance tools and frameworks as well as its internal operations and procedures. As its Investment Portfolio grows, NYGB undertakes monthly, quarterly and annual reviews to manage performance, identify and address risks and other issues that may arise.
- (c) *Standardize, Formalize & Streamline Business Practices:* As the Investment Portfolio grows, ongoing opportunities exist for NYGB to reduce transaction costs by standardizing documents and procedures, and thereby exert downward pressure on capital costs across the market by gathering and making data available on project and investment performance (subject to commercial confidentiality practices and the protection of competitive information). Standardizing contracts and procedures plays an important role in developing capital markets for clean energy asset classes.

NYGB will continue to develop standardized business-level and legal term sheets and legal documentation to streamline the investment process and demonstrate best practices. By improving market understanding of clean energy asset classes in the State, NYGB will stimulate more efficient and cheaper capital pricing for eligible technologies. Together, these efforts will help reduce remaining obstacles to private capital providers in scaling up sustainable infrastructure investment activity.

Internally, NYGB will seek ways to improve the efficiency and effectiveness of its investment, portfolio management, operations, middle and back-office functions (including managing those activities performed by key service providers) and reporting on all areas of the business to NYSERDA/NYGB management and externally to stakeholders.

3.4.10 Attract & Retain Required Staff

NYGB has 30 full time employees planned for the 2018 – 19 Plan Year, which is near the full head-count (35) required to achieve its goals. Adequate staffing is a fundamental prerequisite to NYGB's ability to fully and successfully execute on this Plan in 2018 – 19. As with other comparable investment organizations in both the public and private sectors, NYGB requires appropriate staffing to achieve its mission and goals and support growth in the business.

Developing and retaining staff in general are critical areas of focus for 2018 – 19. Recruiting efforts emphasize individuals who bring rich experience in their fields from having worked in other private, public and/or not-for-profit institutions focused on energy and/or financing. Each member of the NYGB team is highly motivated and dedicated to serving the public by advancing the REV strategy. Recruiting candidates away from other opportunities (including those in the private sector) and retaining staff, requires that NYGB maintain a stimulating environment where employees believe they can have impact and gain critical investment, portfolio management and clean energy commercial experience, while working in an environment and organization that operates in a manner broadly consistent with private sector norms.

4. Glossary & Definitions

“**2014 Plan**” has the meaning given to that term in Section 1.1.

“**2015 Plan**” has the meaning given to that term in Section 1.1.

“**2016 Plan**” has the meaning given to that term in Section 1.1.

“**2017 Plan**” has the meaning given to that term in Section 1.1.

“**2017 – 18 Plan Year**” has the meaning given to that term in Section 2.

“**2018 – 19 Plan Year**” has the meaning given to that term in Section 2.3.1.

A

“**Active Pipeline**” has the meaning given to that term in footnote 26.

“**Actual**” has the meaning given to that term in footnote 22.

“**Alliance**” has the meaning given to that term in Section 2.3.1.

“**Annual Financial Metrics Report**” means each Metrics report required to be filed by NYGB with the Commission with respect to each fiscal year.

“**Audited Financials**” means annual audited financial statements prepared in accordance with applicable accounting standards by a reputable, experienced and independent accounting firm, in consultation with NYGB and NYSERDA staff.

B

“**BAYG**” has the meaning given to that term in footnote 43.

“**BEAT**” has the meaning given to that term in Section 2.3.1.

“**BQ**” has the meaning given to that term in Schedule 1.

“**Btu**” has the meaning given to that term in Section 2.3.1.

C

“**C&I**” has the meaning given to that term in Section 2.5.

“**CCR**” has the meaning given to that term in Schedule 1.

“**CDG**” has the meaning given to that term in Section 2.1.

“**CEF**” has the meaning given to that term in Section 1.1.

“**CEF Order**” has the meaning given to that term in Section 1.1.

“**CES**” has the meaning given to that term in Section 1.1.

“**CESIR**” has the meaning given to that term in Schedule 1.

“**CHP**” has the meaning given to that term in Section 2.1.

“**Citi Bike**” has the meaning given to that term in Schedule 1.

“**CLF**” has the meaning given to that term in Schedule 1.

“**Commission**” has the meaning given to that term in Section 1.1.

“**Commission Orders**” has the meaning of the Initial Capitalization Order and the “Order Approving Additional Capitalization with Modification for [NY] Green Bank” issued and effective July 17, 2015.

“**Committed Funds**” means, in any period, the aggregate funds to be provided by NYGB pursuant to executed investment and financing agreements which remain in force during that period, without such funds having been Deployed, expressed in dollars. “**Committed**” has a corresponding meaning.

“**Construction Loan Facility**” has the meaning given that term in Schedule 1.

“**CRF**” has the meaning given to that term in Section 2.4.1.

“**CRM**” has the meaning given to that term in Section 2.1.

D

“**Deployed Funds**” means, in any period, the aggregate funds that have been advanced by NYGB pursuant to the terms of executed investment and financing agreements which remain in force during that period, expressed in dollars. “**Deployed**” has a corresponding meaning.

“**DPS**” has the meaning given to that term in Section 2.3.1.

E

“**ESG**” has the meaning given to that term in Section 2.8.1.

“**EV**” has the meaning given to that term in Section 2.1.

“**Expense**” means, in any period, the aggregate of: (a) all direct costs incurred by NYGB in day-to-day operations, including all business development, transaction, and general and administrative expenses, expressed in dollars; and (b) all indirect costs allocated quarterly to NYGB by NYSERDA, generally based on the proportion which NYGB’s direct salary costs bear to the total salary costs of all NYSERDA program staff, expressed in dollars and includes recurring and non-recurring items.

F

“**Facility**” has the meaning given to that term in Schedule 1.

“**First-Year**” has the meaning given to that term in Section 1.6.

G

“**GHG**” has the meaning given to that term in Section 1.1.

“GJGNY” has the meaning given to that term in Section 3.4.2.

“Greenlight Committee” means the committee of that name in NYGB’s investment process.

I

“Impact Benefits” has the meaning given to that term in Section 1.6.

“Impact Benefit Objectives” has the meaning given to that term in Section 1.6.

“Inception” has the meaning given to that term in footnote 4.

“Initial Capitalization Order” has the meaning given to that term in footnote 4.

“Investment Portfolio” means, at any time, collectively, the investment transactions that NYGB has executed with its counterparties that have not yet matured or otherwise expired in accordance with their respective terms.

“Investment RFPs” has the meaning given to that term in Section 1.4.4.

“IRC” has the meaning given to that term in Section 2.11.

“ITC” has the meaning given to that term in Section 2.3.1.

“IPMVP” has the meaning given to that term in Section 2.9.1.

K

“KPIs” have the meaning given to that term in Section 1.5.

L

“Lifetime” has the meaning given to that term in Section 1.6.

“LMI” has the meaning given to that term in Section 2.1.

M

“Master Plan” has the meaning given to that term in Section 2.9.2.

“Metrics Plan” has the meaning given to that term in Section 1.5.

“MMBtu” has the meaning given to that term in Section 1.6.

“Mobilization Ratio” represents the number of dollars of Total Project Costs (Cumulative) mobilized for each dollar committed to investments by NYGB and comprises the ratio of the quotient of Total Project Costs (Cumulative) divided by Overall Investments to Date (subject to cap of \$1.0 billion), to one.

“Motivate” has the meaning given to that term in Schedule 1.

“MUSH” has the meaning given to that term in Table 3.

“MW” has the meaning given to that term in Section 2.3.1.

“**MWh**” has the meaning given to that term in Section 1.6.

N

“**Net Income**” means, in any period, Revenues less Expenses with a positive result.

“**Net Loss**” means, in any period, Revenues less Expenses with a negative result.

“**Network**” has the meaning given to that term in Section 2.12.2.

“**NYCBS**” has the meaning given to that term in Schedule 1.

“**NYGB**” has the meaning given to that term in Section 1.

“**NYS**” has the meaning given to that term in Section 1.

“**NYSERDA**” has the meaning given to that term in Section 1.

O

“**Overall Investments to Date**” means, at any time, the aggregate of all Committed Funds since Inception (but excluding approved investments that have not been executed at the relevant time), expressed in dollars.

P

“**Plan Deliverables**” has the meaning given to that term in Section 3.1.

“**Post-Construction Aggregation Facilities**” has the meaning given to that term in Schedule 1.

“**PP**” has the meaning given to that term in Schedule 1.

“**Project**” has the meaning given to that term in Schedule 1.

“**Projects**” has the meaning given to that term in Section 1.6.

“**PV**” has the meaning given to that term in Section 1.6.1.

Q

“**Quarterly Metrics Reports**” means each Metrics report required to be filed by NYGB with the Commission in respect of each calendar quarter as set out in Section 2.1 of the Metrics Plan and addressing the matters identified in Section 2.2 of the Metrics Plan as applicable.

R

“**REV**” has the meaning given to that term in Section 1.1.

“**Revenue**” means, in any period, NYGB revenue from all sources, including without limitation all fees, interest, penalties, dividends and other receivables related to Committed Funds and Deployed Funds (inclusive of such amounts as may be capitalized, accrued or paid-in-kind) due to NYGB during that period as remuneration for

providing financial facilities in transactions and includes interest received on cash held by NYGB,⁸⁰ all expressed in dollars.

“**Review and Plan**” has the meaning given to that term in Section 1.1.

“**RFI**” has the meaning given to that term in Section 2.6.

“**RFI 3**” has the meaning given to that term in Section 2.6.

“**RFP**” has the meaning given to that term in Section 1.4.4.

“**RFP 10**” has the meaning given to that term in Section 2.6.

“**RGGI**” has the meaning given to that term in Section 1.6.2.

“**RIA**” has the meaning given to that term in Section 2.11.

S

“**Scoring Committee**” means the committee of that name in NYGB’s investment process.

“**SEP**” has the meaning given to that term in Section 1.

“**State**” has the meaning given to that term in Section 1.

“**Sunrun**” has the meaning given to that term in Schedule 1.

“**SunTrust/ING Credit Facilities**” has the meaning given to that term in Schedule 1.

T

“**Total Project Costs (Cumulative)**” means, in any period, the aggregate of all amounts required to deploy clean energy project(s) comprising each (past and present) NYGB investment for the corresponding term of that investment. “Total Project Costs (Cumulative)” captures all capital for the relevant investment irrespective of source (including, without limitation, sponsor equity, tax equity, other equity interests, all categories and types of debt or hybrid interests and incentives), including any assumed rollover of revolving facilities. “Total Project Costs (Cumulative)” is measured since Inception and expressed in dollars.

“**Transaction Profiles**” has the meaning given to that term in Section 1.6.2.

“**True-Up**” has the meaning given to that term in Figure 4.

U

“**U.S.**” has the meaning given to that term in Section 2.3.1.

“**Useful Life**” has the meaning given to that term in Section 1.6.

⁸⁰ It is NYGB’s practice to invest cash balances in low risk instruments.

V

“**VDER**” has the meaning given to that term in Section 2.6.

W

“**Work Plan**” has the meaning given to that term in Section 3.4.7.

2017 – 18 Plan Year Investments

Each transaction NYGB closed in the 2017 – 18 Plan Year is described below. All descriptions are derived from information included in Transaction Profiles.

Sunrun Inc. – Increasing Opportunities for NY Residents to Go Solar, Expanding Market Liquidity

- Reduces GHG emissions by up to 604,000 metric tons over the 25-year life of the underlying assets, with an incremental 108,000 metric tons attributed to the most recent transaction (closed on May 9, 2017)
- Generates at least 765,000 MWh of renewable energy over the life of the underlying projects, with an incremental 206,000 MWh attributed to the most recent transaction
- Increases renewable energy installed generation capacity by at least 26.0 MW, with an incremental 7.0 MW attributed to the most recent transaction

On May 9, 2017, NYGB closed a \$15.0 million commitment toward a \$202.0 million aggregation-to-term loan facility with SunTrust and ING (the “**SunTrust/ING Credit Facilities**”) to provide Sunrun, Inc. (“**Sunrun**”) with a larger financing to expand its residential solar provider business in NYS and elsewhere. The \$202.0 million Sun Trust/ING Credit Facilities support a \$100.0 million equity partnership with National Grid plc, an international utility with a sizeable NYS presence.

This is NYGB’s third transaction with Sunrun, a national solar provider that markets and develops residential solar energy systems. The three complementary transactions (one construction financing and two post-construction financings) aggregate bundled pools of residential solar systems that will ultimately be refinanced through one or more longer-term take-out financings. Given that the bank market for such credit facilities remains limited, NYGB’s participation enables larger aggregation facilities than would otherwise be available, resulting in longer term takeout refinancings at a scale greater than what might otherwise be achieved. Through increased scale, the aggregation-to-term transactions are expected (post-aggregation) to draw new investors and financial institutions into the marketplace, decrease the cost of capital for solar developers and installers and, in turn, reduce the cost of solar power equipment sold or leased to homeowners.

Motivate International Inc. – Expanding Urban Bike Sharing Program in New York City

- Reduces up to 32,500 metric tons of GHG emission over a seven-year useful life.

On May 18, 2017, NYGB committed \$48.8 million to Motivate International Inc. (“**Motivate**”), comprising a \$43.3 million term loan and a \$5.0 million seasonal variable funding note. Motivate is the leading bike share operator in North America and the parent company of NYC Bike Share, LLC (“**NYCBS**”), the exclusive operator of the New York City bike share system (“**Citi Bike**”). NYGB capital will support Citi Bike’s addition of 2,000 bikes primarily in LMI neighborhoods in Harlem, Queens and Brooklyn, adding to its existing fleet of 10,000 bikes across 600 stations. This expansion will convert up to 200 million miles of public commuting from emissions-based transport to the bike share system, offsetting up to 32,500 metric tons of GHG emissions over the seven-year term of the transaction.

Despite robust cash flows and growing membership, NYCBS has encountered challenges accessing private capital that is structured and priced to reflect the strength of its business model largely due to the nascence of the bike share asset class and limited comparable transactions. This transaction will help NYCBS grow and develop the operating track record needed to attract further private capital in the future, including pricing to better reflect the strength of its business model and results. For capital market participants, this transaction aims to demonstrate that sustainable infrastructure provides a reliable return on investment, familiarize lenders with the underlying asset type and increase confidence for financing in the market. The innovative securitization structure of this transaction provides a template for financial institutions to replicate with other sustainable infrastructure assets that have predictable cash flows.

Plug Power Inc. – Enabling Growth & Expanding Financing Opportunities for Hydrogen Fuel Cell Projects

- Reduces GHG emissions by at least 72,600 metric tons over the 10-year life of the underlying projects, with an incremental 32,600 metric tons attributed to the most recent transaction (closed on July 21, 2017)
- Generates at least 131,000 MWh of renewable energy over the life of the underlying projects, with an incremental 58,000 MWh attributed to the most recent transaction (closed on July 21, 2017)
- Increases renewable energy installed generation capacity by at least 4.21 MW, with an incremental 1.31 MW attributed to the most recent transaction (closed on July 21, 2017)

On December 23, 2016, NYGB and Plug Power Inc. (“PP”) closed a \$25.0 million term loan facility to finance the deployment of fuel cell systems powering forklifts in distribution centers across NYS (the “Project”). On July 21, 2017, the facility was upsized by an additional \$20.0 million to finance PP’s continued deployment growth, which had surpassed initial expectations. The overall \$45.0 million financing facility (the “Facility”) allows PP immediate access to capital that is currently held as cash collateral in restricted accounts, rather than waiting for it to be released over time as payments are made through sale-leaseback arrangements with tax equity providers. NYGB’s participation in the upsized Facility is significant because it enables PP to deploy more systems and convert more forklift fleets in a shorter amount of time than would otherwise be possible.

PP is a designer and manufacturer of fuel cell systems and fueling infrastructure, and a specialist in deploying its fuel cell propulsion systems across entire fleets of forklifts and transportation vehicles within distribution centers throughout the U.S. PP deploys these systems and provides a suite of services to operate them – such as procuring the hydrogen fuel that powers the systems, and providing ongoing operations and maintenance to keep the systems running at a guaranteed uptime level – all as a single turnkey offering to the owners of the manufacturing site(s) or distribution center(s). Many of PP’s current customers are major corporations in the automotive manufacturing, retail distribution and consumer goods industry.

These transactions constitute NYGB’s first investments in the fuel cell industry, which is still relatively small nationally but growing. As a result of the relatively limited track record for this particular technology, many firms in the industry experience high borrowing costs. NYGB participation in the transaction aims to address those high costs for PP and other similar companies in the sector by making otherwise restricted capital available to PP, so they can continue scaling their business, including to the levels where capital costs are expected to be significantly reduced.

Cypress Creek Renewables – Bridge Loan to Support the Deployment of Community Solar Projects

- Reduces GHG emissions by up to 2,610,000 metric tons over the 25-year life of the underlying assets
- Generates up to 4,960,000 MWh of renewable energy over the life of the underlying projects
- Increases renewable energy installed generation capacity by up to 168.0 MW

On August 2, 2017, NYGB provided a 12-month senior secured bridge loan facility of up to \$11.5 million to Cypress Creek Renewables LLC (“CCR”). In December 2017, the bridge loan was upsized by \$13.5 million and extended until December 2019 to finance a portion of the balance of the interconnection upgrade estimates. Bridge loan proceeds will finance project interconnection advance payments to utilities across NYS for up to 72 CDG solar projects. This transaction is expected to support the deployment of up to 168.0 MW of solar projects in NYS, providing residents and businesses with a greater variety of energy choices and, ultimately, lower-cost clean energy options.

As there is an increasingly strong demand for CDG throughout NYS, capital providers are, and will continue to be, expected to provide financing to enable the deployment of these projects, including through covering the up-front interconnection payments, and products like NYGB’s bridge loan are expected to ultimately be offered by private capital providers in future.

This transaction encourages an efficient use of sponsor equity and supports project development efforts in NYS by bridging the period project sponsors need to finalize financing arrangements for projects that have completed the Coordinated Electric System Interconnection Review (“CESIR”) process. NYGB’s participation creates an easier pathway forward for developers and enables greater deployment of CDG along with other distributed

generation assets throughout the State.

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 CDG enabled business models. This transaction also supports the deployment of CDG 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.

BQ Energy (City of Beacon) – Driving Standardization in the New York Solar Market

Reduces up to 47,600 metric tons of GHG emissions over the life of the underlying project

- Generates up to 90,500 MWh of renewable energy over the life of the underlying project
- Increases renewable energy installed generation capacity by up to 2.8 MW

BQ Energy (“**BQ**”) is a Wappingers Falls, New York-based renewable energy project developer specializing in landfill and brownfield site redevelopment. As the third of a larger portfolio of projects to be financed in collaboration with NYGB, BQ has received a \$3.1 million construction loan and term loan facility to complete a 2.8 MW solar project on a remediated landfill located in the City of Beacon, Dutchess County. Solar power from this project will be sold to the City of Beacon and will generate a significant percentage of its total power needs.

This transaction aims to drive growth in the small to mid-size solar sector by encouraging the standardization of contractors, contracts, and equipment thereby increasing underwriting efficiency and reducing overall transaction costs. Developing standardized projects within a portfolio makes the overall financing opportunity more attractive to a larger potential investor group, ultimately providing more funding options and influencing financing costs. Institutional investors and other private sector capital providers have shown limited interest in financing small-to-mid-sized solar project developers which may have shorter operating histories. NYGB’s participation in this transaction will help this NYS-based developer further consolidate its track record and achieve the scale needed for broader appeal to traditional capital providers. In turn, this can be expected to enable more refinancing options, which will provide the market with greater levels of familiarity with this asset class – a prerequisite to increasing liquidity. By bridging certain financing gaps in the marketplace, NYGB is enabling a larger group of solar developers to participate in New York’s clean energy marketplace. This gives end-users more choice in terms of how they pay for their systems and who they select as their installer. Greater choice and competition in the market will lead to reduced costs, allowing a greater number of New Yorkers and New York businesses to adopt solar.

Sunrun Inc. – Increasing Opportunities for NY Residents to Go Solar, Expanding Market Liquidity

- Reduces GHG emissions by up to 1,256,000 metric tons over the 25-year life of the underlying assets, with an incremental 652,000 metric tons attributed to the most recent transactions (closed on March 27, 2018)
- Generates at least 2,148,000 MWh of renewable energy over the life of the underlying projects, with an incremental 1,383,000 MWh attributed to the most recent transactions
- Increases renewable energy installed generation capacity by at least 73.0 MW, with an incremental 47.0 MW attributed to the most recent transactions

Construction Loan Facility

On June 16, 2016, NYGB committed \$25.0 million which, along with financing from other lenders, allowed Sunrun to increase its existing revolver from \$205.0 million to \$250.0 million. The revolver (“**Construction Loan Facility**” or “**CLF**”) is being used by Sunrun to fund customer acquisition, purchase of materials, and construction and installation of residential solar energy systems, and ultimately be refinanced through Post-Construction Aggregation Facilities (described below) and tax equity commitments arranged by Sunrun. On February 23, 2018, NYGB and the lender group consented to extend the maturity of the CLF by two years in support of Sunrun’s consistent and growing deployment rate in NYS and nationally. NYGB’s continued participation in this

consortium of capital providers broadens the availability of construction financing for distributed energy projects for homeowners across NYS.

Post-Construction Aggregation Facilities

On May 13, 2016, NYGB closed a \$25.0 million commitment to participate in a transaction consisting of two post-construction credit facilities – a loan aggregation revolver and a term loan, which were expected to accelerate the deployment of over 5,000 solar projects at homes across NYS. The transaction was part of a broader \$340.0 million financing (the “**Post-Construction Aggregation Facilities**”) arranged by Investec that provides Sunrun with a larger financing to expand its business in NYS and elsewhere. On March 27, 2018, NYGB and the lender group consented to extend the deployment period and the maturity of the Post-Construction Aggregation Facilities by over two years based on Sunrun’s demonstrated ability to continually deploy solar projects in NYS and nationally.

In total, NYGB has three ongoing transactions with Sunrun, a national solar provider that markets and develops residential solar energy systems. The three complementary transactions (one construction financing and two post-construction financings) aggregate bundled pools of residential solar systems that will ultimately be refinanced through one or more longer-term take-out financings. Given that the bank market for such credit facilities remains limited, NYGB’s participation enables larger aggregation facilities than would otherwise be available, resulting in longer-term takeout re-financings at a scale greater than what might otherwise be achieved. Through increased scale, the aggregation-to-term transactions are expected (post-aggregation) to draw new investors and financial institutions into the marketplace, decreasing the cost of capital for solar developers and installers, and in turn, the cost of solar power equipment sold or leased to homeowners.

Risk Management & Oversight Framework

1. Introduction

Risk-taking is an intrinsic part of all investment businesses, including NYGB. At NYGB, risk management is not only important in minimizing and controlling loss, it also plays a role in strategic planning, portfolio construction, investment management processes and operations.

Effective management of NYGB risk is a cornerstone of NYGB's ability to be self-sustaining, to meet its mission of generating returns in excess of expenses and other uses of cash, and to be a responsible steward of the public funds with which it is entrusted. While realizing NYGB's market-responsive mission requires it to retain flexibility in its decision-making, investments and operations, NYGB is acutely aware that such flexibility must be subject to rigorous processes and accountabilities.

Risk management is the process of identifying, assessing and controlling both enterprise and portfolio risks to minimize unanticipated losses and uncompensated risks and optimize the reward/risk ratio. At NYGB, risk management principles are applied at the enterprise and Investment Portfolio levels and are both quantitative and qualitative in nature. This means that risk management is viewed not just as the duty of one individual or department but as the responsibility of all NYGB personnel as a fundamental part of organizational culture.

This Schedule 2 outlines the key risks in NYGB's business, risk management policies, mitigants and risk management oversight.

2. Risk Framework & Identification

NYGB classifies all risks arising in the business as either investment risks or enterprise risks. Investment risks are those involved in investment selection and asset management; enterprise risks reflect the balance of largely operational risks related to NYGB's business. Investment risks are further segmented into those related to investment selection and those related to portfolio management, reflecting that the nature of risks that arise in connection with the commitment and deployment of funds differs depending on whether NYGB is making a particular investment or managing its overall portfolio. Table 8 sets out the key business risks to be managed by NYGB.

Table 8: Key Business Risks

Investment Risks		Enterprise Risks	
Investment Selection			
Technology Risk	The risk that the technology employed in a potential investment will not function as and when intended, including to expected and necessary performance levels	Capitalization Risk	Risk that NYGB does not receive the funds allocated to it on the expected schedule, which could negatively impact NYGB's concentration risk and result in a portfolio that is overweight in individual investment types versus plan
Operating Risk	Operational risks related to potential investments, including construction, fuel/renewable resource, input prices, servicing, maintenance and billing/collections arrangements, management, performance of other debt, equity and project participants	Liquidity/ Balance Sheet Risk	Risk that counterparties are unable to refinance NYGB's position when expected and/or NYGB is unable to sell-down assets (at times and/or on terms acceptable to NYGB), tying up capital and slowing the capital recycle rate
Legal & Capital Structure Risk	Risks of inadequate contractual terms and documentation to properly structure the relevant project and protect NYGB's interests; risks inherent in proposed capital structure and contractual risk allocations between capital providers	Capital Deployment Risk	Risk that capital is not deployed at a sufficient rate to generate the revenues necessary for self-sufficiency, or the benefits expected to the clean energy sector in New York and to the leveraging of public funds
Counterparty & Credit Risk	Risk of default by a project and/or direct NYGB counterparty in a proposed investment	Execution Risk	Risk of not having the right skills, in the needed amounts available to execute on NYGB business as intended (applies to internal capabilities and external collaborations)
Refinancing Risk	Risk of market development and conditions such that investment either cannot be refinanced where applicable, except in part or at a loss to NYGB, or on terms which might reasonably result in default	Operational Risk	Risks affecting NYGB's "license to operate" potentially arising in these areas: <ul style="list-style-type: none"> ▪ Legal ▪ Legislative and regulatory ▪ Environmental ▪ Intra-Agency integration (e.g., NYSERDA) ▪ Inter-Agency integration (e.g., DPS) ▪ State Comptroller/NYSERDA audit deficiency ▪ Inadequate systems, processes or controls
Market/Price Risk	Risk that energy prices do not sustain the investment/project as modeled and proposed over its expected life	Political Risk	Risks relating to NYGB, as a State-sponsored specialty finance entity, being perceived as a target to provide special treatment to particular constituencies or suffering from changed political priorities with respect to clean energy within New York
Portfolio Management			
Non-Performance	Risk that during the course of an investment it begins to under-perform and/or becomes non-performing		
Concentration Exposures	Risks posed by lack of sufficient diversification among portfolio investments, such that non-performance in a particular investment type has a substantial impact on overall portfolio performance	Reputation Risk	Risks that can arise in every aspect of NYGB's business and operations that an event occurs relating to a transaction, counterparty or business practice which detrimentally impacts NYGB and therefore the regard in which it is held in the marketplace and among all stakeholders. Diminished reputation can materially undercut NYGB's ability to operate and achieve success
Investment Servicing & Administration	Risk of investment servicing and administration (including all related monitoring and reporting) lacking in scope, accuracy, or timeliness, impacting the ability to optimally manage NYGB investments and portfolio		

3. Risk Mitigation Principles

NYGB addresses the risks that arise across its business through the application of key risk management principles in combination with a system of specific risk mitigation measures. NYGB's investment risks are identified, managed and monitored according to the practices described in the balance of this Schedule 2 in the context of investment analysis and review, portfolio construction, ongoing portfolio monitoring and management, and organizational risk culture. NYGB's risk management reflects the principles set out below.

3.1 Investment Analysis & Review

- (a) Structured and comprehensive due diligence for all potential investments, addressing all identified investment risk categories consistent with usual and customary commercial approaches;
- (b) Conducting "know your customer" background checks on potential counterparties, with a process in place that can be tailored across the spectrum from smaller private ventures to larger companies;
- (c) Creating the most appropriate investment structure, including financial terms (e.g., covenants, ratios, leverage, reporting requirements, etc.) for a particular asset class;
- (d) Implementing a comprehensive set of contractual risk mitigants (e.g., representations, warranties and covenants, indemnities, defaults, penalties, etc.);
- (e) Adhering to internal procedures for investment decision-making, including Scoring Committee, Greenlight Committee and IRC reviews, input and respective approval processes; and
- (f) Leveraging internal and external expertise as required to understand particular opportunity, including technical and legal.

3.2 Portfolio Construction

- (a) Apply prudent diversification principles to the extent possible taking into account NYGB's market-responsive approach, including with respect to:
 - i. Each investment and how it fits within NYGB's portfolio;
 - ii. Particular clean energy sub-sectors (e.g., solar, wind, storage, efficiency, etc.);
 - iii. Types of projects (e.g., by technology etc.);
 - iv. Target segment representation (including end-use type – commercial and industrial, residential, agricultural, etc.);
 - v. Specific clients and counterparties;
 - vi. Types of product offerings; and
 - vii. Geographic distribution;
- (b) Identify and monitor concentration risk and exposures (e.g., companies, technologies, asset classes, products etc.), also taking into account NYGB's market-responsive approach;
- (c) In the context of NYGB's demand-driven approach, evaluate and revise as needed minimum and maximum indicative single investment amounts;
- (d) Use recognized commercial benchmarks for comparable asset classes to assess NYGB relative performance once the portfolio has reached sufficient size; and
- (e) Manage returns from individual investments as well as across the entire portfolio, ensuring such returns generally exceed minimum hurdle rates.

3.3 Ongoing Portfolio Monitoring & Management

- (a) Regular and periodic evaluation of each investment against its investment case;
- (b) Identification of early signs of potential/actual under-performance and/or non-performance;
- (c) Proactive management of recoveries and maximization of recovery in line with sound commercial principles; and
- (d) Regular reporting to the IRC.

3.4 Organizational Risk Culture

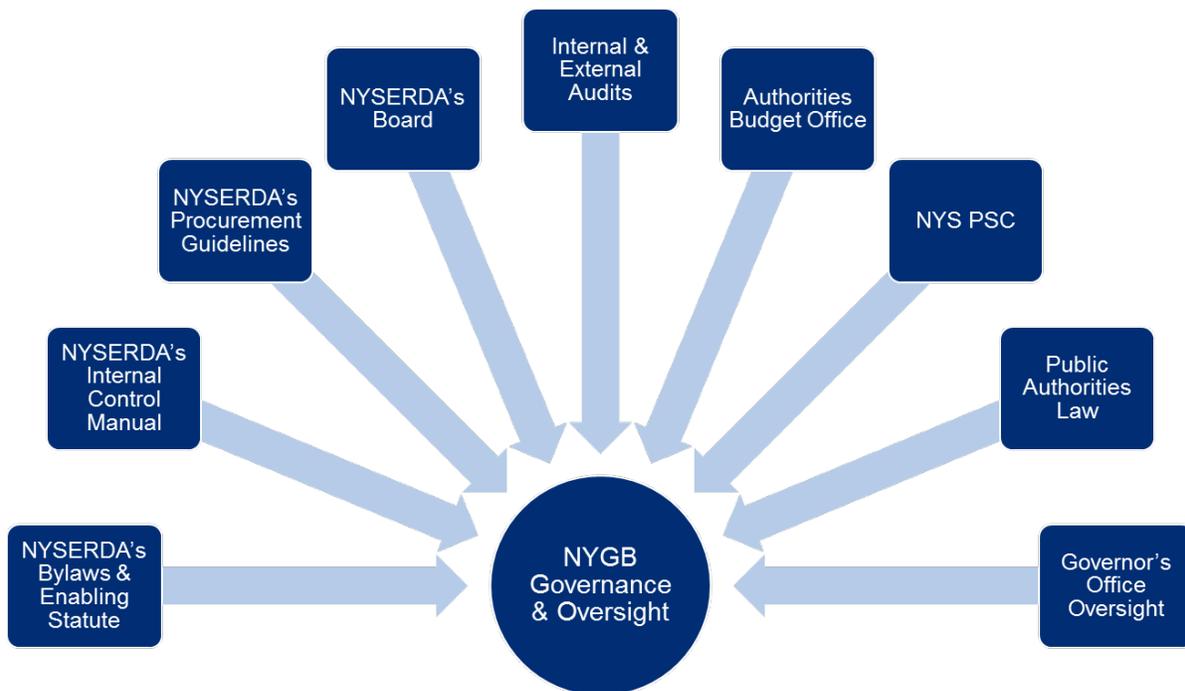
- (a) NYGB has adopted and strives to maintain an organizational culture in which understanding and managing risk is everyone's responsibility. Risk mitigation and management is not just about policing and enforcing limits. NYGB personnel at all levels must be cognizant of risks and willing to do their part to make sure that those risks within their sphere of responsibility are managed in a manner consistent with NYGB's policies and disclosures to clients, counterparties and broader stakeholders. Implementation and compliance with NYGB risk parameters, principles, policies and procedures forms part of personnel performance assessments;
- (b) Ongoing NYGB emphasis on communications, transparency and consistent updates in connection with existing investments, investment opportunities, clients, counterparties and key stakeholders;
- (c) Organizational checks and balances are being established and maintained, including appropriate segregation of front/mid-back office functions. Risk function is housed in an independent control group with a single point of responsibility (i.e., the Managing Director, Risk & Compliance) and having access to NYGB's President and the IRC;
- (d) NYGB organizational structure in which risk management roles and responsibilities are clearly defined, including written policies and other procedures identifying the specific people within the organization who are authorized to approve various actions, etc.;
- (e) Senior management and the IRC are responsible to fully understand NYGB risks, define risk tolerances and set the risk management and ethical tone of the organization. This is critical to NYGB achieving its mission and protecting its reputation in the marketplace;
- (f) NYGB acquires and maintains technology to support risk functions, including appropriate software platforms and other tools for portfolio management, performance analysis and monitoring;
- (g) NYGB has implemented and seeks to maintain effective recordkeeping and management of all documents and records pursuant to commercial and appropriate protocols;
- (h) NYGB works with information technology personnel at NYSERDA to ensure:
 - i. Adequate backup and disaster recovery support; and
 - ii. The existence of an effective system of security to protect the interests of NYGB employees, clients and counterparties;
- (i) Financial statements are prepared quarterly (unaudited) and annually (audited) in accordance with all applicable accounting standards;
- (j) An experienced and credible accounting firm is retained to audit NYGB financial statements annually; and
- (k) NYGB, as a division of NYSERDA, remains subject to NYSERDA internal controls, policies and procedures and internal audits, as applicable.

3.5 Risk Management Oversight

3.5.1 Governance & Oversight Environment

As a division of NYSERDA, NYGB is subject to the full range of operational, reporting, and ethical requirements that NYSERDA requires across its operations, and provides quarterly briefings to the full NYSERDA Board. NYGB must comply with NYSERDA's Bylaws, Internal Control Manual, Operations and Procedures Manual, Personnel Handbook, Procurement Guidelines and Board requirements. NYGB is also subject to internal and external audits. Through their oversight of NYSERDA, the Authorities Budget Office and the Commission provide another layer of NYGB oversight. NYGB's governance and oversight environment is represented in Figure 12.

Figure 12: Governance & Oversight Environment



In addition to NYGB's external governance and oversight environment, NYGB has dedicated Risk & Compliance and Legal & Regulatory Affairs functions, as well as a number of key committees providing oversight of and/or inputs to various aspects of NYGB's business, including the IRC, NYGB senior management, the Scoring Committee, the Greenlight Committee and the Advisory Committee.

3.5.2 IRC

The IRC ultimately provides risk management oversight at NYGB, with respect to both investment and enterprise risks. The IRC is made up of senior NYSERDA officers who each possess financial and investment capabilities and experience, as well as senior NYGB personnel. The IRC currently comprises:

- (a) President & CEO of NYSERDA;
- (b) Treasurer of NYSERDA;
- (c) President of NYGB; and

(d) NYGB Managing Directors.⁸¹

The IRC meets regularly to consider, review, and provide recommendations for consideration by NYSERDA's President & CEO in connection with the following items as needed, taking into account NYGB's mission, operations, asset allocation, exposures and all NYGB risk parameters and policies:

- (a) NYGB strategy and business plans;
- (b) Overall capital deployment plans and strategies;
- (c) Risk management practices and framework;
- (d) Financial and economic performance metrics and reporting;
- (e) Key NYGB procedures;
- (f) The Metrics Plan;
- (g) Any other material documents required to be filed with the Commission or other State agency (including periodic reporting);
- (h) Transaction Approval Memoranda;
- (i) Quarterly investment reports;
- (j) Proposed material waivers, amendments, restructurings and/or dispositions of existing NYGB investments; and
- (k) Quarterly management reports.

In addition to reviewing/overseeing all financing and investment agreements, the IRC meets regularly to review NYGB's overall business, positions, portfolio construction and performance, including flagging any actual or potential issues with NYGB investment assets or portfolio. No commitment of NYGB capital is made without vetting by the IRC.

The President & CEO of NYSERDA, upon consideration of the input of IRC members, is the final decision-maker with respect to matters before the IRC.

3.5.2 Senior Management Portfolio Review

Senior management portfolio review is dedicated to ongoing risk assessment and comprises senior NYGB personnel who meet monthly to review the risk of each transaction in the Investment Portfolio and potential new transactions in the Pipeline. This process is designed to consistently review the entirety of NYGB risk exposure, and to filter transactions and distill issues for subsequent review by the IRC.

3.5.3 Scoring Committee

The Scoring Committee reviews all proposals received in response to RFP 1, RFP 7, RFP 8 and RFP 10 or any other similar RFP that may exist from time to time. The Scoring Committee consists of NYGB employees, all designated by NYGB's President. The role of the Scoring Committee is to review and evaluate all competitive proposals received by NYGB for completeness and against evaluation and selection criteria described in the relevant RFP. This process is designed to ensure efficiency and standardization in NYGB's approach to evaluating, and responding to, investment opportunities.

⁸¹ Provided that no Managing Director who is responsible for the execution of a transaction being considered by the IRC will participate as a member of the IRC with respect to that transaction. In addition, any actual or potential conflicts of interest that exist or may arise for any IRC member will be reviewed by legal counsel and such member may be recused from participation if, and to the extent, warranted.

3.5.4 Greenlight Committee

The Greenlight Committee vets all potential investment opportunities before NYGB proceeds to full-scale diligence and negotiation of terms. All IRC members are eligible to participate in the Greenlight Committee, which is made up of at least three IRC members, including both NYSERDA and NYGB personnel (but excluding NYGB personnel directly involved in execution of the subject transaction). This committee reviews and makes recommendations (including the requirement of certain contingencies or conditions) to NYSERDA's President & CEO with respect to a proposed transaction. All issues raised by the Greenlight Committee must be addressed before a potential transaction is submitted to the IRC for review. The "greenlighting" requirement adds another check and balance on potential investments in NYGB's pipeline to ensure that individual transactions meet credit quality standards and all other applicable investment criteria, are consistent with NYGB's mission and are appropriate from a risk perspective.

3.5.5 Advisory Committee

The Advisory Committee is a group of senior professionals, prominent in their fields, that delivers guidance on an ongoing basis to the NYGB President and management team regarding matters pertinent to NYGB's business. Advisory Committee members are appointed on the recommendation of NYGB's President, with the approval of NYSERDA's President & CEO. These members represent a range of backgrounds that may include energy and environmental issues (preferably focused on the clean energy sector), project development and finance, banking, capital/financial markets, portfolio management, new venture management/business development, utility and related infrastructure, engineering/technology and real estate. Advisory Committee member expertise includes deep knowledge of project financing structures; portfolio management, renewable energy investment, regulatory and operational expertise; and active investor experience in clean energy. The Advisory Committee meets at least twice a year. Details regarding its members, purpose, objectives and terms of engagement are available at www.greenbank.ny.gov/About/Advisory-Committee.

Investment Process

Since inception, NYGB actively and consistently works on a large volume of potential transactions within a clear investment framework. As the steward of significant public funds, NYGB has established and adheres to certain investment and business practices – consistent with prudent practice in comparable industries and institutions. These practices are reflected in all aspects of NYGB’s business including originating, reviewing, evaluating, diligencing, credit underwriting, risk and mitigant assessments, structuring, negotiating, documenting and closing transactions, as well as ongoing risk and compliance and portfolio management principles.

NYGB employs various review committees in the origination, evaluation and response to investment opportunities. In addition to NYGB bringing to bear the experience of its staff and management, input and review are required at prescribed points in the investment cycle from internal committees that evaluate and “greenlight” proposals, as well as from the IRC.

The principal steps involved in the advancement of any investment proposal received by NYGB are represented in Figure 13. Each transaction goes through a number of critical steps – each in turn involving detailed review, input and other work of the NYGB transaction team, its advisors, committees and clients and counterparties (including their respective advisors) in an iterative and ongoing process until milestones are reached, culminating in the execution of transaction documentation.

Figure 13: Transaction Process

