

Increasing Opportunities for NY Residents to Go Solar, Expanding Market Liquidity

Sunrun Inc.

NY Green Bank (“**NYGB**”) has entered into three transactions to accelerate the deployment of more than 11,000 solar projects at homes across New York State (“**NYS**”) by Sunrun, Inc. (“**Sunrun**”). Sunrun is a national solar provider that markets and develops residential solar energy systems. The three transactions complement each other – as one provides financing to fund the purchase of materials and installation of the solar projects, and the other two provide post-construction financing. One of the post-construction financings was arranged by Investec Bank PLC (“**Investec**”), an international specialty bank and asset manager, and the second post-construction financing was arranged by SunTrust Robinson Humphrey Inc. (“**SunTrust**”) and ING Capital LLC (“**ING**”).

Transaction Descriptions

Construction Loan Facility

On June 16, 2016, NYGB committed \$25.0 million to a revolving credit facility (the “**Construction Loan Facility**” or “**CLF**”) which, along with financing from other lenders, allows Sunrun to increase its existing revolving facility from \$205.0 million to \$250.0 million. The CLF will be used by Sunrun to fund customer acquisition, purchase of materials, and construction and installation of the systems, and will 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 credit facilities – a loan aggregation revolving facility and a term loan (together the “**NYGB Loan Products**”), which are 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. The \$340.0 million Post-Construction Aggregation Facilities (which include the NYGB Loan Products) represent one of the largest aggregation financings for a residential solar developer at the time of closing. 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 PV projects in NYS and nationally. On April 20, 2018, NYGB and the lender group consented to expand the Post-Construction Aggregation Facilities up to \$595.0 million to further support Sunrun’s continued growth. NYGB’s share of this increase is \$10.0 million, bringing NYGB’s overall commitment to the Post-Construction Aggregation Facilities to \$35.0 million.

¹ Refer to the Summary of Changes document for details of updates, available at www.greenbank.ny.gov/Investments/Transaction-Profiles.

Aggregation to Term Facilities

On May 9, 2017, NYGB closed a \$15.0 million commitment to participate in an aggregation-to-term loan facility. The transaction was part of a \$202.0 million financing (the “**Aggregation to Term Facilities**”) arranged by SunTrust and ING that provides Sunrun with a larger financing to expand its business in NYS and elsewhere. The \$202.0 million Aggregation to Term Facilities support a \$100.0 million equity partnership with National Grid plc, an international utility with a sizeable NYS presence. 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.

Overall Context

Sunrun sought NYGB’s participation in the CLF, Post-Construction Aggregation Facilities and Aggregation to Term Credit Facilities to provide further liquidity to support Sunrun’s capital needs in growing its business. With both construction and longer-term financing in place, Sunrun is positioned to meet the growing demand from homeowners and expand its ability to finance the installation of solar projects throughout NYS.

These complementary transactions will result in the aggregation of bundled pools of residential solar systems that will ultimately be refinanced through one or more longer-term take-out financings. Such refinancings may include a securitization – the sale of underlying cash flows resulting from residential leases or power purchase agreements (“**PPAs**”) to third party investors – providing additional avenues to develop and scale the emerging residential solar asset class, both for Sunrun and other market participants. 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 might otherwise be achieved. Greater scale means greater investor interest, which will ultimately result in more attractive debt pricing that will benefit New Yorkers via more attractively priced contracts under which power is purchased.

This Transaction Profile is provided pursuant to the updated “NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0” (the “**Metrics Plan**”) developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the “**Commission**”) on June 20, 2016.² This Transaction Profile contains specific information in connection with the CLF (entered into on June 16, 2016), the Post-Construction Aggregation Facilities (entered into on May 13, 2016), and the Aggregation to Term Facilities (entered into on May 9, 2017) as required by the Metrics Plan.³

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Warehousing/Aggregation	Senior Secured Revolver and Subordinated Term Loan	\$35.0 million
Warehousing/Aggregation	Senior Secured Aggregation-to-Term Loan	\$15.0 million
Asset Loan & Investment	Construction Financing Revolver	\$25.0 million

Location(s) of Underlying Project(s)

Statewide.⁴ Sunrun’s solar power generation systems will be offered to homeowners through PPA structures in regions across NYS.

² Cases 13-M-0412 and 14-M-0094.

³ See Section 4.0, page 8 and Schedule 3.

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

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Clients	Investec	Global Corporate & Investment Bank
	SunTrust	Global Corporate & Investment Bank
	ING	Global Corporate & Investment Bank
Key Counterparties	Sunrun	Solar Energy Project Developer
	National Grid	International Utility & Equity Co-Sponsor
Financiers (current)	Various tax equity providers and commercial banks	Global Corporate & Investment Banks, Commercial/Regional Banks
Financiers (future)	To be identified	Institutional Investors(s)

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Capital Market Participants	In clean energy markets, there is only a small (but growing) number of lenders actively financing residential solar projects.	NYGB participation in all three transactions facilitates the ability to achieve substantial transaction scale. This will enable much larger post-aggregation term financings, which may include securitizations, resulting in broader market penetration and enhanced liquidity, both key NYGB goals.
Solar Project Developers	Many solar developers face the challenge of securing sufficient financing to meet customer demand – hampering their ability to grow and achieve economies of scale.	NYGB's participation in the CLF, the Post-Construction Aggregation Facilities and the Aggregation to Term Facilities will enable Sunrun to better meet residential demand in NYS. This type of financing can also be replicated with other developers seeking to secure similar capital access.
Homeowners	“Going solar” is not perceived by some homeowners as being practical or affordable, and some questions as to benefits to be realized remain.	NYGB participation in all three transactions will produce benefits for eligible homeowners seeking to utilize solar power, as homeowners will have greater ability to contract for solar, while simultaneously realizing immediate reductions on their energy bill. Greater scale and deeper and broader financing markets will lead to even more compelling offerings being made available to homeowners and more information available on benefits.

Technologies Involved

Technology	Measures
Renewable Energy	Solar photovoltaic (“PV”) systems

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB’s minimum investment criteria specifically require that “transactions will have the potential for energy savings and/or clean energy generation that will contribute to greenhouse gas [(‘GHG’)] reductions in support of New York’s energy policies”.⁵ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on⁶:

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

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

- Estimated gross lifetime and first-year clean energy generated (MWh);⁷
- Estimated gross clean energy generation installed capacity (MW); and
- Estimated gross lifetime and first-year GHG emission reductions (metric tons).

The estimated gross lifetime and first-year energy and environmental impacts of Sunrun’s development in NYS, facilitated by NYGB’s participation in the Investec Credit Facilities, the CLF and the Aggregation to Term Facilities, are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated gross clean energy generated (MWh)	2,148,000	2,390,000	85,900	95,600
Estimated gross clean energy generation installed capacity (MW) ⁸	73.0	81.0	Not Applicable	
Estimated gross GHG emission reductions (metric tons) ⁹	1,130,000	1,256,000	45,200	50,200

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. This market evaluation will be conducted on sectors in which NYGB has participated and will occur approximately three to five years following initial NYGB capital deployments. Baseline data will be collected in 2018 for most indicators as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long terms.¹⁰

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

- Number and location of projects (by zip code);
- Size (generation capacity and dollar value) of projects;
- Increasing market volume of projects; and
- Favorable financial and technology performance data.

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

- Increased awareness of clean energy benefits amongst financing entities as a result of favorable technology performance data;
- Investment risk/default rates become increasingly attractive to investors, as a result of positive financial performance data;
- Increased number of financial participants providing similar capital structures;
- Replication of finance model by other developers;
- Decreased project technology costs;
- Increased number of clean energy financings;
- Emergence of secondary markets for clean energy asset classes; and
- Reduced time to execute clean energy financings.

⁷ First year gross energy generation refers to the first year of estimated gross energy generation once a measure is installed and as such generation will not necessarily correspond to the first year of the investment term. The majority of NYGB’s investments have a two to three-year development cycle in which projects are originated, installed and placed into commercial operation.

⁸ Built clean energy generation capacity at full deployment of funds is the same for first-year and lifetime duration.

⁹ As of January 1, 2016, the New York State Energy Research and Development Authority (“**NYSERDA**”) utilizes a 1,160 lbs/MWh conversion factor to estimate GHG emissions reductions for electric generation and energy efficiency savings across all components of the Clean Energy Fund.

¹⁰ See Metrics Plan, Section 3.3 at page 7.

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

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

Impact evaluation will be based on the size of the systems installed and the projected clean energy generation.

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