



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 5,000 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 which, along with financing from other lenders, allows Sunrun to increase its existing revolver from \$205.0 million to \$250.0 million. The revolver (“**Construction Loan Facility**” or “**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 Credit Facilities (such as described below) and tax equity commitments arranged by Sunrun. NYGB’s participation in this consortium of capital providers broadens the availability of construction financing for distributed energy projects for homeowners across NYS.

Investec Credit 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 revolver 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 “**Investec Credit Facilities**”) arranged by Investec that provides Sunrun with a larger financing to expand its business in NYS and elsewhere. The \$340.0 million Investec Credit Facilities (which include the NYGB Loan Products) represents one of the largest aggregation financings for a residential solar developer closed to date.

SunTrust/ING Credit 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 “**SunTrust/ING Credit 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 SunTrust/ING Credit 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.

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

Overall Context

Sunrun sought NYGB's participation in the CLF, SunTrust/ING Credit Facilities and Investec 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 well 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. There is a growing market for residential solar securitizations, with the largest term securitization to date raising \$254.75 million.²

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, 2016.³ This Transaction Profile contains specific information in connection with the Investec Credit Facilities (entered into on May 13, 2016), the ING/SunTrust Credit Facilities (entered into on May 9, 2017) and the CLF (entered into on June 16, 2016) as required by the Metrics Plan.⁴

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Warehousing/Aggregation	Senior Secured Revolver and Subordinated Term Loan	\$25.0 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.⁵ Sunrun's solar power generation systems will be offered to homeowners through PPA structures in regions across NYS.

Types of 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)

² Sunnova offered the \$254.75 million securitization, which took place in April 2017.

³ Cases 13-M-0412 and 14-M-0094.

⁴ See Section 4.0, page 8 and Schedule 3.

⁵ Defined as projects located in four or more regions of the State.

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 Investec Facilities and SunTrust/ING 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”.⁶ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on⁷:

- Estimated gross lifetime and first-year clean energy generated (MWh);⁸
- 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 Sun Trust/ING Credit 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)	765,000	1,150,000	30,600	45,900

⁶ 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.

⁷ See Metrics Plan, Section 2.0, pages 2 – 6.

⁸ 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.

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated gross clean energy generation installed capacity (MW) ⁹	26.0	39.0	N/A	
Estimated gross GHG emission reductions (metric tons) ¹⁰	403,000	604,000	16,100	24,200

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 2017 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.¹¹

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:

- The number and size (i.e., generation capacity and dollar value) of projects completed through this transaction;
- Development of the residential solar market in NYS; and
- Performance of the underlying installed systems and loans.

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:

- Awareness and use of solar PPA data;
- View of banks and institutional investors as to the investment value of residential solar PPAs;
- Demonstration of competitive risk-return profiles for residential solar investment;
- Market volume of residential solar projects;
- Multi-year track-record of residential solar projects;
- Replication of Sunrun model by other solar developers, generally and targeting the residential sector, specifically;
- Expansion of term securitization markets; and
- Number of financial participants in securitization transactions (and in providing revolving warehouse and term loan facilities).

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 2017 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.

⁹ Built clean energy generation capacity at full deployment of funds is the same for first-year and lifetime duration.

¹⁰ 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.

¹¹ See Metrics Plan, Section 3.3 at page 7.

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.