

Driving Standardization in the New York Solar Market

BQ Energy – Esopus

BQ Energy (“BQ”) is a renewable energy project developer specializing in landfill and brownfield site redevelopment. As the second of a larger portfolio of projects to be financed in collaboration with NY Green Bank (“NYGB”), BQ will receive a \$1.1 million construction loan and term loan facility to complete a 0.87 megawatt (“MW”) solar project to be constructed on a remediated landfill located in the Town of Esopus, NY (the “Town”). Solar power from this project will be sold to the Town and will generate a significant percentage of its total power needs.

Transaction Description

BQ is a Poughkeepsie, New York-based renewable energy project developer specializing in landfill and brownfield site redevelopment. NYGB’s \$1.1 million construction loan and term loan facility (the “**Credit Facility**”) enables BQ to complete the 0.87 MW project, (the “**Project**”), to be constructed on a remediated landfill located in, and owned by, the Town which is in Ulster County. All Electric will construct the Project under a standardized balance of plant (“**BOP**”) contract utilizing top tier panels, inverters, and racking systems. The Project will generate revenue by selling clean power (or, more specifically, selling the value of clean power evidenced by net metering credits) to the Town.

The Project is the second of several similar developments in BQ’s pipeline that NYGB anticipates financing as part of a larger portfolio. In an effort to standardize this particular type of construction loan, BQ retained Solar Landscape for construction services for the majority of the portfolio projects, using similar equipment and contractual arrangements. BQ expects the majority of projects in the portfolio to be located on landfill and brownfield sites in Western NY, Central NY, Hudson Valley, and Long Island with the power generated providing non-profit organizations, municipalities, universities, schools and hospitals, as well as utilities, with clean power.

NYGB’s participation in the Project – and in similar future developments included in the proposed portfolio arrangement – will help expand financing opportunities for smaller (less than 10.0 MW) solar systems, by fostering standardization in the underwriting process (which is the process a lender uses to assess the creditworthiness or risk of a potential borrower) including a streamlined, uniform approach to integrating contractors, developing contracts, and utilizing standardized equipment.

This Transaction Profile is provided pursuant to the “NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.0” (the “**Metrics Plan**”) developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the “**Commission**”) on June 20, 2016.² This Transaction Profile contains specific information in connection with the BQ transaction (which was entered into on March 17, 2017), as required by the Metrics Plan.³

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

² Case 13-M-0412.

³ See Section 4.0, page 8 and Schedule 3.

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Construction & Term Loans	\$1.1 million

Location(s) of Underlying Project(s)

Ulster County. The Project is located in the Town of Esopus, New York, with future portfolio projects expected to be located in various counties throughout New York State.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Client	BQ Energy	Energy Project Developer
Partners	All Electric	Industry Vendor
	The Town	Commercial End-User

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Smaller-Scale Solar Developers	Many smaller-scale solar developers face challenges in securing adequate construction and long-term financing, particularly for smaller to mid-sized solar projects (i.e., less than 10.0 MW), as these developers are restricted in their access to capital by their size and comparatively limited track record.	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.
Capital Market Participants	Limited private capital interest to date in supporting the construction of distributed energy projects in New York's clean energy marketplace, due to limited history and track record of such financings.	Institutional investors and other private sector capital providers have shown less interest in financing small to mid-size solar project developers which may have more limited operating histories. NYGB's participation in this transaction will help this NYS-based developer further consolidate its track record and achieve the scale needed to appeal more broadly 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.
New Yorkers	While interest and activity in solar projects are increasing rapidly in NYS, only a relatively small number of companies and financial models are being used. Fewer options in the marketplace generally translate into higher prices for end-users and more limited consumer choice.	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 go solar.

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”.⁴ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on⁵:

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

The estimated lifetime and first-year energy and environmental impacts of the Project, facilitated by NYGB’s financial participation in this transaction, are as follows:

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	First-Year Low Estimate	First-Year High Estimate
Estimated clean energy generated (MWh)	23,000	28,100	920	1,120
Estimated clean energy generation installed capacity (MW) ⁶	0.87	0.87	Not Applicable	
Estimated GHG emission reductions (metric tons)	12,100	14,800	484	591

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation will occur when a critical mass of NYGB financing and investment arrangements are put in place. This market evaluation will be conducted on sectors that NYGB has supported and will occur approximately three to five years following initial NYGB capital deployments.⁷ 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.

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

- Size (generation capacity and dollar value) of the Project if different from proposed plans; and
- Performance of installed system.

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:

⁴ 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.

⁵ See Metrics Plan, Section 2.0, pages 2 – 6.

⁶ Installed clean energy generation capacity at full deployment of funds is the same for first-year and lifetime durations.

⁷ See Metrics Plan, Section 3.3, page 7.

- Access to, and accessibility of, solar project performance data produced by the Project and similar developments comprising a single portfolio, particularly in any refinancing of a BQ project;
- Greater availability of construction loan options for small PV projects;
- Decreased project cost for BQ and other developers (e.g., procurement, permitting, fees), due to increased experience and scale; and
- Demonstration of competitive risk-return profiles for solar investment in NYS.

The above listed indicators will remain in development until market characterization and baseline activity commences. Additional aspects may be tracked to further support baseline and market measurements.

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 to track information including but not limited to: project scale information, interest in solar financing, 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 levels. The specific timing of these efforts may be revised based on experience or other relevant factors as the investment evolves.

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

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