

Bridge Loan to Support the Deployment of NYS Fuel Cell Projects

NineDot Energy

On June 30, 2020, NY Green Bank (“**NYGB**”) provided a 2-month senior secured \$19.9 million bridge loan facility (the “**Bridge Loan**”) to New York Community Clean Energy HoldCo, LLC (“**Borrower**”), a subsidiary of CertainSolar Inc., d/b/a NineDot Energy (“**NineDot**”). Bridge Loan proceeds will finance development costs for community distributed generation (“**Community DG**”) Fuel Cell projects. The projects supported by this transaction are expected to provide New York State (“**NYS**”) residents and businesses with lower-cost clean energy opportunities.

Transaction Description

NineDot is developing a portfolio of community distributed generation (“**CDG**”) fuel cell projects in NYS and requested that NYGB provide an up to \$19.9 million Bridge Loan to finance development costs for such projects. NineDot is an experienced distributed energy resource (“**DER**”) developer based in the NYU Urban Future Lab in Brooklyn, New York.

This transaction supports 12.5 megawatts (“**MW**”) of fuel cells located in New York City, which are expected to: (i) provide commercial and residential project subscribers access to reliable low-cost energy; and (ii) reduce up to 15,000 metric tons of greenhouse gas (“**GHG**”) annually in NYS, as well as avoid over 50,000 lbs of NOx and 2,500 lbs of SOx emissions annually in New York City.. As there has been an increasingly strong demand for CDG throughout NYS, capital providers are recognizing, and will continue to recognize, the value in providing financing to enable the deployment of these projects. NYGB expects the Bridge Loan product to serve a template for private capital to build on.

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 Commission on June 20, 2016.¹

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset & Investment	Bridge Loan	\$19.9 million

Locations of Underlying Projects

New York City. The projects in the Bridge Loan will be located in Staten Island, NY and Bronx, NY.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Client	CertainSolar Inc., d/b/a NineDot Energy	Energy Project Developer
Counterparties (current)	Bloom Energy	Equipment Manufacturer, EPC, and O&M Contractor

¹ Case 13-M-0412.

	Name	Participant Type
Counterparties (current)	Consolidated Edison	Electric Utility

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Distributed Energy Project Developers	Project sponsors are often expected to pay for development expenses with equity funds as they finalize construction financing arrangements. This results in a relatively inefficient use of sponsor equity, which limits project deployment efforts and effectively restricts the amount of CDG being deployed in NYS, slowing the rate of deployment.	This transaction supports project development efforts in NYS by bridging the period in which project sponsors need to finalize project financing arrangements for the projects. NYGB's role will create an easier pathway forward for developers and will enable greater deployment of community and other distributed generation assets throughout the State.
Capital Market Participants	As a relatively new form of clean energy offtake, CDG lacks financing precedents and has limited performance history in NYS. As such, it can be more difficult for private sector capital providers to assess and price the underlying risk exposures associated with CDG project investments.	Projects supported as a result of this transaction will generate project and customer performance data to draw new investors and financial institutions into the marketplace by demonstrating that competitive risk-return profiles can be achieved by CDG-enabled business models.
Community DG Subscribers	Due to project siting, property ownership and consumer preference issues, on-site clean energy installations may not be viable for a number of NYS homeowners, renters, and businesses. This limits the number of clean energy projects getting done to those with suitably sited homes or businesses.	This transaction supports the deployment of CDG fuel cell projects, which provide those who are not otherwise able to install clean energy generation systems on their property (e.g., businesses whose rooftops cannot support solar systems, renters and those who cannot afford stand-alone onsite generation systems), with voluntary access to clean, low-cost energy, regardless of where their home or business is located.

Technologies Involved

Technology	Measures
Fuel Cells	Solid Oxide Fuel Cell Energy Servers

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB’s minimum investment criteria specifically require that “transactions will have the potential for energy savings and/or clean energy generation that will contribute to GHG reductions in support of New York’s energy policies”.² In addition, the Metrics Plan requires that the following energy and environmental measures applicable to this transaction be reported on³:

- Estimated gross lifetime and first-year energy generated from Fuel Cell (MWh);
- Estimated gross energy generation installed capacity (MW);
- Estimated gross lifetime and first-year fuel consumption (MMBtu); and
- Estimated gross lifetime and first-year GHG emission reductions (metric tons).

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

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	Annualized Low Estimate	Annualized High Estimate
Estimated energy generated (MWh)	985,500	1,040,250	98,550	104,025.00
Estimated fuel consumption (MMBtu) ⁴	7,450,013	7,021,341	745,001	702,134.12
Estimated energy generation installed capacity (MW) ⁵	12.5	12.5	N/A	
Estimated GHG emission reductions (metric tons) ⁶	97,345	147,507	9,735	14,750.66

In addition, estimated NOx emissions reductions are over 50,500 lbs annually, and estimated SOx emissions reductions are over 2,500 lbs annually in New York City.^{7,8}

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation occurs when a critical mass of NYGB financing and investment arrangements are put in place, approximately three to five years following initial NYGB capital deployments. Market evaluation activities commenced in 2018 on sectors that have been supported by NYGB since its inception, and the data set will be updated going forward to include indicators specific to this and other transactions. Baseline data will be used as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, mid and long-terms.

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 (i.e., generation capacity and expected dollar value) and location of projects financed by the Bridge Loan;
- Aggregate expected energy generation for projects financed by the Bridge Loan; and
- The number of projects that finalize construction financing arrangements.

² 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.

³ See Metrics Plan, Section 2.0, pages 2 - 6.

⁴ Estimated fuel consumption will be included in the estimated energy savings (MMBtu) from CHP categories in NYGB consolidated reporting.

⁵ Estimated Energy generation installed capacity will be included in the estimated energy generation installed capacity from CHP category in NYGB consolidated reporting.

⁶ As of January 1, 2016, the New York State Energy Research and Development Authority (“NYSERDA”) utilizes a 1,103 lbs./MWh conversion factor to estimate GHG emissions reductions for electric generation and energy efficiency savings across all components of the Clean Energy Fund. NYSERDA previously utilized a 625 lbs./MWh conversion factor.

⁷ The United States Environmental Protection Agency (“EPA”) Emissions and Generation Resource Integrated Database (“eGRID”) estimates 0.488 lb/MWh NOx emissions for non-baseload power generation in New York City and Westchester eGRID sub-regions. (See: https://www.epa.gov/sites/production/files/2020-01/documents/eGRID2018_summary_tables.pdf)

⁸ See: <https://www.bloomenergy.com/datasheets/energy-server-es5-250kw>

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:

- Market volume of NineDot projects increases;
- General understanding of renewable energy benefits by financial community increases;
- Increased awareness and use of Community DG subscriber performance data by financing entities;
- Increased awareness and use of project/technology performance data by financing entities;
- Demonstration of competitive risk-return profiles for Community DG investments;
- Decreased project costs;
- Volume of secondary market financing of Community DG assets; and
- Number of new lending participants.

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

NYSERDA will evaluate the impact this transaction has had on the clean energy finance markets and the energy/environmental benefits which it delivers.

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

Impact evaluation will assess which of the projects funded under the Bridge Loan raised construction financing and were completed, commissioned, and placed in service.

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