

Enabling Deeper Energy Retrofits & Expanding Financing Opportunities for Small & Mid-Size Efficiency Projects

Bank of America Merrill Lynch – Hebrew Home for the Aged at Riverdale, New York City Issued Under the Dormitory Authority of the State of New York’s Tax-Exempt Leasing Program

NY Green Bank (“NYGB”) and Bank of America Merrill Lynch (“BofA Merrill”) are co-financing the installation of a combined heat and power (“CHP”) system at the Hebrew Home for the Aged at Riverdale (“HHAR”), in New York City as part of a larger arrangement and aggregation strategy. This transaction will save HHAR an estimated \$1.6 million annually by replacing current infrastructure with cleaner, more efficient alternatives.

Transaction Description

NYGB and BofA Merrill are co-investing in an approximately \$14.0 million tax-exempt equipment lease (the “Lease”) issued under the Dormitory Authority of the State of New York’s (“DASNY”) tax-exempt leasing program (“TELP”). The Lease will finance energy improvements (the “Project”), that will replace existing infrastructure at HHAR’s Riverdale, New York facility with cleaner, more efficient equipment, generating substantial savings for HHAR immediately and throughout the 20+ year lifetime of the equipment. The Lease, made under DASNY’s TELP, enables the tax-exempt financing for the Project and reduces borrowing costs to HHAR. NYGB’s participation in this transaction is significant because it extends the tenor of the Lease beyond the number of years BofA Merrill would normally finance, enabling deeper energy retrofits and less expenditures for HHAR – resulting in savings of approximately \$1.6 million per year. A portion of those savings will be used for lease payments and the remainder will go directly to HHAR.

This constitutes the second transaction under NYGB’s and BofA Merrill’s broader co-financing arrangement, whereby NYGB supports transaction types such as deeper energy efficiency retrofits requiring longer term leases. Over the long term, NYGB will work with BofA Merrill and other arrangers to aggregate portfolios of similar energy efficiency and renewable energy assets with qualifying counterparties. The long-term goal of the strategy is to bring greater private sector capital into the clean energy marketplace and ultimately increase liquidity and drive additional volume in the New York energy efficiency sector.

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 HHAR transaction (which was entered into on December 29, 2016), 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	Senior Debt	\$12.2 million

Location(s) of Underlying Project(s)

New York City - Bronx. The project is located in Riverdale, New York, in the Bronx.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Client	Hebrew Home for the Aged at Riverdale	Healthcare Provider
Counterparties (Current)	Banc of America Public Capital Corp, a subsidiary of Bank of America, National Association	Global Corporate & Investment Bank
	Dormitory Authority of the State of New York (tax-exempt issuer)	Government Authority
Vendors	Trystate Mechanical	Construction Contractor
	AKF Engineering	Engineering Services
Partners (Future)	To be Identified	Institutional Investor(s)

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Commercial and/or Non-Profit Entities	Commercial and/or non-profit entities often require immediate savings to justify undertaking energy improvement projects, which is particularly challenging for deeper retrofits, such as the CHP project at HHAR, given longer payback periods. In order to satisfy economic needs, savings must exceed lease payments, which typically requires longer-term financing than private capital providers are able or willing to provide, especially for small to mid-sized projects.	This transaction will drive growth in the small to mid-sized energy efficiency leasing market by providing longer-term financing that enables immediate and ongoing savings for commercial and/or non-profit entities. Longer term financing broadens the scope of energy improvement projects that entities can undertake, ultimately leading to the deployment of deeper retrofits in commercial and non-profit buildings throughout New York.
Capital Market Participants	On an individual basis, there is limited private capital support for small to mid-sized energy efficiency leases; however, insurance companies and funds are more likely to participate on an aggregated basis once a portfolio of projects has achieved meaningful scale.	NYGB's participation in this transaction and future leases with BofA Merrill and other arrangers enables the aggregation of portfolios that private capital providers can participate in at scale. NYGB's role as an aggregator enables larger institutions to participate in portfolios of small to mid-sized transactions that individually might not meet scale thresholds.

Technologies Involved

Technology	Measures
Energy Efficiency	Electric generators, steam generators, absorption chiller, air handlers, cooling tower, electrical service upgrades.

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);⁶
- 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	Annualized Low Estimate	Annualized High Estimate
Energy savings from CHP (electric) (MWh)	7,070	8,640	293	358
Energy savings from CHP (fuel) (MMBtu) ⁷	-41,000	-50,100	-1,700	-2,070
Estimated GHG emission reductions (metrics tons) ⁸	1,540	1,880	64.0	78.0

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.⁹ 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.

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 First year energy generation refers to the first year of estimated 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.

⁷ "Natural gas usage at the site is increased by the CHP facility. Energy Savings in thermal unit form is computed as the difference between the natural gas displaced by the recovered thermal energy and natural gas consumption by the generator [refer to <https://www.nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/2015-Distributed-Generation-CHP-Impact-Evaluation-Final.pdf> for information on CHP Impact evaluation methods in NYS]."

⁸ 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 ("CEF"). NYSERDA previously utilized a 625 lbs/MWh conversion factor.

⁹ See Metrics Plan, Section 3.3, page 7.

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:

- Portfolio reaches \$50.0 million threshold required to generate interest from institutional investors;
- Favorable financial performance data throughout lease term; and
- Favorable 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 volume of projects in longer tenor (10+ years), mid-size energy efficiency equipment lease sector;
- Average and aggregate dollar value of projects in development and completed increases;
- Demonstration of competitive risk/return profiles;
- Increased awareness and use of financial performance data by financing entities;
- Financial entities emerge showing interest in NYGB's transaction position;
- Scale of energy efficiency investments increases;
- Increased number of energy efficiency equipment lease refinancings occur;
- Relationships with financial partners established; and
- Realized energy savings and emissions reductions.

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 delivered by this transaction.

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 energy efficiency lease financing, 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 levels. The specific timing of these efforts may be revised based on experience or other factors as the Project evolves.

Impact evaluation is expected to draw upon and include data collected to support project-specific measurement and verification activities (e.g., such as those associated with PON 2701¹⁰). Impact evaluation activities will likely include use of hourly interval data retrieved from PON 2701 Interval Data System with on-site validation activities. Annualized first-year energy savings will be based on electric usage readings (kWh) at the customer meter. Total electricity savings may be comprised of prime mover generation as well as secondary electric impacts attributable to use of an absorption chiller to satisfy cooling load that otherwise would have been satisfied with an electric chiller. HHAR will provide quarterly performance reports to NYGB for the duration of the Lease. On-site verification of measure installations and performance may be conducted as resources allow. All site data will be anonymized and/or aggregated prior to being reported or published.

As with all NYGB investments, 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 also be made to coordinate market and impact evaluation activities for this Project to maximize the efficiency of data collection and avoid participant survey fatigue.

¹⁰ See www.nyserdan.y.gov/Funding-Opportunities/Closed-Funding-Opportunities/PON-2701-Combined-Heat-and-Power-Performance-Program.