

Supporting Deployment of Controlled Environment Agricultural Assets in New York State

Agbotic, Inc.

NY Green Bank (“**NYGB**”) has committed \$6.0 million to finance the construction and operation of a cluster of energy efficient robotic greenhouses (collectively, the “**Project**”) developed by Agbotic, Inc. (“**Agbotic**”). The Project is located in Sackets Harbor, NY and will grow certified organic produce for sale into local markets, while the Project’s energy efficiency measures and on-site generation are expected to reduce greenhouse gas (“**GHG**”) emissions. This is NYGB’s first investment in a controlled environment agricultural (“**CEA**”) asset as part of its ongoing efforts to create and expand new asset classes of sustainable infrastructure investments. The transaction creates an important precedent in the CEA sector and signals to the market that project financings are available to experienced CEA producers with high-quality assets.

Transaction Description

Agbotic is a New York State (“**NYS**”)-based CEA agritech company that builds Smart Farms with robotic greenhouse automation to make local and organic food with an ecologically restorative model for farming. Agbotic produces a mix of specialty root crop, herb, leafy green, and industrial hemp products to distribute directly to retailers, food service companies, restaurants and consumers within a one day delivery of its greenhouses. The company focuses on growing organic plants for healthy nutrition and in manner that improves the environment.

NYGB’s \$6.0 million construction-to-term loan facility (the “**Facility**”) will enable Agbotic to complete the construction of a cluster of six robotic greenhouses and related infrastructure located in Sackets Harbor, NY. The greenhouses will grow and sell certified organic products to businesses and retailers/grocers. The greenhouses will be equipped with various energy efficiency measures, including LED lights and heat sinks, and benefit from efficient on-site power generation.

To date, most CEA financings have been done at the corporate level, and have been in the form of venture capital or other equity investments. Hence, there are limited transaction comparables for NYGB’s investment in Agbotic as asset-based project finance. As CEA is a rapidly-growing sector in the United States, the Facility provides transaction history for an asset in an emerging clean infrastructure sector with appealing economics and meaningful environmental benefits. This transaction is NYGB’s first investment in the CEA sector and NYGB’s participation establishes a replicable financing precedent for an emerging business model.

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, 2016.¹ This Transaction Profile contains specific information in connection with the Agbotic transaction entered into on June 20, 2019, as required by the Metrics Plan.²

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Construction-to-Term Loan	\$6.0 million

¹ Case 13-M-0412.

² See Section 4.0, page 8 and Schedule 3.

Location(s) of Underlying Project(s)

North Country. The greenhouses are located in the North Country, New York.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Client	Agbotic Project #1, LLC	Borrower
Counterparty	Agbotic, Inc.	Sponsor, a CEA Agritech Company
Vendor	Sterling & Wilson Cogen Solutions, LLC	Energy Infrastructure Provider

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Controlled Environment Agriculture Sector	Early-stage companies in the CEA sector have limited access to efficient debt financing solutions in order to scale up their businesses. The majority of existing financings are done at the corporate level, where companies receive venture capital and private equity investments.	NYGB's investment establishes a precedent of asset-based project finance in the CEA sector. NYGB's participation provides transaction history for an asset in an emerging clean infrastructure sector with appealing economics and limited market comparables.
Capital Market Participants	On an individual basis, there is limited debt capital support for small to mid-sized CEA companies; however, capital providers are more likely to participate on an aggregated basis once a pipeline of projects has achieved meaningful scale.	NYGB's willingness to support these assets helps to demonstrate to the broader market that there is lender comfort with produce revenue models. Knowledge of market liquidity and ability to periodically validate asset value via the market is expected to provide further motivation for participation by interested investors going forward.
New Yorkers	While interest and activity in local organic produce are increasing rapidly in NYS, a relatively small number of financial models are being used.	By bridging financing gaps in the marketplace, NYGB is encouraging the building of more clean and efficient CEA assets in the State. Ultimately this is expected to provide New Yorkers with greater choices and access to local organic produce, grown efficiently and at lower cost.

Technologies Involved

Technology	Measures
Energy Efficiency	On-site cogeneration plant, LED lighting, heat sinks

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 reductions in support of New York's energy

policies”.³ In addition, the Metrics Plan requires that the following energy and environmental measures, applicable to this transaction, be reported on:⁴

- 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	Annualized Low Estimate	Annualized High Estimate
Electricity savings (MWh)	65,223	79,717	3,261	3,986
Fuel savings (MMBtu) ⁵	231,876	593,206	11,594	29,660
Estimated GHG emission reductions (metrics tons) ⁶	44,601	70,504	2,230	3,525

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 to collect baseline data on key market indicators for the sectors that have been supported by NYGB since its inception, and the dataset will be updated in 2019 to include indicators specific to this transaction. 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:

- Favorable financial performance data throughout Facility term; and
- Favorable technology performance data.

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

- Increased volume of projects in the CEA sector, involving lengthening financing and investment durations (i.e., 10+ years) over time;
- Average and aggregate dollar value of projects in development and completed increases;
- Demonstration of competitive risk/return profiles;
- Increased awareness and use of evolving asset class financial performance data by financing entities;
- Financial entities emerge showing interest in NYGB’s transaction position;
- Scale of CEA investments increases;
- Increased number of energy efficiency equipment measures installed in CEA projects;
- Relationships with financial partners established; and

³ 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.

⁴ See Metrics Plan, Section 2.0, pages 2 - 6.

⁵ “Natural gas usage at the site is increased by the CHP facility. Energy Savings in thermal unit form are computed as the difference between the natural gas displaced by the recovered thermal energy and natural gas consumption by the generator [refer to 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].

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 (“**CEF**”). NYSERDA has previously utilized a 625 lbs/MWh conversion factor and 1,160 lbs/MWh. Factors have changed – and can be expected to continue to change – to reflect the improving efficiency/“greening” of the NYS grid (i.e., the New York Independent System Operator).

- 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 and 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 (project subscribers, financial community) to track information including but not limited to: participation rates, project scale information, interest in CEA financing, 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 – 2019. Subsequent studies will assess progress against baseline levels for other market segments like CEA as those evolve. The specific timing of these efforts will be developed (and may be revised) on an ongoing basis based on experience or other factors as NYGB's investment portfolio continues to grow and evolve.

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 2701). 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. Agbotic will provide quarterly performance reports to NYGB for the duration of the Facility. On-site verification of measure installations and performance will be conducted by NYSERDA. All specific transaction and Project 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.