

Renewable Natural Gas Project in Chautauqua County, New York

Chautauqua Green Energy, LLC

In January 2021, NY Green Bank (“NYGB”) provided an up to \$17.4 million construction-to-term loan and \$1.0 million letter of credit to Chautauqua Green Energy, LLC (“CGE”), a subsidiary of CGE Ventures, LLC a joint venture of Vireo Energy, LLC, Emkey Gathering, LLC and Sumiya Investment Management. Loan proceeds will be used to secure long-term rights to landfill gas at the Chautauqua Landfill in Jamestown, NY (the “Landfill”) and construct improvements at the Landfill that will upgrade the gas for transportation and sale as renewable natural gas (“RNG”).

Transaction Description

Construction-to-Term Loan Facility

In January 2021, NYGB entered into an agreement with CGE to provide an up to \$17.4 million construction-to-term loan and \$1.0 million letter of credit to CGE to secure long-term rights to landfill gas at the Chautauqua Landfill in Jamestown, NY and construct improvements at the Landfill that will upgrade the gas for transportation and sale as renewable natural gas (the “**Project**”). CGE was approved by the New York State Public Service Commission (the “**Commission**”) to own and operate a seventy-mile natural gas pipeline, and will construct, own, and operate a three-mile pipeline connecting the project to the Little Valley Pipeline. Through the pipelines, the Project will connect to the interstate pipeline grid for delivery and sale of the RNG.

This transaction demonstrates NYGB’s commitment to renewable natural gas and is NYGB’s first financing of a landfill gas project. This Project will help reduce landfill emissions, which account for 5% of greenhouse gas emissions in New York State (“**NYS**”), by capturing and processing methane, NYGB’s investment will demonstrate the viability of landfill gas projects in NYS and serve as a catalyst for future financings of this sector.

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 Commission on June 20, 2016.¹ This Transaction Profile contains specific information in connection with the January 2021 CGE transaction as required by the Metrics Plan.

Form of NYGB Investment

NYGB Product	Product Sub-Type	Committed Capital
Asset Loan & Investment	Construction-to-Term Loan and Letter of Credit	\$18.4 million

Location(s) of Underlying Project(s)

Western New York. The project is located in Jamestown, NY

¹ Case 13-M-0412.

Types of Client & Counterparty Organizations that are Transaction Participants

	Name	Participant Type
Counterparty	CGE Ventures, LLC	Sponsor
Counterparty	Chautauqua Green Energy, LLC	Borrower
Participant	Chautauqua County	Landfill Owner

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
LFG-to-RNG Developers	Efficient construction-to-term financing is necessary for developers' project deployment efforts. Additionally, financing post-construction can be an inefficient use of sponsor equity that limits the pace and scale of new project deployment efforts in NYS.	This transaction encourages efficient use of capital and supports project development efforts in NYS by providing debt to the project developer. NYGB's role demonstrates the availability of capital to develop LFG-to-RNG projects throughout New York State.
Natural Gas Consumers	High cost of infrastructure limits clean energy choices for consumers.	This transaction, via efficient use of capital, will lead to a cleaner natural gas grid by injecting RNG and displacing fossil-based natural gas.
Landfill Owners	Owners may not have the capital or expertise to operate an RNG facility; it is outside of the core competency of running a landfill.	This transaction provides capital to RNG developers and operators to enable landfills to use LFG more efficiently and curtail flaring or electricity generation. It allows landfill owners to comply with environmental regulations while maximizing energy potential and reducing GHG emissions.

Technologies Involved

Technology	Measures
Renewable Energy	LFG-to-RNG Technology

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 emission reductions in support of New York's energy policies".² In addition, the Metrics Plan requires NYGB to report on the following energy and environmental measures, which are applicable to this transaction:³

- Estimated gross lifetime and annual RNG produced (MMBtu); and
- Estimated gross lifetime and annual GHG emission reductions (metric tons).

The estimated lifetime and annual energy and environmental impacts of the Investment, facilitated by NYGB's financial participation in this transaction, are as follows:

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.

Energy/Environmental Impact	Lifetime Low Estimate	Lifetime High Estimate	Annual Low Estimate	Annual High Estimate
RNG produced (MMBtu)	5,486,535	10,371,991	274,327	518,600
GHG emission reductions (metric tons) ⁴	285,299	539,342	14,265	26,967

Planned Market Characterization Baseline & Market Transformation Potential

The Metrics Plan requires that market evaluation occur when a critical mass of NYGB financing and investment arrangements have been put in place. Market evaluation activities commenced in 2018 on sectors that NYGB has supported since inception, consistent with the requirement for such assessments approximately three to five years following initial NYGB capital deployments.⁵ NYSERDA collected baseline data for the solar sector in 2019 and will update the data to include indicators specific to this transaction. NYSERDA will use baseline data collected for indicators as a comparison point against which to assess market progress in the later studies. Progress indicators are defined below for the short, medium and long terms.

NYGB expects that program and/or future market evaluation will demonstrate progress across short-term indicators; including:

- Size (i.e., generation capacity and expected dollar value) and location of projects financed by the investment; and
- Aggregate expected energy generation for projects financed by the investment.

NYGB expects that program tracking and/or future market evaluation will demonstrate progress across medium- and long-term indicators; including:

- Increased general understanding of environmental benefits of LFG-to-RNG projects by financial community;
- Increased awareness and use of loan performance data by financing entities;
- Increased awareness and use of project/technology performance data by financing entities;
- Decreased costs of future LFG-to-RNG projects; and
- Presence and number of new lending participants.

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

NYSERDA will evaluate the impact this transaction has had on sustainable infrastructure finance markets and the energy/environmental benefits delivered by this transaction.

Market evaluation will address the short, medium and long-term indicators identified above. Methods will include analysis of program data along with interviews and surveys of market participants (e.g., financial community) to track information including but not limited to: project scale information and influence of NYGB’s participation on financial markets. As noted, NYSERDA collected baseline data on key indicators in its first phase evaluation during 2018 - 2019. 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 the projects funded under the investment that will have raised construction financing and will have been completed, commissioned, and placed in service.

As with all NYGB investments, CGE projects that receive an incentive or funding from other entities (e.g., utility, other NYSERDA programs, etc.) will, in accordance with the Metrics Plan, be tracked 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

⁴ Per conversion coefficient factors provided by the U.S. Environmental Protection Agency, NYGB assumed that each MMBtu of RNG processed by the facility will result in 0.12037 pounds of carbon dioxide

⁵ See Metrics Plan, Section 3.3 at page 7.

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.