

Transaction Profile

Financing in action

AMERICAN ORGANIC ENERGY (AOE)

Construction-to-term loan supporting an organic waste processing facility for the production of clean energy and organic fertilizer on Long Island, NY.



The project will be the largest anaerobic digester to process food waste sourced from the New York City metropolitan region and other states in the Northeast. This loan will finance the construction and operation of an anaerobic digester that is expected to process 180,000 tons of food waste and 30,000 tons of fats, oils, and grease that would have otherwise been transported to landfills more than 150 miles away.

The project is expected to result in significant benefits to the local area by generating clean energy, producing organic fertilizer for commercial use, and reducing greenhouse gases produced by the current practice of transporting waste to distant landfills — therefore indirectly reducing landfill emissions.

In addition to anaerobic digesters and the necessary processing equipment to produce renewable natural gas from food waste, this project is comprised of: (1) an associated treatment plant to process ammonia for the creation of a liquid fertilizer; (2) a process to convert solids produced into an organic fertilizer product; and (3) a combined heat and power unit to provide heat and power to the project.

Market Barriers and Solutions

Anaerobic digester developers often lack access to sufficient financing, which limits project development and restricts the production of renewable natural gas and efficient processing of waste in New York. This transaction supports project development by providing construction and term financing.

Food waste haulers face a shortage of sustainable, cost-effective sites to dispose of food waste. In Long Island, haulers drive up to 300 miles into Pennsylvania to dispose of food waste at landfills. This project will assist in the development of a food waste facility in close proximity to food waste generators. Waste haulers will be able to dispose of this food waste at the AOE facility at competitive disposal rates. At the same time, the food waste is converted into renewable natural gas to be injected into the local energy distribution system.

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Transaction amount: **\$55.0 million**

Counterparties:

(Co-Lenders) Pathward National Association, JP Morgan Chase & Co. **(Sponsor)** AOE Holdings, LLC, which is jointly owned by Viridi Energy Operating LLC (an affiliate of Warburg Pincus) and Vigliotti Holdings, LLC (owned by C. and A. Vigliotti)

Product: **Construction-to-term loan**

Date closed: **May 2023**

Estimated lifetime metric tons CO₂e reduced: **Up to 944,391**

Technology: **Bioenergy**

Location: **Downstate**

End-use segment: **Utility/grid-interconnected, commercial and industrial**



“The AOE project provides a cost-effective, sustainable solution for a meaningful portion of food waste generated annually in the NYC metropolitan area. NY Green Bank has been instrumental in providing a creative solution to our debt financing requirements that has enabled us to attract JPMorgan and Pathward as participating lenders. I’m proud to embark on the next phase of this project with Viridi, an experienced RNG partner, as we envision the possibility of scaling production at the site in the future.”

Charles Vigliotti, Chief Executive Officer and President of AOE



NY Green Bank
A Division of NYSERDA



\$55 million construction-to-term loan to finance an organic waste processing facility on Long Island, NY

AMERICAN ORGANIC ENERGY

On May 25, 2023, NY Green Bank (“NYGB”) closed a \$55.0 million construction-to-term loan to American Organic Energy (“AOE”). NYGB’s participation in the construction-to-term loan will support AOE in the construction of an organic waste processing facility for the production of clean energy and organic fertilizer on Long Island, NY.

Transaction Description

The project will be the largest anaerobic digester to process food waste sourced from the New York City metropolitan region, Pennsylvania, as well as other states in the Northeast. This loan will finance the construction and operation of an anaerobic digester that is expected to process 180,000 tons of food waste and 30,000 tons of fats, oils, and grease that would have otherwise been transported to landfills more than 150 miles away.

The project is expected to result in significant benefits to the local area by producing renewable natural gas and organic fertilizer for commercial use, and reducing greenhouse gases produced by the current practice of transporting waste to distant landfills — therefore indirectly reducing landfill emissions.

In addition to anaerobic digesters and the necessary processing equipment to produce renewable natural gas from food waste, this project is comprised of: (1) an associated treatment plant to process ammonia for the creation of a liquid fertilizer; (2) a process to convert solids produced into an organic fertilizer product; and (3) a combined heat and power unit to provide heat and power to the project.

This Transaction Profile is provided pursuant to the updated NY Green Bank – Metrics, Reporting & Evaluation Plan, Version 3.1 (the “Metrics Plan”) developed in collaboration with the NYS Department of Public Service and filed with the NYS Public Service Commission (the “Commission”) on May 2, 2022.¹ This Transaction Profile contains specific information in connection with the AOE Holdings, LCC transaction entered into in May 2023, 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	\$55.0 million

Location(s) of Underlying Project(s)

Downstate. Project will be located in Long Island, NY.

¹ Case 13-M-0412.

² See Section 4.0 at page 8 - 9 and Schedule 3.

Types of Organizations that are Transaction Participants

	Name	Participant Type
Counterparty	AOE Holdings, LLC	Sponsor
	Viridi Energy Operating LCC Vigliotti Holdings, LLC	Joint Owners of AOE Holdings, LLC
	Pathward National Association JP Morgan Chase & Co.	Co-Lenders

Summary of Financing Market Objectives & Barriers Addressed

Beneficiary	Market Barrier	Financing Solution
Anaerobic digester developers	Anaerobic digester developers often lack access to sufficient financing, which limits project development and restricts the production of renewable natural gas and efficient processing of waste in New York.	This transaction supports project development by providing construction and term financing.
Food waste haulers	Food waste haulers face a shortage of sustainable, cost-effective sites to dispose of food waste. In Long Island, haulers drive up to 300 miles into Pennsylvania to dispose of food waste at landfills.	This transaction assists in the development of a food waste facility in close proximity to food waste generators. Waste haulers will be able to dispose of this food waste at the AOE facility at competitive disposal rates. At the same time, the food waste is converted into renewable natural gas to be injected into the local energy distribution system.

Technologies Involved

Technology	Measures
Bioenergy	Biomass; Biogas

Metrics & Evaluation Plan

Planned Energy & Environmental Metrics

NYGB's minimum investment criteria require that "transactions will have the potential for energy savings and/or clean energy generation that will contribute to greenhouse gas ("GHG") emission 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:⁴

- Estimated total energy savings (MMBtu equivalent)
- Estimated GHG emission reductions (metric tons)

The estimated gross lifetime and annual energy and environmental impacts of the investment are as follows:

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 at pages 2 - 6.

Energy/Environmental	Lifetime	Lifetime	First - Year	First - Year
Impact	Low Estimate	High Estimate	Low Estimate	High Estimate
Estimated total energy savings (MMBtu equivalent)	10,400,000	11,374,304	520,000	568,715
Estimated GHG emission reductions (metric tons)	863,496	944,391	43,175	47,220

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 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 NYGB portfolio 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 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 and location of projects financed by the investment;
- Aggregate expected energy savings 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:

- Increase in general understanding of anaerobic digester projects by the 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 anaerobic digester projects; and
- Presence 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 it delivers.

Market evaluation will assess 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 – 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 investment raised construction financing and were completed, commissioned, and placed in service.

In accordance with the Metrics Plan, NYGB will track AOE projects that receive incentives or funding from other entities (e.g., utility, other NYSERDA programs) 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

⁵ See Metrics Plan, Section 3.3 at page 7 - 8.

double counting. NYSERDA and NYGB will attempt to coordinate market and impact evaluation activities for projects that receive support from multiple sources in order to maximize the efficiency of data collection and avoid participant survey fatigue.