



# ANAEROBIC DIGESTION OMBUDSMAN

## INTRODUCTION

New York is a leader in on-farm biogas production with 33 operating anaerobic digesters. In an effort to continue to grow the industry and provide support to existing projects, state energy leaders created an anaerobic digestion ombudsman program. An ombudsman is an independent and neutral resource that helps individuals solve problems. Many industries including healthcare, universities and government agencies have ombudsmen to help people explore options and resolve conflicts.<sup>1</sup> A team of experts consisting of a utility services expert, dairy systems engineer and electric engineer served as anaerobic digestion ombudsmen. Together, they provided assistance to over 20 anaerobic digester projects in New York. The experts were a trusted-third party resource that provided free technical assistance to farmers and developers to help clear industry hurdles.

## BACKGROUND ON THE OMBUDSMAN PROGRAM

In April 2013, leaders from New York Power Authority (NYPA) and New York State Energy Research and Development Authority (NYSERDA), with the support of Governor Cuomo, created an anaerobic digestion ombudsman program. The goal of the program was to help revitalize the state's dairy industry by addressing gaps in anaerobic digester development and assisting projects with utility interconnection.



Photo: Ridgeline Farm

NYPA recognized that a team of experts with experience in different areas would be needed to address the challenges facing the industry. They were able to accomplish this by awarding a contract to Antares Group Inc., an independent professional-services firm dedicated to implementing cost-effective clean energy solutions. Additionally, Antares subcontracted with Cornell University for dairy system engineering expertise and Pathfinder Engineers & Architects LLP for electrical engineering expertise.

Together, the team of experts met the need to provide anaerobic digester services to farmers and developers in New York. The ombudsman program served the New York digester industry from April 2013 – December 2014 and was funded by the New York Power Authority. NYSERDA plans to restart the ombudsman program this winter and continue the program for at least two years.

<sup>1</sup> International Ombudsman Association. <https://www.ombudsassociation.org/Resources/Frequently-Asked-Questions/What-is-an-Organizational-Ombudsman.aspx>



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### HOW DOES THE OMBUDSMAN PROGRAM HELP FARMERS IN NEW YORK?

Every anaerobic digester project has its own unique scope, which can make anaerobic digester development a difficult process to navigate. The ombudsman program helped streamline steps in project development to make it easier for farmers to build anaerobic digesters. Three organizations made up the ombudsman program team. Together, the team assisted 20 anaerobic digester projects in New York.

#### LEAD OMBUDSMAN (ANTARES GROUP, INC)

**Project Development.** For projects in their design phase, the ombudsman verified estimated costs and performance of anaerobic digester projects and explained available grants and funding sources. The ombudsman became an expert on tariff rates in the various utility service territories and helped ensure energy costs used for the project were properly calculated. The ombudsman also reviewed utility and vendor proposals and documents and provided rate tariff analyses. A thorough understanding of project economics is essential for developing anaerobic digester projects. The ombudsman was a resource that the farmers trusted to provide unbiased information.



In addition to providing project economics review, the ombudsman worked with project developers and utilities to streamline the interconnection process. The ombudsman developed templates to simplify project analysis documents and created interconnection guidelines and flow charts to educate farmers and project developers on interconnection in New York. The guidelines and flow charts provided step-by-step instructions for farmers and developers to work through the utility interconnection process. The ombudsman also acted as a “CAD scribe” and helped produce CAD drawings from sketches provided by electricians and vendors.

The ombudsman also helped develop a food waste database and mapping tool to connect anaerobic digester owners with food waste distributors. Food waste provides a major boost to biogas production helping make project economics more feasible. The food waste database identifies food waste distributors in Monroe County and several surrounding counties. Nearly two thirds of all digesters in New York are in these counties, which can bring great value to farmers. The ombudsman also kept up-to-date lists of engineers, vendors and equipment providers for farmers seeking cost quotes and technical assistance outside of the ombudsman’s scope of work.

**Industry Advancement.** As a leader in the agricultural biogas industry, the ombudsman presented at several conferences to help educate the industry on the ombudsman program, identify hurdles facing the industry and highlight opportunities to improve project development. At the 2014 Advanced Energy Conference in Albany, NY, the ombudsman



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suggested changes utilities and policy makers could make to improve anaerobic digester development. The ombudsman provided a voice for farmers and developers by increasing awareness on anaerobic digester issues.

### ELECTRICAL ENGINEER (PATHFINDER ENGINEERS & ARCHITECTS LLP)

The electrical engineer provided technical expertise on the engineering requirements of interconnection. The electrical engineer prepared interconnection applications and reviewed utility line studies to ensure that the design, cost and schedule were reasonable. The electrical engineer also answered questions related to power quality and electrical disturbances. On several occasions the electrical engineer was called upon to provide third party assistance to help resolve conflicts between utilities and anaerobic digester developers.

### DAIRY SYSTEMS ENGINEER (CORNELL UNIVERSITY)

Cornell University has a long history of extension outreach with the farm community. The dairy systems engineer helped educate the farm community about the ombudsman program and grow the program's network. Many of the anaerobic digester projects that received assistance from the ombudsman program learned about the program through Cornell University.

The dairy systems engineer had extensive experience with anaerobic digester systems and microbiology, which provided much needed technical assistance to projects. Expertise and solutions for a variety of anaerobic digestion issues from stalled, foaming or otherwise troubled anaerobic digesters were provided.



### MEASURING SUCCESS OF THE OMBUDSMAN PROGRAM

Success of the ombudsman program was measured by the number of projects the ombudsman team assisted and by whether a farmer or vendor used the service once or multiple times. The program viewed farmers or vendors using the program multiple times as an indication that the services provided to the community were of value. The lead ombudsman provided weekly updates to NYPA and NYSERDA on the number of projects assisted and the extent to which services were provided. Over the course of time, the ombudsman program saw increased demand for services, which indicated success of the program. In total, the ombudsman program provided assistance to over 20 anaerobic digester projects in New York.



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## TIME INVOLVED AND COST OF OMBUDSMAN PROGRAM

New York funded the ombudsman work through contracts based on actual hours spent on related activities. At an average rate of \$113 per hour, NYPA spent over \$200,000 in one 18-month period. Funding the work on a contract basis allowed for flexibility to address the needs of the industry, based on the program's growing understanding of the challenges. On average, the ombudsman team worked 20-25 hours per week serving New York's anaerobic digester industry.

## LESSONS LEARNED

### FLEXIBILITY

Inherently, anaerobic digestion systems require a wide range of expertise in order to be successful. Designing a program to span the needs of project development is critical. New York met this need by hiring a team of professionals with a broad range of technical skills. Additionally, they designed a contract with a flexible scope of work. The team also developed good contacts within the industry-- including the Public Service Commission, state environmental agencies, and distributed generation departments of local utilities. These contacts were essential to address hurdles in the project development process.

### OUTREACH

Program outreach was also an important area. The ombudsman program was able to educate the industry not only about the services of the program, but also about barriers facing the industry. By presenting to industry representatives and policy makers, the ombudsman helped bring awareness to rule makers about opportunities to improve anaerobic digester development. The ombudsman was a voice for the industry, which allowed the program to overcome many challenges that farmers and developers faced in New York.

### CONTINUITY

Continuity of the ombudsman program is also a key aspect of sustainable program success. While transitioning the ombudsman program from NYPA to NYSERDA, a lapse in service occurred. This lapse required projects to find their own way forward with the tools created by the ombudsman. Long-term guarantee of funding can help avoid gaps in service. Due to the value of benefits provided by the program, NYSERDA plans to fund the program for at least the next two years.

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