



ANAEROBIC DIGESTION OMBUDSMAN

INTRODUCTION

Anaerobic digester project development tends to be complex and challenging. For farmers, developing anaerobic digester projects is often out of their realm of experience and can take significant time to understand and perform. Furthermore, each anaerobic digester project is unique, so there is little guidance available to help farmers through the process. In Vermont, backed by an effort to promote renewable energy, leaders created an ombudsman position to help farmers develop anaerobic digester projects.

An ombudsman is an independent and neutral person who helps individuals solve problems. Many industries including healthcare, universities, and government have ombudsmen to help people explore options and find mutually acceptable resolutions to conflicts.¹ At a relatively low cost, the Vermont anaerobic digestion ombudsman assisted 20 farmers with anaerobic digester projects. This assistance boosted the anaerobic digester industry and gave peace of mind to farmers knowing there was a trusted resource available to help them.

BACKGROUND ON THE OMBUDSMAN

In 2004, the Vermont legislature approved the formation of the Green Mountain Power Renewable Development Fund (RDF) to provide farmers financial incentives to build anaerobic digesters. The RDF's goal is to support the growth of the anaerobic digester industry by educating farmers about anaerobic digester technology and giving grants and other assistance. An Executive Committee, comprised of stakeholders from a utility, government, non-profits, and a farmer, manages the RDF. In order to effectively implement the goals of the RDF, the committee created the ombudsman position. Originally, two ombudsmen were hired; together they served from 2005-2007. One continued on from 2007- 2012 and again 2013-2014. All services provided by the ombudsman were paid by the RDF and provided for free to the farm owners. Currently, the Green Mountain Power RDF Executive Committee is in the process of selecting a new ombudsman.



Photo: Former Vermont Anaerobic Digestion Ombudsman, Mike Raker (right) and farmer, Matt Maxwell (left) at Neighborhood Energy in Coventry, VT.

¹ International Ombudsman Association, "What is an Organizational Ombudsman?" <https://www.ombudsassociation.org/Resources/Frequently-Asked-Questions/What-is-an-Organizational-Ombudsman.aspx>, (9/2/2015).



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HOW DOES THE OMBUDSMAN HELP FARMERS IN VERMONT?

In Vermont, the anaerobic digestion ombudsman played a critical role in both the development of anaerobic digester projects and the long-term sustainability of the industry. Under the direction of the RDF Executive Committee, the ombudsman provided assistance to 20 anaerobic digester projects, including all 17 anaerobic digesters that are operational today. The ombudsman helped coordinate all aspects of project development, including working with partners (the farm, utilities, state agencies, vendors, contractors) as well as helping operational projects with technical assistance.

"I cannot overstate the fact that without [the ombudsman] I wouldn't have my anaerobic digester. I would have been too overwhelmed with the process. [The ombudsman] provided guidance that was vital to getting my anaerobic digester."

– Reg Chaput
Chaput Family Farms
North Troy, VT

PROJECT DEVELOPMENT

During the design phase, the ombudsman helped educate farmers about anaerobic digester technologies and assisted with bid evaluation and vendor selection. The ombudsman arranged tours of existing anaerobic digesters in the Northeast. Farmers considering an anaerobic digester visited farmers who already had one. For farmers considering the investment, seeing is believing. Thus, visiting projects early in the process was especially important. As an independent resource, the ombudsman helped farmers find the vendor and anaerobic digester design that was a good fit for each farm.

Once projects are underway, knowing the required steps involved, whom to speak to and when to speak to them can be an overwhelming challenge. The ombudsman's understanding of the anaerobic digester development process and network of industry contacts made the process easier. For example, at Chaput Family Farms in North Troy, VT, the ombudsman helped coordinate with 15 different entities during the development of their anaerobic digester. The ombudsman was particularly helpful with utility interconnection, which is, in some cases, the most challenging aspect of project development. The ombudsman provided assistance with interconnection feasibility studies and net-metering analyses and helped negotiate power purchase agreements.

ANAEROBIC DIGESTER SUSTAINABILITY

After projects were complete, the ombudsman continued to provide technical assistance, trouble-shooting and other services to anaerobic digester owners. Trust between the farm community and the ombudsman grew, which allowed the ombudsman to expand the scope of work to further help farmers. The ombudsman helped connect anaerobic digester owners with food waste distributors to boost biogas production, electricity production and ultimately financial income. The ombudsman helped negotiate agreements to accept food waste from local food processing companies like Ben & Jerry's Ice Cream and St. Albans Cooperative Creamery, as well as companies as far away as Boston, MA and Portland, ME.

INDUSTRY ADVANCEMENT

The ombudsman also helped the industry as a whole by advocating in the state legislature for favorable farm anaerobic digester policies. The ombudsman was involved in several policies, including the Vermont Energy Act of 2009 (Act 45), which provides renewable energy projects long-term contracts and establishes feed-in-tariffs for anaerobic digesters;



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Vermont H.405 (Act 88), which limits the jurisdiction of the Vermont Public Service Board to regulate anaerobic digester projects; and other net-metering law changes.

At the time the ombudsman was hired, anaerobic digesters were new to many utilities and lenders. To educate utility staff, the ombudsman organized a utility engineering forum. The forum provided training for utility engineers on best practices for interconnecting anaerobic digesters to the grid. This made it easier for farmers to communicate with utilities about interconnection. To build confidence in the lending community, the ombudsman provided banks with financial analyses and educational materials. This helped farmers obtain loans which made projects economically feasible.



Photo: Bill Rowell of Green Mountain Dairy (left) and David Dunn of Green Mountain Power utility (right) discuss a biogas generator-set in Sheldon, VT.

BENEFITS FOR STATES AND UTILITIES

Biogas systems provide many benefits to states including supporting local communities, providing diverse energy supply, and enhancing nutrient management. The ombudsman is also helping Vermont reach its goal of obtaining 90% of its energy from renewable sources by 2050. Currently, Vermont's 17 anaerobic digesters with electric generation produce 22 million kWh of renewable electricity annually, which is enough electricity to power nearly 3,200 Vermont homes^{2,3}. In the future, the ombudsman can continue to help the state and utilities comply with renewable energy generation and greenhouse gas mitigation policies, such as the EPA's Clean Power Plan.

MEASURING SUCCESS OF THE OMBUDSMAN

Success of the ombudsman position is measured by the progress made on anaerobic digester projects and in the industry. The RDF Executive Committee met monthly with the ombudsman to discuss progress of projects, advances made in the industry, and to provide guidance. Each year the Executive Committee set up a contract with a work plan in cooperation with the ombudsman. The ombudsman consistently met and exceeded the expectations of the RDF Executive Committee. The ombudsman assisted 20 anaerobic digester projects in Vermont and helped spur growth of anaerobic digesters in Vermont. Figure 1 shows the growth in the anaerobic digester industry since the inception of the ombudsman program.

² Vermont 2015 Comprehensive Energy Plan, http://publicservice.vermont.gov/sites/psd/files/Pubs_Plans_Reports/State_Plans/Comp_Energy_Plan/2015/CEP_Public_Review_Draft_092215.pdf, (9/21/2015).

³ Utility Facts 2013, Vermont Public Service Department, http://publicservice.vermont.gov/sites/psd/files/Pubs_Plans_Reports/Utility_Facts/Utility%20Facts%202013.pdf, (10/28/2015).



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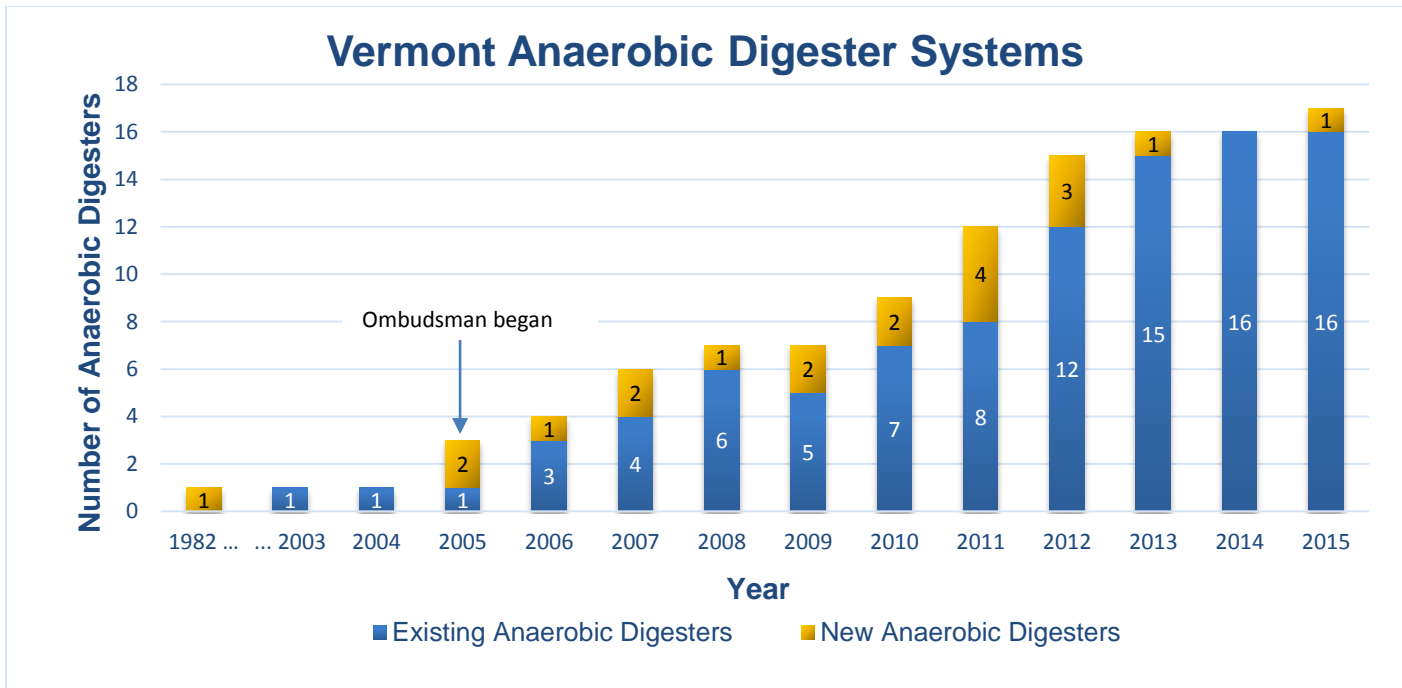


Figure 1: Number of operational anaerobic digester projects the ombudsman assisted. NOTE: The ombudsman also assisted three projects that are currently not operational. Source: EPA AgSTAR Project Database.

FUNDING THE OMBUDSMAN

The ombudsman position is funded through the Green Mountain Power RDF. The RDF is funded by insurance credits, tariff collections, and contributions from companies and individuals. Each year, the ombudsman is contracted to work 800-1200 hours, which equals about 20 hours per week. On average, the ombudsman was paid \$85,000 per year.

VALUE OF THE OMBUDSMAN

Over the past decade, more than \$7 million has been invested into Vermont anaerobic digester projects. Of that, \$2.25 million came from the Green Mountain Power RDF and \$4.75 million was leveraged from other funding sources. In this same time period, \$670,000 was spent on the ombudsman services. The ombudsman services, coupled with grants, have achieved success; 16 new anaerobic digester projects were constructed in Vermont, compared to the national average of 8 new projects. Vermont now has one of the highest usage of anaerobic digesters in the country; approximately ten percent of Vermont's dairy manure is going through an anaerobic digester.^{4,5}

While financial incentives for anaerobic digesters have certainly helped projects, Vermont farmers have said that the "technical assistance provided by [the ombudsman] was equal, if not of greater value than the RDF grants".⁶ On a per

⁴ USDA Census of Agriculture, 2012 Census Volume 1, Chapter 1: State Level Data, Vermont, http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Vermont/st50_1_017_019.pdf, (9/29/2015).

⁵ AgSTAR Project Database, <http://www2.epa.gov/agstar/livestock-anaerobic-digester-database>, (9/29/2015).

⁶ CVPS Renewable Development Fund: Progress Report June 30, 2011. <http://www.vtenergyatlas-info.com/wp-content/uploads/2010/02/RDF-Progress-rpt.pdf>, (8/12/2015).



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project basis, \$33,500 was spent on the ombudsman compared to \$115,000 on RDF grants and over \$700,000 total from grants. Assuming Vermont farmers valued the ombudsman services equal to grants, the ombudsman was a prudent investment for the Green Mountain Power RDF.

LESSONS LEARNED

The ombudsman was a trusted resource for farmers helping guide them through the complexity of anaerobic digester development. The services provided were free to the farmers and developers, which indirectly lowered project development costs and accelerated the timeline to commissioning. In comparison to total grants and loans awarded to projects, the ombudsman services were relatively inexpensive while the benefits were substantial. The ombudsman is a great opportunity to enhance the value of anaerobic digester grants.

The Vermont ombudsman was unique in that it was governed by a committee instead of a single organization. The committee had members representing several sectors, including the local utility, government agencies, and non-profits. This structure ensured the ombudsman took a holistic approach to encouraging project development. No one sector or organization took priority, which allowed the ombudsman to act neutrally and not favor one group's interests.

Finding champions at the key stakeholder organizations (utilities, government agencies, and non-profits) proved essential to the success of Vermont's ombudsman program. The ombudsman was able to lean on the Executive Committee for support, and also built up a network of industry contacts which helped move projects forward. At the onset of developing an ombudsman position, it is important to identify organizations and leaders within those organization that are willing to support the ombudsman's efforts.

With the goal of increasing the number of anaerobic digesters, the ombudsman met the needs of the RDF Executive Committee and the farmers of Vermont. Vermont's two-pronged approach of providing both financial assistance and ombudsman services to the anaerobic digester industry is a model for successful anaerobic digester implementation.

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