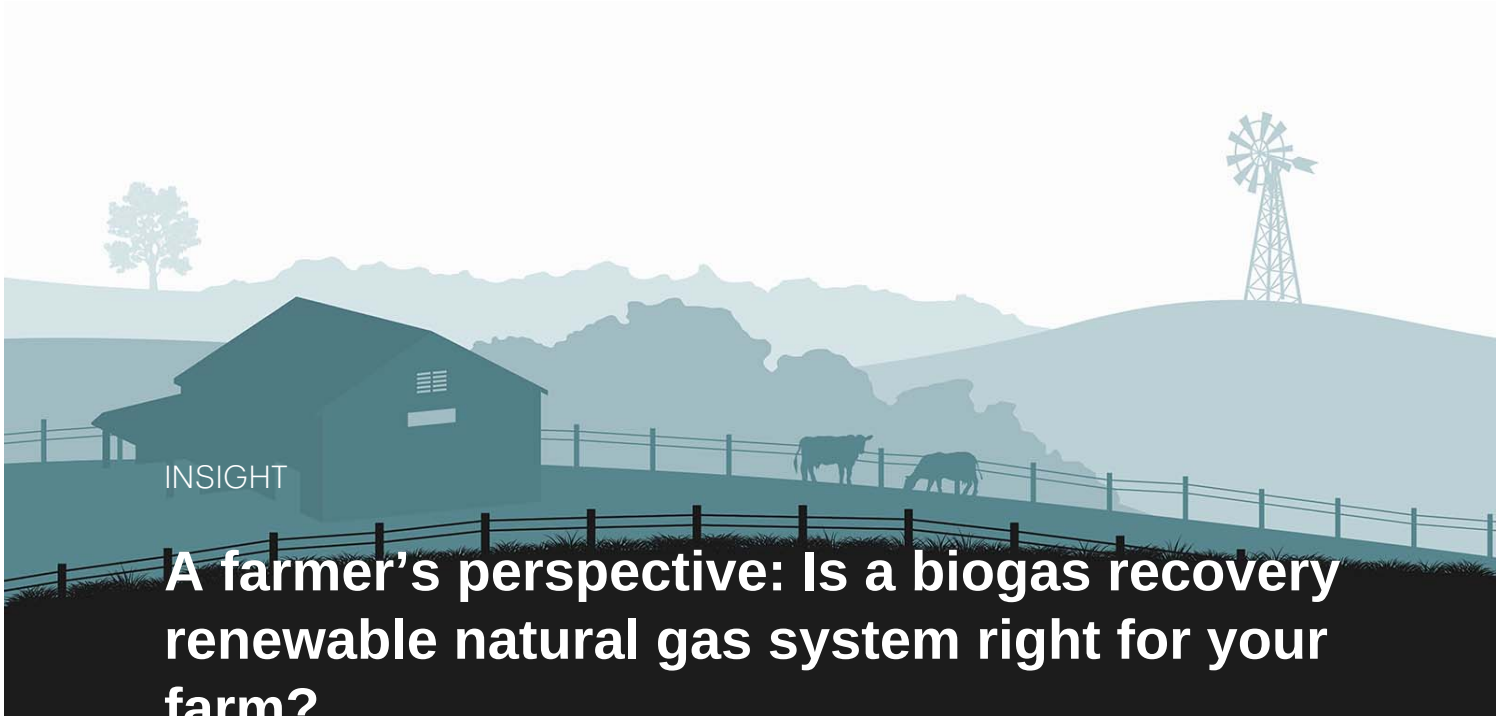

INSIGHT

A farmer's perspective: Is a biogas recovery renewable natural gas system right for your farm?

Biogas recovery and renewable natural gas (RNG) projects are gaining in popularity, and as new ones are coming on-line, interest in these projects continues to increase. Energy produced from biogas recovery systems, also known as anaerobic digestion (AD), can be used for on-site power, or if they are large enough, can be upgraded to produce RNG. RNG can be injected into natural gas pipelines for use anywhere in the country.

From the farmer's perspective, these systems can provide an additional revenue stream while simultaneously reducing their waste management liability. They can also help farmers be more sustainable by helping to reduce green-house gas emissions and runoff into neighboring water bodies.

Is your farm a good candidate for a biogas RNG project?

FREE Assessment

Below is a list of questions we often hear from farmers as they are considering if a biogas recovery system is right for them.

Will a digester interfere with a farm's daily operations during development and beyond?

A good RNG project partner understands that running the farm is a top priority and will allow the farmers to focus on what they do best and not to have to worry about the project construction, operations and maintenance. Farmers can be as involved as they want to be in the project.

What makes a dairy or hog operation well-suited for an anaerobic digester?

Here are some general guidelines to consider for AD economical suitability.[1] Availability of other organic waste from neighboring farms or industry, i.e. food waste, can help boost biogas and RNG production and make a project more feasible.

	Dairy	**Swine**
Number of animals	≥ 500	≥ 2,000
Manure system(s)	Free stall barns with flush systems	Houses with flush, pit recharge, or pull-plu systems.

For an RNG system the minimum recommended number of animals for a dairy is 3,000 and for swine it is 10,000.

How much RNG can be produced from dairy cows and hogs?

Each dairy cow produces an average of 65lbs of manure per day which is enough to make about 10 MMBtu per year of RNG. An adult pig produces around 11lbs of manure per day, which is enough to make about 1.05 MMBtu of RNG per year. 1 MMBtu is the equivalent of 8.3 gallons of gasoline.

How many different types of revenue streams are available for an RNG project?

- RNG sales
- Digestate - digester effluent byproduct that can be used as fertilizer, livestock bedding, and soil amendments that can be used at the farm or sold.
- Tipping fees - in some cases, facilities may accept organic waste streams from off site and collect tipping fees. Waste can include livestock manure from neighboring farms, local food-processing plants, restaurants, schools, or other institutions. In addition to boosting direct revenues, the co-digestion of non-farm organic waste streams produces additional biogas.

What is the reduction in GHG compared to other manure management methods?

The Environmental Protection Agency (EPA) estimates that installing digesters at dairy and swine operations, where it is feasible, could reduce their methane emissions by about 85%.[1]

Can other feedstock be used in addition to manure?

Yes. Some manure-based digesters co-digest other waste materials including food waste; fats, oils and greases; or processing wastes from a dairy or slaughterhouse. Different types of manure can also be co-digested.

Are the byproducts from the AD process useful as fertilizer?

Yes. Digestate (digester effluent) solids is a byproduct of the AD process. It can be used as fertilizer, livestock bedding and/or as a soil amendment.

How much space do RNG systems take?

Typically RNG plants require one acre or less.

Where does the renewable natural gas go?

RNG can be injected directly into a natural gas pipeline, or if the plant is not close to potential end users or an existing pipeline, it can be transported via truck.

How do AD and RNG processes impact existing manure management system?

AD and RNG systems can be designed to work with existing manure management systems.

Other than financial, what are some benefits to doing a biogas/RNG project?

There are several benefits including water quality improvements, good neighbor/community relations, agency compliance, odor control and reduced greenhouse gas emission and pathogens. Read more about the benefits of anaerobic digestion.

LEARN MORE

Watch a free webinar to learn about the keys to implementing a successful dairy farm renewable natural gas (RNG) project.

To learn more about how Bartlett & West works with farmers, contact one of our biogas recovery system experts, Sirisha Chada or Daniel Berges.

Sources: 1. Market Opportunities for Biogas Recovery Systems at U.S. Livestock Facilities, Environmental Protection Agency, 2018