

State Methane Digester Programs

There are two state programs designed to encourage farmers to install methane digesters, which capture methane gas that can be converted into electricity. In spite of these efforts, Minnesota farmers have been slow to adopt this technology. This hesitancy may be due in large part to the significant upfront costs and low electricity purchase rates offered by utilities. Technical limitations of biogas production may also be a factor—studies have indicated that profitable biogas production in Minnesota using current digester technology may be limited to large dairy operations (at least 300 cows) that collect manure by scraping rather than flushing. Profitable methane production requires a significant amount of manure, and cows have been shown to have greater gas production potential than swine or poultry (measured in ft.³/animal unit/day).

What are methane digesters?

Methane digesters (also referred to as biogas recovery systems or anaerobic digesters) can be incorporated into a farm's manure management system to capture the biogas that is emitted when bacteria break down the organic material in manure solids. This biogas is volatile and composed primarily of the greenhouse gases methane and carbon dioxide. The gas is captured in an enclosure, or digester, then flared to control odor and curb greenhouse gas emissions or combusted in a generator to produce electricity and heat. Electricity produced from biomass can be used to power farm operations and/or plugged into the grid and sold to the local electric utility, creating an additional revenue stream.

How many digesters are there in Minnesota?

Two Minnesota dairy farms use methane digesters—Haubenschild Farms near Princeton and Northern Plains Dairy near St. Peter. For comparison, there are 21 digesters in Wisconsin, 18 in California, five in Iowa, and none reported in North or South Dakota.

What state programs provide incentives for on-farm methane digesters?

Two state programs provide incentives for methane digesters: the Renewable Energy Production Incentive and the Methane Digester Loan Program.

Renewable Energy Production Incentive

Qualifying owners of on-farm methane digesters who sell electricity to a utility or other party are eligible to receive incentive payments from the Department of Commerce. Eligible digesters must be located on the site of an agricultural operation and owned by an entity that is not prohibited from owning agricultural land in Minnesota. Payments are 1.5¢/kilowatt-hour for up to ten years or until 2017, whichever comes first. Northern Plains Dairy is the only operation enrolled in the program.

For more information, contact Jeremy DeFiebre at the Minnesota Department of Commerce (jeremy.defiebre@state.mn.us or 651-296-5175)

Methane Digester Loan Program

Administered by the Rural Finance Authority, the program provides loans to help eligible farmers purchase and construct digesters that convert manure to electricity. Eligible borrowers must be a resident of Minnesota or an entity eligible to own agricultural land in the state. The loan may not exceed \$250,000 and is limited to 45 percent of the total principal when the state participates with another eligible lender. Loans are interest free. Haubenschild Dairy received the only program loan issued to date.

For more information, contact Matt Drewitz at the Minnesota Department of Agriculture (MDA) (matt.drewitz@state.mn.us or 651-201-6520) or visit the MDA web site at www.mda.state.mn.us/feedlots/digester.htm.

More information

In addition to the MDA web site, there are many other sources of information on methane digesters, including tools that can help farmers determine the financial feasibility of digesters, information on federal and private assistance programs, and case studies of successful operations. Here are two resources:

- AgSTAR: The federal government's multi-agency effort to promote on-farm methane recovery technologies.
www.epa.gov/agstar or 1-800-95-AgSTAR (1-800-952-4782)
- Agricultural Utilization Research Institute (AURI): AURI has compiled a checklist to help farmers decide if a digester makes sense for them.
www.auri.org/research/digester/diglead.htm

For more information: To learn more about these programs and how to apply, contact the resources listed above. For other questions, contact legislative analyst Colbey Sullivan at 651-296-5047.

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