Biogas Capture at U.S. Dairies: **Fast Facts**

AMERICAN BIOGAS COUNCIL

Overview

- There are **496 dairy biogas capture systems** operating on U.S. dairy farms today—**twice as many as in 2020**.
- These systems recycle manure from approximately 2.5 million dairy cows.
- Dairy biogas projects convert manure into:
  - Renewable electricity
  - Renewable Natural Gas (RNG)
  - Natural fertilizer
  - Animal bedding
- More than **16 billion gallons of manure** are put to beneficial use each year through these systems.

Key Takeaways

- Dairy biogas systems help farmers transform manure into valuable products while reducing greenhouse gas emissions, creating renewable energy, supporting rural economies, and improving environmental outcomes.
- Significant growth potential remains, offering opportunities to further reduce methane emissions, expand domestic renewable energy production, and strengthen the U.S. agricultural economy.

Offtake: Renewable Natural Gas (RNG) v. Electricity

- Today, **65% of dairy biogas facilities upgrade biogas into RNG**.
- **35% of facilities use biogas to generate electricity or other energy.**
- In 2020, **74% of captured biogas was used for energy generation**, while only **26% of dairy biogas systems produced RNG**.

Dairy Biogas Capture and Environmental Benefits

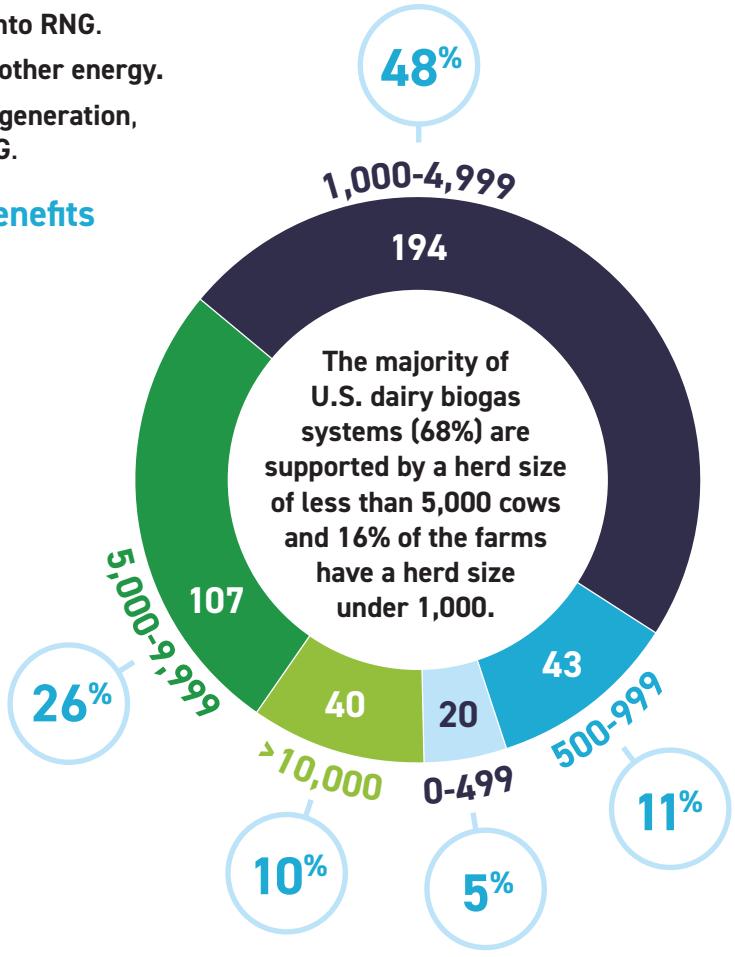
- Annual biogas production equals about **84 billion cubic feet (Bcf)**.
- Captured biogas contains approximately **52.3 million MMBtu of energy**.
- That's enough renewable energy to power roughly **680,000 homes each year**.
- These projects prevent approximately **1 million tons of methane emissions annually**.

Types of Dairy Biogas Systems

- **59% are tank-based digesters.**
- **41% are covered lagoon systems.**

Dairy Herd Statistics

- The average dairy biogas system is supported by **5,137 cows, a 26% increase since 2020**.
- More than **half of all systems** are supported by herds of **fewer than 5,000 cows**.
- **18% of dairy biogas systems** serve farms with **fewer than 1,000 cows**.
- **Just 8%** receive manure from **more than 10,000 animals**.



Economic Impact and Investment

- Nearly **$4 billion** has been invested in dairy biogas projects since 2020.
- Dairy biogas facilities that opened in 2025 represented approximately **$800 million** in investment.
- Top states for 2025 dairy biogas project investment:
  - **Texas:** $163 million
  - **Idaho:** $143 million
  - **Wisconsin:** $137 million

Market Potential

- The opportunity to increase dairy biogas capture in the U.S. remains substantial.
- Looking purely at dairy farms with **500 cows or more**, there are **2,955 additional farms** that could potentially add biogas systems.
- Those sites would **increase the number of operating dairy biogas systems 6x** in the U.S.
- Only **14% of eligible dairy farms currently have biogas systems**, leaving significant room for growth.
- Wisconsin has the largest opportunity, with **559 additional dairy farms** that could potentially add biogas systems.
- California has the second greatest potential with 539 dairy farms that would add biogas facilities.

Biogas Production Potential

- Additional dairy biogas projects could produce approximately 186 billion cubic feet (Bcf) of biogas annually.
- That is more than double current production levels.
- The additional renewable energy could power approximately **1.4 million U.S. households** each year.
- If fully developed, California alone could capture approximately 29 Bcf more biogas annually.
- Idaho, Texas, and Wisconsin also have substantial untapped dairy biogas potential, with each capable of producing an additional 18–20 Bcf annually.