Large Dairy Case Study

Rosendale Dairy, Pickett, WI



Digester Reference

Rosendale Dairy, home of 8,500 cows, installed an anaerobic digester in 2013 to generate renewable energy from manure and tackle environmental concerns.

The system was built as a partnership between the University of Wisconsin Oshkosh (UWO) and Rosendale Dairy.

Feedstock
~350 tons of manure/day are processed in the digester to meet the Power Purchase Agreement.

Financials & System Components
$7 million capital investment for the anaerobic digestion portion.

Component	Footprint
Two COCCUS® Tanks	10,053 ft^2
Pump Building	506 ft^2
Mechanical Building	1,080 ft^2
Separator Mezzanine	420 ft^2
Total	**12,059 ft^2**

Power Production
1.426 MW_{el} continuous power generator (combined heat and power unit) capacity:
- 1.426 MW electrical
- 1.5 MW thermal

Average annual energy production
- 12.5 million kWh electrical
- 45,300 MMBTU thermal

Estimated energy from the CHP could
- Provide electricity to 1,107 homes/year
- Heat 1,031 homes/year

Emissions Reduction
Methane produced and used is equivalent to the avoided release of:
- 44,602 metric tons CO_2/year

Electricity generation is equivalent to reducing:
- 11,786 metric tons CO_2/year from a conventional bituminous coal facility

About BIOFerm™

Based in Madison, Wisconsin, BIOFerm™ Energy Systems is a North American provider of turnkey gas processing and anaerobic digestion systems.

We additionally offer a spectrum of biogas services, such as: gas marketing, financing, project development, regulatory and financial oversight, power purchase agreement assistance, and consulting engineering.

Our company has experience from the installation of over 900 PSA systems (including ~90 Carbotech PSA gas processing plants) and over 450 anaerobic digestion facilities worldwide.

Technology Feature: REMEX® Paddle Mixer

Rosendale Dairy's COCCUS® digester optimizes fermentation through deep and continuous agitation of REMEX® Paddle Mixers inside the tanks. The low power consuming mixer ensures: homogenous horizontal/vertical mixing, low maintenance requirements and failure rates, durability, and elimination of sinking/swimming layers. The process results in well-mixed effluent for post-digestion nutrient recovery.