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VIR-CLAR FARMS – FOND DU LAC, WI

SYSTEM DESIGN

Vir-Clar Farm produces approximately 40,000 gallons of manure each day. Waste is continuously scraped and transmitted into two above-ground digester tanks with flexible dual membrane covers.

Manure is mixed in the digester with liquid effluent from the solid separators and other organic wastes from the farm (e.g., bunker wastes and waste feed). Biogas generated from the digester is fed into the engine-generator to produce electricity. All electricity generated on the farm is sold to Alliant Energy under a sell-all contract. Heat from the engine is collected and used to heat the digester, the separator room, and water for the calves. It is also used to supply in-floor heating in the calf barn.

Vir-Clar Farm is part of the compilation of case studies in the [Wisconsin Agricultural Biogas Casebook](#).

PROJECT BENEFITS

- Electricity production
- Potential revenue from value-added products and energy savings
- By-products for use as a natural fertilizer

The farm uses approximately half of the 150 tons of digested solids produced each week for bedding and sells the rest to a small farm and a potting soil facility that composts the solids and adds it to potting soil mix.



"The chance to sell renewable energy and significantly reduce our greenhouse gas emissions reflected our belief in environmental responsibility."

—Gary Boyke
Owner, Vir-Clar Farms

- **Population Feeding Digester:** 1,400
- **Baseline System:** Storage Tank or Pond or Pit
- **Digester Type:** Complete Mix
- **Co-Digestion:** Organic wastes (bunker waste, moldy feed, whatever isn't eaten by cows)
- **System Designer:** Biogas Direct, LLC
- **Biogas Use:** Cogeneration
- **Generating Capacity:** 350 kW
- **Receiving Utility:** Alliant Energy, Inc.
- **Project Funding:** USDA