



Dane Community Digester

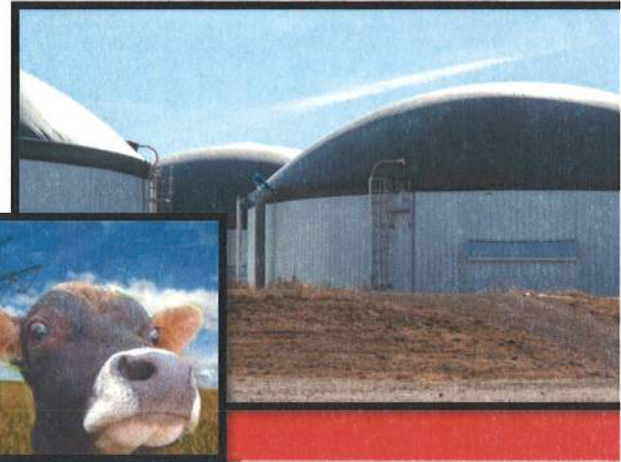
The Clear Horizons Dane Community Digester, located in Dane, Wisconsin, began the operation of a two megawatt combined heat and power (CHP) system operating on anaerobic digester gas from cow manure in 2011. The electricity generated by the CHP system is sold directly to Alliant Energy.

Manure to environmentally-friendly cattle bedding:

- Approximately 90,000 gallons of animal waste is pumped via pipeline to the Dane Community Digester from three nearby farms each day.
- This waste is pumped into the three, 1.25 million gallon digester tanks, without any pretreatment.
- To maximize biogas production, 12,000 gallons of food production by-product is also added daily. The waste is mixed and heated to 100°F to aid in the digestion process.
- From the digestion process, biogas is produced for use in the CHP gensets, which produces clean electricity sold to the local utility.
- Upon leaving the digesters, a centrifuge is used to dewater the digested manure. The liquid is returned to the farms, where it is stored in each farm's lagoon until it is spread on their fields.
- The separated fiber is heated to a temperature of 740° F to remove additional moisture and is then sold as high-quality, environmentally friendly cattle bedding.
- Recovered heat from this process is used to maintain the digester's operating temperatures as well as to heat various buildings around the facility.

Environmental Benefits

- Removes phosphorous from the Yahara Watershed which has a negative impact on water quality and is a major pollutant of Dane County waterways
- Separates the digested manure so the majority of phosphorous is tied up in the fiber solids and can then be removed from the local ecosystem; removes 1,540 pounds of phosphorus per year
- Captures methane from the manure that would normally be emitted into the atmosphere
- Greatly reduces odor of manure



Clear Horizons Quick Facts

Location:
Dane, Wisconsin
Began Operation:
2011

Facility Type:
Anaerobic Digester

Total Digester Capacity:
3.75 Million Gallons
(3 x 100 ft. Diameter Tanks)

Daily Volume Processed:
88,000 Gallons Manure

12,000 Gallons Food Production Byproduct

CHP Generating Capacity:
2 Megawatts

Generator Type:
2 x GE Jenbacher JGC 320

Fuel Type:
Digester Gas - ~55% Methane

Heat Recovery Source:
Oil, Jacket, Intercooler, and Exhaust

Heat Recovery Application:
Bio Dryer
Building Heat

Supporting innovative technologies for sustainable agriculture

