

## Who we are

Dairyland Power Cooperative (La Crosse, Wis.), formed in December 1941, is a generation and transmission cooperative, otherwise known as a G&T. A G&T does not market electricity directly to the consumer. Instead, it supplies electricity on a wholesale basis to locally owned cooperatives and municipal utilities.

There are 25 electric distribution cooperatives and 20 municipal utilities in the Dairyland system. These cooperatives and municipals, in turn, supply the energy needs of more than half a million people. Dairyland's service area reaches 62 counties in four states (Wisconsin, Minnesota, Iowa, and Illinois).

Dairyland's generating facilities include coal, natural gas, hydroelectric, landfill gas and animal waste to energy plants. Dairyland also purchases energy for its members from two wind farms in Minnesota.

### Contact information:

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For more information, see  
Dairyland's Web Site at  
[www.dairyland.com](http://www.dairyland.com).



## Cow Power



A Touchstone Energy® Cooperative 



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## Mooove over, wind

There's another form of energy that's steadily gaining recognition in environmentally friendly, efficient electric power production. Animal waste-to-energy generation, nicknamed "cow power," utilizes cow manure for energy production. Not only does this generate renewable electricity, it also addresses serious animal waste disposal issues.

## Animal waste-to-energy facilities

In June 2005, Dairyland's first cow power plant at the Five Star Dairy farm near Elk Mound, Wis., began generating renewable electricity. Five Star Dairy is a member of Dunn Energy Cooperative.

In addition to the local energy cooperative and the farmer, Dairyland partnered with Microgy (a subsidiary of Environmental Power Corp., Portsmouth, NH) to produce the renewable electricity.

## Other facilities include:

- Wild Rose Dairy (on the cover) near La Farge, Wis. (Operational August 2005, Vernon Electric member)
- Norswiss Farms near Rice Lake, Wis. (Expected online Spring 2006, Barron Electric member)
- Daley farm near Pine Island, Minn. (Expected online in 2006, People's Cooperative Services member)
- Bach Farms near Dorchester, Wis. (Expected online in 2006, Taylor Electric member)

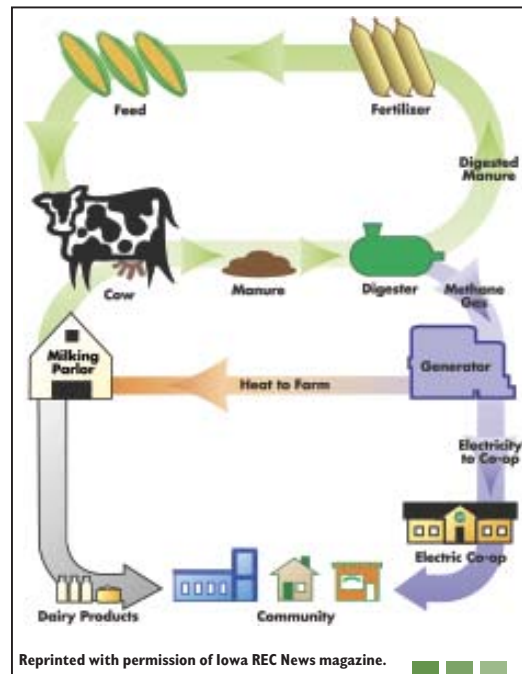
Each anaerobic manure digester facility can generate 775 kilowatts of energy, enough to power 600 homes.



Dairyland's long-term goal is to create up to 25 MW of renewable electricity in its four-state service area via the digesters, powering approximately 20,000 homes. All the electricity goes to Dairyland Power Cooperative for distribution to member cooperative customers in Dairyland's four-state service area.

## How does it work?

Essentially, a mini power plant is sited at a working dairy farm. The entire operation requires only a quarter-acre of the farmer's land.



The main energy source is cow manure, which undergoes a process called anaerobic digestion. The manure is collected and heated in a digester tank at 120 degrees for approximately three weeks. The methane gas that is the byproduct of that process is the fuel used to power the generators.

Operation and maintenance of the plant is contracted through Microgy, so the digester is not a burden for the farmer.

## Many benefits

- This energy source is abundant and "natural" to our region. Unlike some forms of renewable generation, this fuel is a constant, steady source. As long as there are livestock farms, there will be an available supply of manure.
- Clean air and water pollution issues associated with manure disposal are significantly reduced, as is the odor problem.
- Weed seeds and pathogens are killed during the digestion process.
- The heated, de-watered byproduct of the digestion process can be used as natural bedding. The liquid can be used as a fertilizer by the farmer, thus reducing dependence on chemical fertilizers.
- Odor issues, an increasing problem for farmers, are reduced by 95 percent by the manure digesters.
- Potential pollutants from manure in ground and surface water are minimized.



Five Star Dairy, Elk Mound, Wisconsin.