



RENEWABLE ENERGY POSITION

Great River Energy is a not-for-profit electric cooperative that supplies electricity to 28 customer-owned cooperatives across Minnesota and part of Wisconsin. Our company measures its performance based on a triple bottom line: affordable rates, reliable energy service and environmental stewardship.

To ensure that we deliver strong performance in each of these vital areas for the benefit of our members, Great River Energy utilizes a broad mix of energy resources, including wind, coal, natural gas, oil, hydropower and biomass. We believe this diversified energy portfolio should allow us to provide our members electricity that is affordable reliable and produced in an environmentally responsible manner.

Renewable Energy

Great River Energy is fully complying with the Minnesota's renewable energy standard (RES), which was passed during the 2007 legislative session. We are working hard to stay on track to meet the legislation's ambitious, long term requirement that 25 percent of retail sales in Minnesota come from renewable energy resources by the year 2025.

Energy from renewable resources has proven to be more expensive than expected, especially when compared with traditional resources. The intermittent energy that we obtain from wind turbines tends to be most abundant at night and during the spring and fall of the year. These times do not match well with the peak demands on our system – hot, summer and cold winter days. Unfortunately, in order to meet our RES obligations, we must purchase intermittent wind energy whenever the wind blows even if there is a glut of energy on the market at these off-peak times and we are paying more for it than it would cost to generate it from our existing, low-cost, baseload power plants. These unanticipated costs add up to several million dollars per year that must be charged to our members and the customers we serve. In these uncertain economic times, Great River Energy is especially concerned about any cost increase that will harm their economic well-being of our consumer members.

In addition to our renewable energy initiatives, Great River Energy will continue existing programs to prevent emissions, recycle and minimize waste, and employ new, environmentally sound technologies.

Great River Energy opposes “carve outs” or special advantages for particular technologies because this approach would be contrary to the goal of encouraging the use of the most efficient, cost-effective renewable energy resources.

Our Wind Energy Initiatives

Great River Energy will supply at least 7 percent of its total energy production from renewable energy in 2010. Here is summary of our specific wind energy initiatives:

- **The Trimont Area Wind Farm** produces up to 100 megawatts of clean, renewable energy. Great River Energy partnered with a coalition of 43 landowners in the area and PPM Energy (now Iberdrola Renewables). In recognition of their role in developing the project, the local landowners receive a portion of the project income in addition to their lease payments for hosting the wind turbines.
- **The Prairie Star Wind Farm** in Mower County, Minnesota provides another 100 megawatts of wind energy for Great River Energy members. The project's developer was Horizon Wind Energy.
- **The Elm Creek Wind Farm** near Trimont provides Great River Energy with another 100 megawatts of wind energy. The project was developed by Iberdrola Renewables.
- **Three smaller wind projects** in southern Minnesota supply another 18 megawatts of wind power to Great River Energy.
- **The Wellspring Renewable Wind Energy® Program** allows customers to purchase wind energy from our member co-ops in 100-kilowatt-hour blocks for a nominal monthly fee. At last count, more than 6,650 consumers have taken advantage of this program.
- **Great River Energy** also has a 200-kilowatt wind turbine at our Maple Grove, Minnesota headquarters.

Our Biomass Initiatives

Biomass energy is created when organic plant or animal waste materials are burned in order to generate electricity. Great River Energy is obtaining renewable biomass energy from a number of regional sources:

- **Great River Energy's Elk River Station** uses refuse-derived fuel (RDF) to generate electricity. The 36 MW power plant burns processed municipal waste, reducing the amount of waste deposited in landfills by about 300,000 tons per year, while generating electricity and meeting strict environmental standards. Using RDF also reduces the amount of methane that otherwise would be produced at landfills, an important environmental benefit. **The Elk River Municipal Utility Landfill** produces methane gas as the deposited waste decomposes. Great River Energy purchased approximately 20,000 megawatt-hours of electricity generated from Elk River's methane gas collection system in 2008.
- **Anaerobic Digesters** capture methane from cow manure to generate electricity. Great River Energy purchases the output from four anaerobic digesters located at dairy farms in Princeton, Morris and St. Peter totaling 4.5 megawatts.

Our Hydropower Initiatives

Great River Energy purchases hydroelectric power from Manitoba Hydro and from the Western Area Power Administration. Although hydropower is certainly renewable and emission-free, some states, including Minnesota, do not include large hydropower projects in their legal definitions of renewable energy.

Solar Power Initiatives

Although not a major source of renewable electricity in the Midwest today, solar PV has the potential to make meaningful contributions within our planning horizon.

Great River Energy's headquarters building features an on-site PV solar array that produces 72 kW of electricity at full capacity, complementing our 200-kW wind turbine.

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