

Capturing the Wind's Energy to Create Clean Electricity: Gundersen Health System

GGHH Agenda Goals

- Leadership
- Energy

Hospital Goal

- Achieve energy independence
- Lower energy costs
- Lead the healthcare industry in environmental stewardship

Progress Achieved

- Gundersen Health System's two-turbine wind farm north of Lewiston, Minnesota, generates 4.95 megawatts of energy—enough to power 1,200 homes each year.
- A sister project to the wind farm in Lewiston, Gundersen collaborated with Organic Valley, the nation's largest cooperative of organic farmers and a leading organic brand, to develop a two-turbine wind farm in Cashton, Wisconsin, which generates nearly 5 megawatts of energy—enough to power 1,200 homes each year.
- Both wind farms feed energy into the power grid for use by nearby homes and businesses. Gundersen and Organic Valley are paid for the energy generated. The two wind farms account for roughly 12 percent of the energy that Gundersen produces for the grid.
- Savings achieved from the wind farms and other energy conservation projects are passed on to patients in the form of lower healthcare costs.
- Gundersen Health System achieved its first day of energy independence October 14, 2014.

The Issue

The use of fossil fuels are linked to serious diseases in humans such as cancer, respiratory distress, liver and kidney disease, reproductive issues, cardiovascular deaths and stroke. Developing renewable energy projects like wind farms helps improve the health of the environment and the surrounding communities versus contributing to the threat of disease. The use of renewable energy also fits Gundersen's strategic plan to improve the overall health and well-being of the surrounding communities. Savings achieved from the wind farms can also go back to patients in the form of lower healthcare costs.

Sustainability Strategy Implemented

When Gundersen set out to become energy independent, they knew they needed more clean generation to achieve 100 percent of their goal. They explored wind farms knowing wind is a local resource with predictable capital and operational expenses. The fact that wind farms are also emission free was an added bonus.

Implementation process

When Gundersen made the decision to develop a wind farm, partnering with engaged and experienced developers was a priority. They also visited numerous owners and suppliers. During the development phase, Gundersen participated in a rigorous permit and regulatory process and developed various agreements such as a turbine supply agreement, a construction agreement, and an operations and maintenance agreement.



One of the two wind turbines at the GL Wind site in Lewiston, Minnesota.

Monthly reviews were established after turbine construction was completed, along with real time production monitoring to ensure the success of the wind sites.

Tracking Progress

Progress is tracked on a regular basis based on the amount of renewable electricity produced by the wind farms and by the amount of fossil fuels offset by renewable energy production.

Challenges and lessons learned

- Establish a power purchase agreement before making large capital commitments.
- Invest in a good wind resource study.
- Consider electrical interconnection cost impact.
- Compare reliability of manufacturer models and service dependability.



One of the two wind turbines at the Cashton Greens site in Cashton, Wisconsin.

Next Steps

After the development of the Lewiston and Cashton wind farms, Gundersen embarked on the development of other renewable energy projects such as biogas, biomass, and geothermal. Gundersen achieved its first day of energy independence October 14, 2014, and continues to operate the renewable energy projects. Continually engaging in energy conservation efforts is part of the culture at Gundersen.

Demographic information

Institution name: Gundersen Health System

About: Gundersen Health System is a physician-led, not-for-profit health system (<http://www.gundersenhealth.org/our-system/about-us>)

Location: Located in 19 counties throughout western Wisconsin, northeastern Iowa, and southwestern Minnesota.

Size: 325 beds

Staff: More than 700 medical, dental, and associate staff and more than 6,500 support staff

Links

<http://www.gundersenhealth.org/our-system/about-us>,

<http://www.gundersenenvision.org/?id=7283&sid=49>

Quotes:

“Wind is a natural, clean resource that is underutilized as a power generation source in the United States. It is one of the least expensive ways to produce electricity that exists and it is completely free of emissions”. –Jeff Rich, Executive Director, Gundersen Envision

Submission date: 9/30/2016