

BETTER BUILDINGS ALLIANCE

Energy Independence through Solar Array

In 2008, Gundersen Health System constructed one of the nation’s first Leadership in Energy & Environmental Design (LEED) certified parking structures, for the new Gundersen Lutheran Hospital in La Crosse, Wisconsin, complete with solar photovoltaic (PV) panels covering the parking ramp and powering the structure. As of October 2014, Gundersen Health System was the first in the nation to offset 100 percent of its energy use with local renewable energy.

Project Keys to Success

A top-down drive for energy independence through local renewable generation was key to the success of the solar and other renewable energy projects. The CEO of Gundersen Health System established aggressive energy goals, which the organization met in 2014. To ensure it would continue to meet energy and sustainability goals, Gundersen Health System also created multiple positions, including a Sustainability Manager, Energy Manager, and Waste Manager.

The project began with the organization’s leadership taking on a mission to achieve a zero net energy (or energy neutral) health system across Minnesota, Iowa, and Wisconsin. Beginning with the new hospital in 2008, the goal expanded to the campus and then the entire health system. After the first solar PV installation, Gundersen invested in a portfolio of solar thermal energy, wind energy, geothermal energy, and landfill gas.

Financing

Gundersen Health System financed the solar PV array with an upfront purchase of the system, supplemented by a \$250,000 grant from Focus on Energy, a Wisconsin energy efficiency and renewable energy incentive program. Due to the higher costs of solar PV in 2008, the project did not have an attractive payback period; however, Gundersen Health System viewed it as a flagship project to kick off the renewable energy effort. The portfolio of local renewable generation has achieved an average 8-year payback period.



Photo credit: Gundersen Health System.

SOLAR PROJECT HIGHLIGHTS

Date Installed	2008
Location	La Crosse, Wisconsin
Installation Type	Parking lot ramp covering
Size	56 kW
Annual Production	75,000 kWh
Financing	Cash purchase and grant
Key Support	CEO, Construction Manager, Sustainability Manager, Energy Manager



Jeff Thompson, CEO of Gundersen Health System. Photo credit: Gundersen Health System.

KEY TAKEAWAYS

- ▶ The project is a great example of a creative building solution for an ordinary structure – a covered parking garage ramp.
- ▶ In addition to solar PV, the LEED-certified ramp has EnviroGLAS™ flooring and countertops with 100 percent recycled glass, environmentally friendly paint, a top level that will be turned into green space.
- ▶ The construction project recycled all of the construction waste.
- ▶ The hospital decided on flat-lying panels rather than tilted panels due to aesthetic considerations, although energy production would be greater with the latter.
- ▶ The flat panels are less visible to visitors; they fit seamlessly into the campus and do not detract from the focus of the hospital.
- ▶ Although the solar PV project was not extremely financially attractive at the time, the project helped promote public awareness, provided good marketing, and raised organizational enthusiasm for renewable energy. It paved the way for later renewable projects with better economics.
- ▶ Maintenance requirements have remained low and no components have been replaced to date – despite snowy winters and even a tornado.