

# Focus on Energy: Geothermal pays off for innovative Edgerton hospital

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*Checking in on a Focus on Energy Incentive Success Story*

**EDGERTON** - It started as a big idea for a little hospital.

In an energy-intensive industry, using geothermal technology is just what the doctor ordered to deliver patient comfort and reduce energy costs.

Edgerton Hospital and Health Services was Wisconsin's first hospital, and the nation's first Critical Access hospital, to use geothermal heating and cooling.

- Critical Access is a designation given to certain rural hospitals that have 25 or fewer acute care inpatient beds and provide 24/7 emergency care services. The 18-bed Edgerton Hospital was built in 2011 to replace an outdated facility in the Rock County community of 5,000, located between Madison and Janesville.
- The complex features a ground-loop geothermal HVAC system that uses the earth's natural temperature to provide heating and air conditioning.

Edgerton Hospital received a financial incentive from Focus on Energy to install the vertical bore geothermal system. Focus on Energy is a statewide energy efficiency and renewable energy program funded by participating Wisconsin utilities. Part of its mission is to provide technical and financial support to energy efficiency projects

that otherwise would not get completed.

It has been five years since the hospital first opened its doors to patients, and the cost savings from reduced natural gas consumption has already paid for the approximately \$850,000 geothermal system.

“Our monthly natural gas bill at the old hospital was \$14,000 per month. Today, it is \$450,” said Jim Schultz, Edgerton Hospital CEO. “In today’s volatile healthcare industry, that’s huge for a non-profit hospital. We can’t leave a penny on the table.”

“No longer do we have to budget for fluctuations in natural gas prices, but the large geothermal heat exchange field and our eight water-to-water geothermal heat pumps provide a consistent heating and cooling source,” said Schultz, an early advocate using geothermal as a board director during the hospital’s planning and construction phase from 2005 to 2011.

“We’ve had no problems with frost and tend to see our biggest savings occur during the hottest days of summer,” he added.

The use of geothermal fit well within the Edgerton Hospital’s ‘healthy village’ concept to set a new standard in healthcare with state-of-the-art technologies, sustainable building materials and systems, and exceptional patient care while promoting community health and wellness.

Other sustainable features include a high performance envelope, high-recycled content and low VOC materials, southern exposure and views for maximum natural light, natural ventilation, waste water recovery, windows that open in patient rooms, ENERGY STAR® appliances in the kitchen and labs, and sophisticated lighting controls throughout.

The 60,000-square-foot complex includes emergency/urgent care services, a medical office building, skilled care facility, community rooms, imaging, surgery, lab and physical therapy area. It’s surrounded by natural habitat with walking trails and water efficient landscaping.

Schultz said too often the outsides of large hospitals have a fog of exhaust and airborne bacteria circulating inside of them.

“It’s kind of ironic that people are coming for healthcare and are breathing pollution on the way in,” he remarked.

That's not the case in Edgerton, where windows can be opened in individual patient rooms.

"A sensor in the ceiling maintains the room's temperature. So it can be 80 degrees in one room and 60 degrees in the neighboring one, based on what the patient wants," Schultz said.

Rare hospital features like open windows and geothermal systems earned Edgerton a special citation from the Wisconsin Green Building Alliance in 2014.

Schultz said the State of Wisconsin's Department of Health Services developed guidelines for the use of geothermal by hospitals as it was being built in a cornfield just east of Edgerton and near the Rock River and Interstate Highway 90.

"With 285 holes bored, each almost 300 feet deep, it looked like a Texas oil field out here," Schultz said with a chuckle.

He admits being an early adopter of geothermal technology in the healthcare industry came with skeptics.

"We broke the paradigm," he said. "We wanted to break the status quo and be a model of health care not simply a provider of health care."

As for what's next, the hospital's sustainability committee is looking into Focus on Energy incentives for a lighting upgrade with LED bulbs, and the feasibility of a wind turbine or solar panels to lower their monthly \$15,000 electric bill.

### **About the Edgerton Hospital and Health Services project**

*In addition to a Focus on Energy incentive, key partners in the project included project manager, Gilbane Construction Management, architect, Eppstein Uhen Architects, Alliant Energy and Sustainable Engineering Group of Madison.*

### **About Focus on Energy**

*Focus on Energy is Wisconsin utilities' statewide energy efficiency and renewable resource program funded by the state's investor-owned energy utilities and participating municipal and electric cooperative utilities. Focus on Energy works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus on Energy information, resources*

*and financial incentives help to implement projects that otherwise would not be completed. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control Wisconsin's growing demand for electricity and natural gas. For more information call [800.762.7077](tel:800.762.7077) or visit [www.focusonenergy.com](http://www.focusonenergy.com).*