

## Health system finds energy savings by turning off boilers and capturing heat

In an effort to reduce energy consumption, staff at Gundersen Lutheran Health System took a close look at how they were using their boilers. Boilers create steam that's used to heat and humidify buildings in cold-weather months. Steam is also used year-round for sterilizing instruments, and in the dining and laundry services among other uses.

Gundersen Lutheran uses two high-pressure and four low-pressure boilers in one of their outpatient buildings. Because the high-pressure boilers are needed for the sterilization systems, they are required to be hot at all times. However, only steam from one high-pressure boiler was being used at any given time. That meant the second high-pressure "back-up" boiler was using energy to heat the water, but the steam was being wasted. The low-pressure boilers that created steam for other uses in the building were also on and using energy.

Gundersen Lutheran found they could use what are called reducing stations on the high-pressure boilers. The steam from the "back-up" boiler is sent through a valve that reduces the steam pressure so it can be used in the areas typically serviced by the low-pressure boilers. The change allows the health system to turn off two or more of the four low-pressure boilers most of the year.

The economizers on the boilers also allow the waste heat that's lost in the process to be recaptured and used to preheat water that's coming into the boilers, saving on fuel that's needed to heat the water. Improved electronic controls placed on the boilers led to additional efficiency gains.

The changes led to energy savings of just over 74,000 therms a year. That's a cost savings of nearly \$64,000 annually.



Gundersen Lutheran Health System changed the way their boilers were being used. Converting high-pressure steam to low-pressure allows them to turn off several boilers in one of their outpatient buildings, saving the health system nearly \$64,000 annually.

The boiler project at Gundersen Lutheran is one of many retrocommissioning efforts aimed at improving efficiency and reducing energy demand. Changing the way the boilers operate contributed to \$400,000 in energy savings the health system saw in 2008. By the end of 2009, Gundersen Lutheran expects to see \$800,000 in annual savings due to a 20 percent decrease in energy consumption.

Gundersen Lutheran Health System is headquartered in La Crosse, Wis., with hospitals and clinics in Wisconsin, Minnesota and Iowa. For more information on its retrocommissioning efforts and other energy projects, call (608) 775-1400 or go to [gundluth.org/green](http://gundluth.org/green).