



Harnessing waste heat to provide energy efficient air conditioning

Gundersen Health System could have rested on its laurels after its Onalaska Campus became the first energy independent clinic in the country. Instead, it channeled its momentum and looked for areas in which it could continue to improve the health of the environment and the communities it serves.

One such opportunity recently emerged as an extension of Gundersen's landfill generator project—a partnership with La Crosse County that captures waste biogas at the county landfill and turns it into enough electricity and heat to fully power the Gundersen Onalaska Campus.

After several years' of operation and despite heating the Onalaska campus using waste heat from the generator, Gundersen noticed that it still had excess heat that was not utilized for nearly 10 months each year. It set out to harness this reusable waste to improve the energy efficiency of its Support Services Building.

To do so, a 140-ton absorption chiller was installed. The equipment allows the waste heat from the landfill generator to be used to cool water that provides air conditioning for the building. Prior to the project, electricity had cooled the water to provide air conditioning.

The addition of the absorption chiller means the landfill generator now makes three types of energy: electricity that is sold back to utilities; hot water that heats the Gundersen Onalaska Clinic and Support Services Building; and chilled water that cools the Support Services Building.

A special air handling unit also was added to the project to better regulate temperatures inside Gundersen's data center in the Support Services Building. When it is 60 degrees or warmer outside, the air handling unit uses water that has been cooled by the absorption chiller to control temperatures inside. When the thermometer dips below 60 degrees outside, the air handling unit draws cool air from outside into the data center to regulate temperatures.

Together, the absorption chiller and air handling unit are expected to save Gundersen \$40,000 in annual electricity costs.

The absorption chiller and air handling unit are just two pieces of Gundersen's extensive plan to lead the healthcare industry in environmental stewardship through a program called Envision®.

Gundersen has developed many other renewable power opportunities available through partnerships with municipalities, utility companies and businesses to meet its current and future energy needs.

Gundersen Health System is headquartered in La Crosse, Wis., with hospitals and clinics in Wisconsin, Minnesota and Iowa. For more information, call (855) 669-1653 (toll free), email envision@gundersenhealth.org or visit gundersenenvision.org.