Customer Connection for **BUSINESS**

OTTER TAIL POWER COMPANY

Energy information to help you manage your operation

November 2023

Using brick for heat

Thermal-storage system saves energy for equipment manufacturer

Two years ago Sheyenne Tooling, the Cooperstown, North Dakota-based manufacturer of farm implement equipment, switched from a coal furnace to a thermal-storage system and a propane backup system to heat its buildings.

The result? A more reliable, cost-effective source of heat. "We have no regrets about our choice," said Sheyenne Tooling Business Development Manager Mike Schuler.

Due to maintenance demands for the coal furnace and lack of repair specialists, Sheyenne Tooling owners Tim and Trisha Eggert decided they were ready for a change. "It was getting to the point where we wanted to get something more reliable and cost effective," said Schuler.

According to Andrew Wiegand of Michael's Energy, an Otter Tail Power partner, a thermal-storage hydronic-heating system was the most cost-effective choice. Sheyenne Tooling installed four thermal-storage units, each filled with specially designed high-density ceramic bricks. These bricks store heat at night during off-peak hours. Heat then transfers from the bricks to a liquid solution circulating in tubes around the bricks to release heat as needed throughout the day. The heated liquid flows through the building's pipes to heat the space.

Wiegand said thermal storage made sense for several reasons. Outside air didn't need to flow into each building, thus reducing heating needs. Sheyenne Tooling's buildings also didn't need cooling, and existing propane heaters could provide backup heating during peak times. This enabled Sheyenne Tooling to take advantage of our Fixed Time of Delivery Rate, which is about half the cost of our General Service Rate.

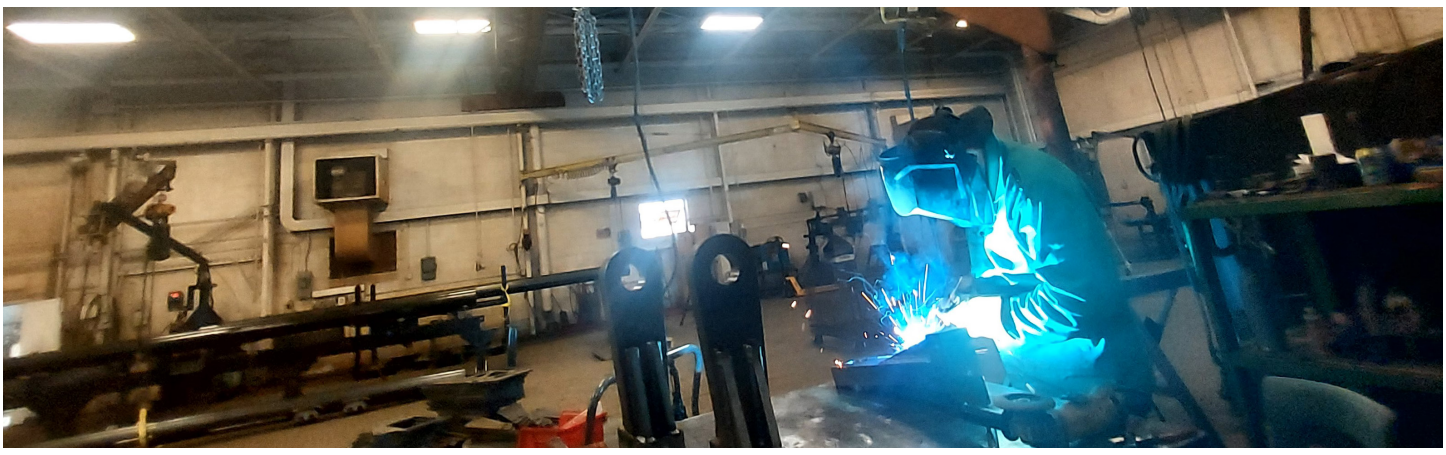
Sheyenne Tooling's new thermal-storage system uses brick to efficiently store and deliver heat to its buildings. Pictured is Business Development Manager Mike Schuler.

"They could use thermal storage with a lot of the existing infrastructure, keeping costs even more affordable," said Wiegand.

Schuler added that thermal storage takes less time to install than other alternatives. "We wanted something we could get done before the fall," said Schuler.

During the two winters following the switch, Sheyenne Tooling has saved about 15 percent in energy costs. "Thermal storage is definitely a good fit for us," said Schuler.

Rebates are available! For more information on thermal-storage solutions, contact your **Energy Management Representative** or call our **Idea Center** at **800-493-3299**.



Liquid heated from thermal bricks moves throughout the building, distributing heat from ceiling vents.

Meet Bill Gronwold

Energy Management Representative serving the Fergus Falls, Minnesota, area

Bill joined our team of Energy Experts in March but has been with our company for 24 years. He started at Hoot Lake Plant in plant operations and maintenance from 1999 to 2007, then transferred to System Operations where he worked as a power system operator.

During his tenure, Bill gained experience with electrical generation, transmission and substation operations, and load management technologies. He also has construction experience building energy-efficient homes. A volunteer firefighter for 19 years, Bill gained knowledge in building construction technologies for the purpose of fighting fires.

Bill's excited about his new role and enjoys informing customers about new, energy-efficient technologies!

Call Bill at **800-346-4920, Ext. 8210**, or find the rest of our team listed on the back.

Network lighting can save energy

Light sensors can detect when a room is occupied, reduce a light's brightness without anyone noticing, or change a light level based on how much sunlight is present.

Each of these adjustments can reduce energy use but, by using a network lighting control (NLC) system that layers together efficiency strategies, savings can be maximized.

According to a study completed by Franklin Energy, one of our partners, by using an NLC, businesses have saved from 10 percent to 45 percent on lighting energy costs. Plus, an NCEL can be conveniently managed from a smartphone app.

NLCs can adjust lighting levels for human factors, such as sleep schedules and mood lighting, and for changing room use, such as for a special event.

Minnesota and South Dakota commercial customers may qualify for grants for network lighting control technology or rebates on lighting fixtures.

NLC and lighting upgrade savings potential

Building type	Existing controls	NLC strategies	Fixture savings %	Control savings % of old fixtures	Control savings % of new fixtures
Retail	N/A	Schedule, trim, occupancy	N/A	N/A	48%
Manufacturing	Daylighting, manual	Schedule, trim, occupancy, daylight	43%	14%	24%
Sports arena	Manual	Manual scene selection	65%	4%	11%
Dining: fast food	Manual	Schedule, trim, occupancy, daylight	73%	5%	18%

New energy tax incentives could mean big savings for your business

The Inflation Reduction Act offers incentives for businesses and tax-exempt organizations willing to invest in electric and energy-efficient technologies. Incentives include federal tax deductions, tax credits, and direct payments to tax-exempt entities.

Tax incentives

- A tax credit is available for 30 percent of the upfront cost of geothermal heating projects. Businesses that use domestic building materials will receive a 40 percent credit. If you're in an energy community, such as Fergus Falls, Minnesota, the tax credit could be up to 50 percent.
- A tax deduction is available for energy-efficiency improvements to commercial buildings. The deduction is $2.50 to $5 per square foot based on reduction in energy use. Businesses must increase the energy efficiency of existing buildings by at least 25 percent to claim a tax deduction. Improvements eligible for a deduction include interior lighting, heating, cooling, ventilation, water heating, and building envelope improvements.
- A tax credit is available up to $40,000 per vehicle for new purchases of commercial clean vehicles, including battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell electric vehicles (FCEVs). The credit is based on vehicle cost as it compares to an alternate fossil-fuel option.
- A tax credit is available for 30 percent of the cost per electric vehicle charger, up to $100,000, when installed on business property.
- Nonprofits, state entities, and municipalities may treat certain tax credits, such as the Investment Tax Credit and Production Tax Credit, as payments to receive cash refunds. While caveats apply, including that projects and equipment must comply with domestic content requirements, the IRA effectively allows tax-exempt entities to transfer credits for cash.

Consult with your accountant or tax preparer regarding energy-efficiency purchases. For more information, go to **irs.gov** and see the *Clean energy credits and deductions* section.

To learn about our rebates, which you can stack on top of these IRA benefits, contact one of our team members.

Our team of energy experts

Bill Gronwold
Fergus Falls, MN area

Jeff Hoff
Jamestown and Oakes, ND areas

Brandon Johnson
Bemidji, MN area

Drew Martig
Morris, MN area

Lori Moxness
Fergus Falls, MN area

Brad Nelson
Milbank, SD and Wahpeton, ND areas

Aaron Sigette
Crookston and Hallock, MN areas

Scott Sigette
Rugby, Langdon, and Devils Lake, ND areas

If you have a project to discuss, call one of our representatives at 800-493-3299.

OTTER TAIL POWER COMPANY

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