



WAUPACA FOUNDRY WINS THREE SUSTAINABILITY AWARDS

FOUNDRY CITED BY NATIONAL, STATE AND TRADE ORGANIZATIONS

(WAUPACA, WISCONSIN) October 3, 2022— Waupaca Foundry is the recipient of three environmental awards earning national, state, and industry recognition for its commitment to energy reduction. The awards recognize the iron casting supplier's commitment to finding smarter ways to use and protect natural resources. The award-winning energy projects include an overhaul to an air compressor system at Plant 1 located in Waupaca, Wis.; installation of a dehumidification system at Plant 5 located in Tell City, Ind.; and an upgrade to a smart exhaust fan system at Plant 2/3 located in Waupaca, Wis.

"We have been on a corporate-wide mission of sustainability since 2009," said Director of Environmental Engineering, Bryant Esch. "Reducing our energy consumption and costs has a direct benefit to our customers in terms of producing high quality iron at a competitive price with a reduced environmental footprint."

Air Compressor system saves energy

The national award from the U.S. Department of Energy's Better Plants program recognizes manufacturers for creating and implementing industrial energy and water efficiency projects, as well as renewable energy and energy resiliency projects. The award was given for an extensive upgrade to the iron casting supplier's air compressor system at its foundry that increased energy efficiency and reduced annual energy and water usage. This is the second time in two years that Waupaca Foundry has been recognized for achievements in sustainability by the federal organization.

Waupaca Foundry is the nation's largest gray and ductile iron producer in the world and Plant 1 alone melts approximately 300,000 tons of gray iron per year using cupola furnace technology. Foundries are energy intensive industries and compressed air is one of the top three significant energy users and represents 10% of Plant 1's annual electricity usage. Compressed air supports critical operations such as pneumatic systems, robotic operations, and environmental control systems. Maintaining a reliable and efficient compressed air system is a mandatory requirement to guarantee production operations, achieve energy and cost reduction goals, and reduce the plant's environmental footprint.

Outdated compressors were replaced with new, more efficient models in a new compressor room; improved piping layouts and captured the waste heat to provide building heating during the colder months. Further system optimization included replacing the remaining old units with new high-efficiency units, installing a master control system, reducing the plant's overall pressure from 95 to 87 PSI, and improving operations and maintenance practices. In addition, an ongoing compressor air leak management program was implemented.

These project actions alone resulted in:

- Increased overall energy efficiency by 13.5%
- Reduced energy usage by 18,000 MMBTU / year, the equivalent energy consumed by 20 U.S. single family homes annually.
- Reduced water usage by 13 million gallons of water/year, the equivalent of nearly 20 Olympic-sized swimming pools
- Eliminated 1,240 tCO₂, or 1%, GHG emissions, the equivalent of CO₂ released by 620 people annually.
- Energy usage reduction of 1,100,000 kWh, equivalent to powering 100 American homes for one year.

Dehumidification system saves energy, improves efficiency

Additionally, the American Foundry Society recognized the iron casting supplier with the 2022 Green Foundry Sustainability award. This award recognized the Tell City, Indiana plant for installing a dehumidification system in the gray and ductile iron foundry cupola and significantly reducing energy.

When melting iron, foundry cupolas function at the highest efficiency when humidity is removed from the air. At Plant 5, roof-mounted exhaust fans ran continuously to remove humidity, but temperature variations affected the melt rate. A desiccant wheel was installed to remove water vapor from ambient air and a smart system that triggered fan use only when sensors detected high levels. The results of the system are:

- Cupola melting efficiency improved,
- Coke use decreased,
- CO₂ emissions were avoided
- The plant's total energy usage decreased.

State awards Waupaca Foundry "Business Friend of the Environment"

Wisconsin Manufacturers and Commerce (WMC) recognized Waupaca Foundry's environmental innovation with the trade association's "Business Friend of the Environment" award in the large business category. The award cites a project to install smart controls at Waupaca Foundry Plant 2/3 to improve efficiency of ventilation equipment.

Six roof-mounted exhaust fans removed heat and circulated air in the summer months--although fans ran continuously they did not adequately address seasonal temperature variation. Existing fans were automated with temperature and carbon monoxide sensors and became a "smart" system operating only when needed as defined by temperatures and/or carbon monoxide levels.

These modifications resulted in significant energy savings with no loss in performance and provided the following results:

- Reduced electric and natural gas use annually,
- Improved workplace ventilation and increased worker comfort,
- Ensured CO₂ levels were actively monitored;

- Had low implementation costs.

Waupaca Foundry is the leading supplier of cast and machined iron components for automotive, off-highway, commercial vehicle, and other industrial markets. Waupaca operates five iron foundries with 1.4 million tons of capacity, as well as machining and casting finishing operations in the United States. Waupaca Foundry's 2023 sustainability goals are:

- Reduce energy intensity by 5%,
- Reduce the cumulative electrical consumption carbon footprint 30%,
- Maintain air pollution control systems considered as "best available" by the U.S. Environmental Protection Agency,
- Achieve a cumulative 80% beneficial reuse of spent foundry materials,
- Reduce water use consumption by 10%.

For more information on Waupaca Foundry's [environmental corporate responsibility](#), please visit this [link](#).

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About Waupaca Foundry, Inc. Waupaca Foundry, Inc., North America's leading supplier of iron castings to the automotive, commercial vehicle, agriculture, construction, and industrial markets, produces gray iron castings, ductile iron castings, HNM™ series high-strength ductile iron, and austempered ductile iron castings using state-of-the-art processes and technology. The manufacturer also specializes in precision machining and assembly. Waupaca Foundry is Headquartered in Waupaca, Wisconsin and operates seven iron foundries located in Waupaca, Wisconsin, Marinette, Wisconsin, Tell City, Indiana, Etowah, Tennessee, and Lawrenceville, Pennsylvania. The company operates machining and assembly in Waupaca, Wisconsin and Effingham, Illinois. Waupaca employs approximately 4,400 people. For more information, visit www.waupacafoundry.com.