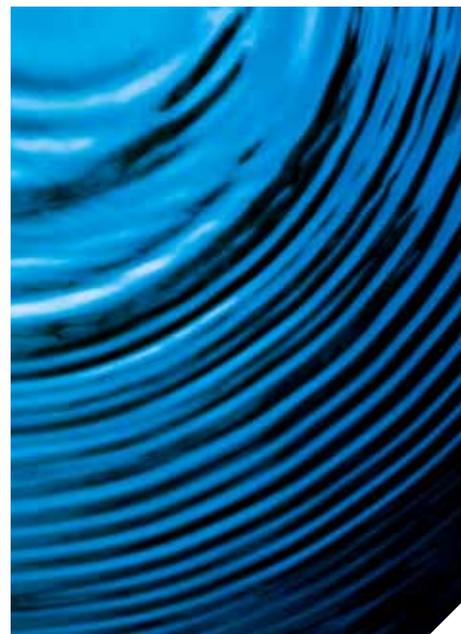


Waupaca Foundry, Inc.

# Sustainability Report

2018



Economic,  
environmental, and  
social performance  
and impacts



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**CLICK TO LINK**

The **numbers** found in the blue boxes shown throughout this report identify the standard disclosures and indicators associated with the GRI Aspects that we have determined to be material to our business. A list of these disclosures and indicators can also be found in the GRI Content Index found at the end of this report.



# President, COO and CEO Statement

Welcome to Waupaca Foundry's Sustainability Report for the 2018 fiscal year. Waupaca Foundry, Inc. (WFI) continues to aspire to provide a useful introduction to WFI operations as well as presenting information which allows the reader to assess our organization's aspects and impacts, risks and opportunities, and the challenges and successes experienced in improving our sustainability performance.

The 2018 fiscal year was certainly memorable in the strong demand for our castings coupled with the low unemployment and shortage of skilled workers seen in many areas of the U.S. Like many employers across the nation, WFI worked hard to fill open positions and find skilled workers to overcome this shortage. After conducting exploratory job fairs, a strong pool of motivated and talented workers was identified in the Gogebic County region of Upper Michigan. With the establishment of a new facility to handle the cleaning and finishing of cast parts planned for the 2019 fiscal year, this project has resulted in a tremendous opportunity for both local residents and WFI's ongoing efforts to maintain our greatest resource...the talented workforce responsible for WFI's success.

The year also marked continued advances in meeting our customer's requests to simplify their often-complex supply chains. This included ongoing offerings in vertical supply integration programs, as well as manufacturing alliances with Dotson Iron Castings and Kohler Industrial Castings to allow the streamlined offering of both horizontal and vertical molding capabilities, creating a more sustainable supply chain for OEM and Tier I customers.

Fiscal 2018 also represented continued environmental performance improvements. These include a reduction in WFI's cumulative energy intensity by 21.3 percent from 2009 to 2018. Landfilled waste was significantly avoided, with reuse being achieved for 74.9 percent of all byproducts/wastes via beneficial reuse and other recycling programs. WFI also achieved a 65.5 percent decrease in water use from 2010 values. While the achievement of our goals to date are especially satisfying for our metalcasting team, it was also exciting to be recognized for these improvements by our stakeholders including the American Foundry Society, Wisconsin Sustainable Business Council and our own Hitachi Metals.

Thank you for your interest in Waupaca Foundry, Inc.'s sustainability program. We will continue to set objectives and targets for key sustainability programs to make ourselves better. We value your feedback, so please contact us (via our website if you wish) with any questions or comments on our sustainable business practices, performance to date or the content of this report.



**Mike Nikolai**  
President,  
COO and CEO



# About Us



2018 SALES  
**\$1.96**  
Billion

## WHO WE ARE

Waupaca Foundry, a Hitachi Metals group company, is the largest producer of gray, ductile, austempered ductile, and compacted graphite iron in the world, melting 2,679,258 tons of melt in FY2018. Our castings are produced using our custom-built vertical green sand molding machines and created by a workforce of nearly 4,400 people that puts generations of expertise to work for our customers every day.

We provide a singular blend of stability and innovation, expertise and collaboration, and the realization that we hold ourselves to higher standards because customers and employees depend on us. We pride ourselves on our technical expertise and process control, providing castings for our customers that only we can produce, as a result of our extensive experience and consistent approach to the application of technology throughout our value chain.



## HISTORICAL MILESTONES

In October 2015 we celebrated our 60th year in business. Throughout its 60+ year history, Waupaca Foundry has maintained a reputation of innovation and producing top-quality iron castings. A few years after the foundry started business, it had a capacity of melting 30 tons of iron daily. Yielding a FY2018 iron melting capacity of more than 10,000 tons daily across seven plants in the United States, Waupaca Foundry melts the equivalent weight of the U.S. Capitol Dome in Washington, D.C. (comprised of 4,100 tons of cast iron) every 10 hours of operation!

**1871:** John Rosche started the Pioneer Foundry on the banks of the Waupaca River, just east of Main Street in the city of Waupaca, Wisconsin.

**1955:** Assets of Pioneer Foundry were acquired and Waupaca Foundry, Inc. was established.

**1957:** Waupaca Foundry cast truck brake drums, heavy truck axle parts, water- and air-cooled industrial equipment parts, wood and metal working equipment castings, electric motor housings, and parts for electric door openers. A 4-ton cupola with a 45-foot stack was constructed, operations were transferred to a new plant (today known as Plant 1), and the melting capacity increased to 30 tons per day.

**1969:** An addition to the industrial park plant of Waupaca Foundry doubled iron casting production capacity at the plant and created what is known today as Plant 2/3.

**1973:** Plant 4 was constructed in Marinette, Wisconsin.

**1996:** Plant 5 was built in Tell City, Indiana.

**1999:** The world's largest vertical sand molding machine at Plant 5 was installed. The machine was designed and built by Waupaca Foundry and made it the largest non-captive iron foundry in the world.

**2000:** Construction began on Plant 6, located in Etowah, Tennessee.

**2012:** KPS Capital Partners acquired Waupaca Foundry, formerly known as ThyssenKrupp Waupaca. Upon closing, the company was renamed Waupaca Foundry, Inc.

**2014:** Hitachi Metals, Ltd. signs an agreement to purchase Waupaca Foundry from KPS Capital Partners, Waupaca Foundry is acquired by Hitachi Metals, Ltd., and joins its High-Grade Functional Components Company.

**2015:** \$27 million is invested to expand three plants in Waupaca, Wisconsin.

**2016:** Hitachi Metals Automotive Components USA merges with, and operates as, Waupaca Foundry.

**2018:** WFI announces expansion into Michigan; plans to open a new casting processing facility.



## OUR LOCATIONS

Waupaca Foundry employs a staff of more than 200 at its headquarters in Waupaca, Wisconsin. Our plants employ locally and deliver globally, serving a range of market sectors worldwide.



### PLANT 1

**WAUPACA, WI**  
569 Employees

**Iron Type:** Gray iron  
**Melt capacity:** 90 tons per hour  
**Markets served:** Agriculture, construction, commercial vehicle, material handling, hydraulics, power tool, and power transmission

**Products manufactured:** Hydraulic housings, flywheels, weights, covers, brackets, turbo bearing housings, clutch housings, pulleys, and brake rotors



## PLANT 2/3

### WAUPACA, WI

858 Employees

**Iron Type:** Gray iron  
**Melt capacity:** 120 tons per hour  
**Markets served:** Light vehicle, agriculture, commercial vehicle, construction, material handling, heating, power tools, power transmission, and infrastructure  
**Products manufactured:** Electric motor housings, boiler sections, transmission housings, brake rotors, flywheels, and bedplates

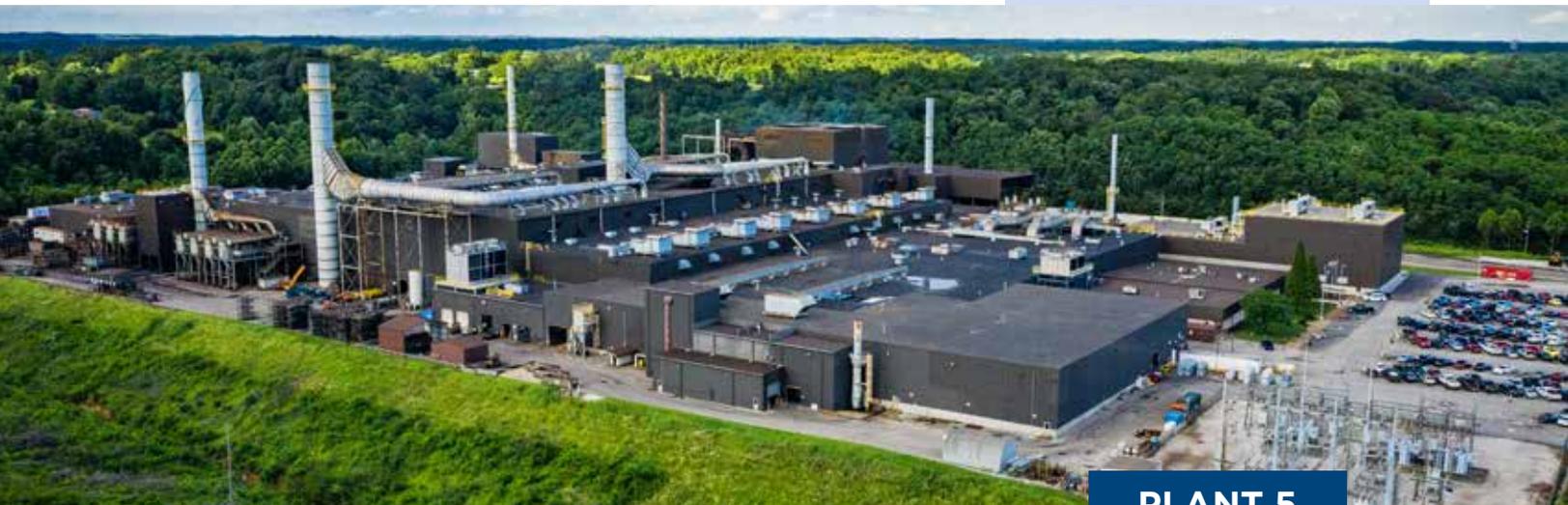


## PLANT 4

### MARINETTE, WI

780 Employees

**Iron Type:** Ductile iron  
**Melt capacity:** 75 tons per hour  
**Markets served:** Light vehicle, material handling, power transmission, agriculture, hydraulics, and commercial vehicle  
**Products manufactured:** Brake calipers, brake anchors, differential cases, bearing caps, slack adjusters, spring hangers, and steering housings



## PLANT 5

**TELL CITY, IN**  
897 Employees

**Iron Type:** Gray iron, ductile iron, and compacted graphite

**Melt capacity:** 160 tons per hour

**Markets served:** Light vehicle, commercial vehicle, agriculture, and construction

**Products manufactured:** Brake rotors and drums, brake calipers, crankshafts, differential carriers, differential cases, and flywheel housings



## PLANT 6

**ETOWAH, TN**  
574 Employees

**Iron Type:** Ductile iron

**Melt capacity:** 80 tons per hour

**Markets served:** Light vehicle, material handling, agriculture, construction, hydraulics, and commercial vehicle

**Products manufactured:** Brake calipers & anchors, differential cases, knuckles, control arms, and damper hubs



## PLANT 7

### LAWRENCEVILLE, PA

239 Employees

**Iron Type:** Ductile iron  
**Melt capacity:** 20 tons per hour  
**Markets served:** Light vehicle and commercial vehicle  
**Products manufactured:** Suspension components, exhaust manifolds, and brackets for original equipment automotive manufacturers



## PLANT 7

### EFFINGHAM, IL

237 Employees

**Type of facility:** Machining and assembly  
**Markets served:** Light vehicle and commercial vehicle  
**Products manufactured:** Suspension components, exhaust manifolds, and brackets for original equipment automotive manufacturers

## OUR PROCESS AND TECHNOLOGY

Our process begins with a blend of raw materials composed of a customized mix of metals, select alloys, and recycled scrap iron. The mixture varies based upon the needs of our customers and the type of casting that is produced. The metal mixture is melted in large furnaces at temperatures ranging from 2,600 to 2,800 degrees Fahrenheit. The molten iron is then poured into molds made out of sand. Cores, which are molded sand inserts, are used to create the interior surfaces of the casting. We use a variety of core making processes that give us flexibility in the complexity, size, weight, and dimensional control of our castings. As the castings travel down the molding line, the temperature gradually decreases and the castings enter a shakeout process to remove sand from the castings. Over 78 percent of the sand is reclaimed and recycled for reuse. The castings are then cleaned to remove residual sand and other molding media from the casting surface. The final step is to grind off any excess material left from the molding process and inspect in order to meet our customers' specifications.

We design and build our own casting equipment that helps prevent downtime and offers efficiency and customization to meet our customers' requirements. In some casting applications, we even help reduce the need for multiple cast, fabricated or welded parts, thereby simplifying assemblies for our customers, as well as reducing their inventory costs. We apply cutting edge technology to reduce total overall manufacturing costs through innovative casting and core passage designs, waste reduction, and mass reduction of our products. The techniques used in our process allow us to design, engineer, and manufacture "World-Class" equipment and processes. Not only is our process cost competitive, it also improves casting consistency and quality.

## WAUPACA FOUNDRY MISSION

Waupaca Foundry produces iron castings, focusing on transportation, construction, agriculture, and industrial markets worldwide.

We embrace lean manufacturing techniques in all our facilities, and manage other value-added services for our customers. Our customers' expectations are met through innovative technology, continuous improvement culture, and the efforts of our dedicated, motivated, highly trained work force.

We maintain strong social and environmental commitments to our employees and communities, including: improvements sustained through GREEN initiatives, a well-maintained and safe environment, and the encouragement of employees' personal growth through advancement and continuing education.

## GOVERNANCE STRUCTURE

Our corporate governance framework ensures accountability, fairness, and transparency in our relationship with our stakeholders. Our sustainability program is overseen by a cross-functional Sustainability Committee, made up of representatives from all areas of our business.

Waupaca Foundry's Board of Directors currently consists of seven directors who have four meetings throughout the year and report regularly to indirect parent company Hitachi Metals, Ltd. The Board oversees several committees, including the Sustainability Committee, and our sustainability strategy and reports are made available to the Board. Primary leadership for sustainability implementation resides with the Environmental Coordinator who reports to the Vice President of Operations, who serves as the executive sponsor of the Sustainability Committee along with the CEO.



“

*We will continue to set objectives and targets for key sustainability programs to make ourselves better.*

*Mike Nikolai  
President, COO and CEO for Waupaca Foundry*

”

## ETHICS AND INTEGRITY

Our Code of Conduct and compliance policies embody our commitment to ethics and integrity in business and guide us toward meeting the challenges of a global market while adhering to our principles of social responsibility.

Waupaca Foundry is committed to respecting the fundamental rights laid down in the United Nations Universal Declaration of Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work. Consistent with Principle 15 of The Rio Declaration on Environment and Development, Waupaca Foundry also supports the use of the precautionary principle in its approach to risk management in its strategic planning and policy implementation.

Our Code of Conduct emphasizes our commitment to the goals of sustainable development, aside from the company's economic performance, and also includes social benefits, resource consumption, jobs, and advanced training. The Executive Board and Managing Board of Waupaca Foundry are responsible for the principles outlined in our code of conduct, including:

- Equal Opportunity
- Working Time and Vacation
- Remuneration
- Health, Safety, and Working Conditions
- Promotion of Vocational Training
- Right to Associate
- Forced and Child Labor

We are committed to ensuring that these principles are made known to customers and suppliers, and we encourage our customers and suppliers to consider corresponding principles in their own corporate policies. Waupaca Foundry's Code of Conduct is available upon request.



## CODE OF CONDUCT

Suspected violations are to be reported to Waupaca Foundry's legal department by phone at +1 715-258-6611 or email at [communications@waupacafoundry.com](mailto:communications@waupacafoundry.com). All reported potential violations are reviewed and investigated by the legal department. The Board of Directors is informed after an initial investigation is completed.

# Our Commitment to Sustainability



## SUSTAINABILITY

Sustainability has always been part of who we are. Foundries have long served as society's recyclers, and our industry provides value to society by diverting materials such as old iron castings and scrap steel from landfills, and instead using them as input materials in the melting process to create new products. Recycling old castings offers the net least environmental impact to remake another casting and reuse what is no longer being used for its original purpose. The use of steel scrap in charge mixes as an additional material helps to achieve the same goal. This recycling trend is not exclusive to iron foundries, but includes aluminum, copper, lead, and other metal foundry operations.

Along with the valuable benefits resulting from foundries' role as recyclers of scrap metals come a number of impacts associated with foundry processes. Regardless of the source of our input materials, melting metal requires large quantities of energy. Water is needed to cool production equipment used in the foundry environment. Foundry operations also have the potential to generate large amounts of dust that can impact the atmosphere. Waste generated by foundries includes large volumes of foundry sand from the molding and casting process. Just as we do with our products, Waupaca Foundry's approach is to apply science and our technological expertise to address these impacts, as described in the following sections of this report.

To focus these and other sustainability efforts under a cohesive, structured initiative, we formed a Sustainability Committee in 2014. The Sustainability Committee works through a formal process to identify the issues that are material to our business, identify our key stakeholders, and develop objectives and targets that support our overall sustainability vision.

### The five basic principles in the Hitachi Metals Company Code of Conduct provide the foundation of our sustainability strategy:

1. Enhancing Awareness of Social Responsibility and Corporate Ethics
2. Pursuing Mutual Growth with Our Business Partners
3. Promoting Truthful Communication with Society
4. Thinking about Our Next Generation – An Environmentally Friendly Solution
5. Fostering the Welfare of Employees and Society

## MATERIALITY ASSESSMENT

The Sustainability Committee conducted a materiality assessment to formally define the issues important to us and our stakeholders. We rated each of the aspects using the six evaluation criterion below and ranked the aspects by average weighted materiality score:

- Financial Implications
- Legal/Regulatory/Policy Implications
- Established Industry Norms
- Relevance to Stakeholders
- Opportunity for Innovation
- Forward-Looking Adjustment for Future Risk/Opportunity

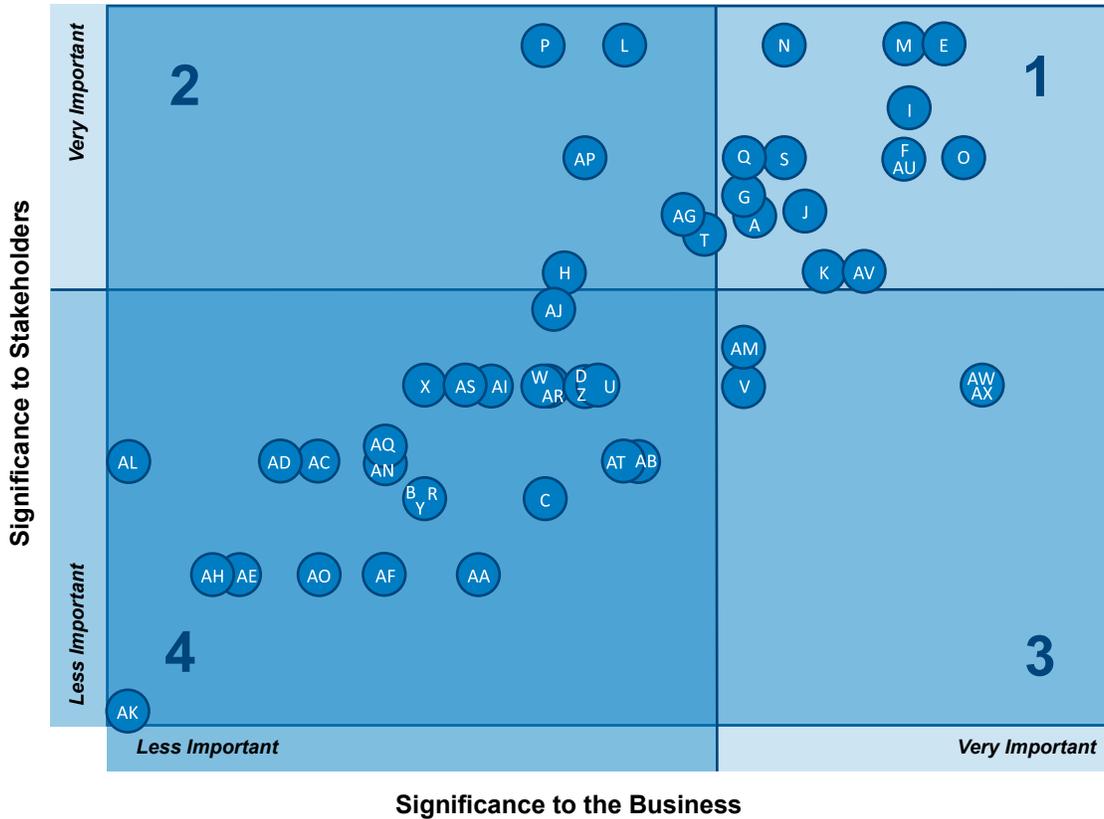
The team then used this ranking to evaluate appropriate targets for disclosure and performance improvements. In setting objectives and targets, the team reviewed the availability and quality of current data to assess the ability to improve disclosure, as well as the complexity of the effort required to improve performance. Evaluation criteria for the material aspects were aligned with the Sustainability Accounting Standards Board's (SASB) materiality assessment criteria ([www.sasb.org](http://www.sasb.org)) and results of the materiality assessment align with our internal Enterprise Risk Assessment outcomes. Our assessment process provides a means to periodically evaluate our focus areas and allows us to concentrate on those areas of greatest concern to our stakeholders and with greatest impact on our business. All material aspects apply to all of our business units to some degree.



### WHAT IS A MATERIALITY ASSESSMENT?

A materiality assessment is an exercise designed to gather insight on the relative importance of specific economic, environmental, social, and governance issues within the organization's boundary for a given time period. An organization should report sustainability issues that cause the most impact within these areas, as well as those considered most important by its internal and external stakeholders. The materiality assessment is the process of determining these material issues and their impact on internal and external stakeholders.

## Materiality Assessment



## Material ASPECTs (GRI G4)

A Economic Performance	AA Freedom of Association and Collective Bargaining
B Market Presence	AB Child Labor
C Indirect Economic Impacts	AC Forced and Compulsory Labor
D Procurement Practices	AD Security Practices
E Materials	AE Indigenous Rights
F Energy	AF Assessment (Human Rights Review and/or Impact Assessment)
G Water	AG Supplier Human Rights Assessment
H Biodiversity	AH Human Rights Grievances and Resolution
I Emissions	AI Local Communities
J Effluents and Waste	AJ Anti-Corruption
K Products and Services (Environmental)	AK Public Policy (Political Involvement)
L Compliance (Environmental)	AL Anti-Competitive Behavior
M Transport	AM Compliance (Social)
N Overall (Environmental)	AN Supplier Assessment for Impacts on Society
O Supplier Environmental Assessment	AO Grievance Mechanisms for Impacts on Society
P Environmental Grievance Mechanisms	AP Customer Health and Safety
Q Employment	AQ Product and Service Labeling
R Labor/Management Relations	AR Marketing Communications
S Occupational Health and Safety	AS Customer Privacy
T Training and Education	AT Compliance (Products and Services)
U Diversity and Equal Opportunity	AU Quality
V Equal Remuneration for Men and Women	AV Logistics
W Supplier Assessment for Labor Practices	AW Research and Development
X Labor Practices Grievance Mechanisms	AX Future Technology Development
Y Investment	
Z Non-discrimination	

## MATERIALITY ASSESSMENT *(Continued)*

Based on our materiality assessment, we identified the following material aspects for our business, which form the basis for our report content and performance metrics:

### Environmental

- Materials
- Energy
- Emissions
- Effluents and Waste
- Supplier Environmental Assessments
- Water
- Overall (Environmental)
- Transport/Logistics
- Products and Services (Environmental)

### Social

- Employment
- Occupation Health and Safety
- Training and Education
- Legal Compliance
- Marketing

### Economic

- Economic Performance
- Indirect Economic Impacts
- Procurement Practices
- Quality

## STAKEHOLDER ENGAGEMENT

The Sustainability Committee also worked through a systematic process to identify and prioritize stakeholders, and evaluate the significance of aspects against criteria that supported the business mission and objectives.

Evaluation Criteria for mapping and assessing stakeholder prioritization were:

- Influence and Decision-Making Power
- Credibility
- Willingness to Engage
- Proximity and Duration of Relationships
- Contribution Value

Our stakeholder evaluation included benchmarking of key customers and competitors to better understand issues of importance and industry norms. Our participation in industry trade groups such as the American Foundry Society (AFS), Foundry Educational Foundation (FEF), and Wisconsin Manufacturers & Commerce (WMC) also informed our process and allows us to promote the discussion and advancement of environmental topics including energy use and carbon-related emissions. For example, Waupaca Foundry staff participate in Solid Waste Water and Air Quality technical committees through AFS that develop and share best practices amongst AFS members for managing solid waste and protecting air and water quality. We are also involved in AFS's efforts to explore ideas on how foundries can operate in a more sustainable manner in the future.

We recognize additional opportunities in the area of stakeholder engagement and will continue our efforts to better understand and incorporate our stakeholders' views into our sustainability initiatives and reporting.



## STAKEHOLDER ENGAGEMENT *(Continued)*

The Sustainability Committee identified opportunities with employees and their families, customers, and our suppliers as primary areas of focus, and we continue our engagement strategies to solicit views from these stakeholder groups, as shown in the following table:

STAKEHOLDER GROUPS	ENGAGEMENT STRATEGIES
Current Employees	<ul style="list-style-type: none"> <li>• Open door policy</li> <li>• Employee engagement surveys</li> <li>• Key group and lead group meetings</li> <li>• Biannual planning meeting</li> <li>• Company newsletter and newspaper (Foundry News)</li> <li>• E portal</li> <li>• Employee wellness program</li> <li>• Kaizen program</li> <li>• Behavior-based safety, including safety suggestion and near-miss reporting</li> <li>• Waupaca Way production management system</li> </ul>
Employees' Families and Dependents, and Retirees	<ul style="list-style-type: none"> <li>• Company functions (picnics, parade, etc.)</li> <li>• Company newsletter and newspaper (Foundry News)</li> <li>• Summer help and internship programs</li> <li>• Hiring back retirees as consultants</li> </ul>
Prospective Employees	<ul style="list-style-type: none"> <li>• Job fairs</li> <li>• College industry conference (Foundry Educational Foundation)</li> <li>• Plant tours and visits from educational institutions</li> <li>• Foundry-in-a-Box simulation</li> <li>• Mini cupola demonstrations on site or at universities and technical colleges</li> <li>• Scholarships and local college investment</li> <li>• waupacafoundry.com</li> </ul>
Customers	<ul style="list-style-type: none"> <li>• Blog and e-newsletter (PartingLINE)</li> <li>• Voice-of-the-Customer surveys</li> <li>• Foundry 101</li> <li>• In-house visits</li> <li>• Value analysis/Value engineering and other collaborations</li> <li>• Trade show participation</li> <li>• Code of conduct and compliance policies published</li> <li>• waupacafoundry.com</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>• Code of conduct and compliance policies published</li> <li>• Supplier assessments</li> <li>• waupacafoundry.com</li> </ul>

Using our materiality assessment and our stakeholder mapping results, our committee established comprehensive performance improvement objectives and targets for our company. Our management approach and performance indicators for 2018 are outlined in the following sections of this report.

## STAKEHOLDER ENGAGEMENT *(Continued)*

	OBJECTIVES	TARGETS (Fiscal 2014 Baseline Year Unless Otherwise Noted)
Indirect Economic Impacts	To be a positive economic impact on the communities in which we operate.	<p>Provide and support educational opportunities to local citizens including direct funding to schools, internships, student employment opportunities, and scholarships.</p> <p>Provide competitive compensation, which supports the employees' families and in turn other community businesses (as compared to available external compensation reports).</p>
Materials	Develop and promote the reduction in the use of (formerly) non-recyclable raw materials.	<p>Completion of a feasibility study in fiscal 2015 to determine the reduction opportunities for new clay and sand via reclamation system technologies. (Complete—original study effort deemed infeasible. Transition efforts to optimization and expansion of existing sand reclamation technology through 2019.)</p> <p>Completion of a feasibility study in fiscal 2015 to determine melt system modification strategies to reduce the coke-to-melt usage ratio. (Partially Complete—pursue identification and implementation of additional opportunities through 2019.)</p>
Energy	Facilitate energy use reductions in Waupaca Foundry Operations.	Reduce energy use by 25 percent over the next 10 years, using fiscal 2009 energy use as the baseline (mmBtu/ton of iron shipped).
Emissions	Promote alternative processes and maintain state-of-the-art pollution control technologies.	Maintain air pollution control systems considered as “best available” by the U.S. Environmental Protection Agency and associated state regulatory agencies for all processes regardless of the original installation date.
Effluents and Waste	Reduce spent foundry sand generation while promoting offsite reuse/recycling opportunities of remaining spent foundry materials to achieve zero landfill disposal.	Reduce spent foundry sand generation by 30 percent in 10 years (baseline 2010) (tons). Investigate the feasibility of developing alternative uses for remaining foundry byproducts by Calendar 2020.
Water	Facilitate water use reductions in Waupaca Foundry Operations.	Reduce water use consumption by 80 percent in 10 years (baseline 2010) (gallons/ton of melt).
Environmental Compliance	Identify and maintain compliance to legal and other requirements to which the organization subscribes and that are applicable to the environmental aspects of its activities, products, and services.	Maintain the organizational commitment to ongoing compliance with no receipt of violations, fines, or sanctions.

## STAKEHOLDER ENGAGEMENT *(Continued)*

MATERIAL ASPECT (GRI G4)	OBJECTIVES	TARGETS (Fiscal 2014 Baseline Year Unless Otherwise Noted)
Supplier Environmental Assessment	Ensure environmental compliance and promote environmental stewardship and sustainability throughout the supply chain.	Rank and initiate the assessment of the top 25 significant suppliers (representing 70 percent total spend) in Fiscal 2015. (Complete—Strategies to communicate identified potential improvements for top suppliers expanded through 2019.)
Occupational H&S	Prevent health and safety incidents for employees, contractors, and visitors.	Achieve a consolidated Total Recordable Injury Rate (TRIR) of 2.0 or less in fiscal 2019.  Achieve a consolidated Days Away, Restricted or Transferred (DART) rate of 1.0 or less in fiscal 2019.
Training and Education	Create and support career development opportunities for employees' personal growth.	Maintain 100 percent tuition reimbursement for Waupaca Foundry employees' continuing education (within company guidelines).  Maintain 100 percent of Waupaca Foundry employees receiving career training each year (training required to perform their specific job requirements and/or developmental training for future growth).  Achieve Six Sigma or related training for 100 percent of the workforce by December 31, 2017 (Kaizen/Green Belt/Black Belt/6S/Lean).  Achieve and maintain leadership training to 100 percent of the employees in leadership positions by 2025.** Fiscal 2018 ended with a 53 percent result.  Foster and maintain a 50 percent or greater total promotion rate for management level positions from internal employees. Fiscal 2018 ended with a 80 percent result.
Advanced Materials	Develop and promote high strength materials to facilitate light weight casting designs.	Support the Hitachi Metals Soken Laboratory for advanced material and casting process development through intellectual property and human resource exchange.

\*\*For leaders with greater than six months of service.

We successfully advanced all of our targets, with the following exceptions:

- Feasibility study to determine melt system modification strategies to reduce the coke-to-melt usage ratio was partially completed.

# Operational Excellence



## ECONOMIC PERFORMANCE

Waupaca Foundry aims to be a positive economic impact on the communities in which we operate. We do this by providing and supporting educational opportunities to local citizens through direct funding of schools, internships, student employment opportunities, scholarships, and other means.

As substantial employers in the communities in which we operate, we provide competitive compensation, which supports the families of employees as well as local community businesses. For example, a 2013 economic impact study by the University of Wisconsin Extension reported that \$82.5 million in direct labor income was generated to Waupaca County, Wisconsin, where three of our foundries are located. In addition to direct labor, Waupaca Foundry also purchased more than \$250 million in goods and services from local businesses. Combined with indirect employee wages and non-wage expenditures, Waupaca Foundry accounts for 10.4 percent of the total income of Waupaca County.



## PRODUCTS AND MARKETS SERVED

Waupaca Foundry produces iron castings for the transportation, construction, agriculture, and industrial markets. We are highly diversified, producing 5,000 part numbers from 350 product categories. Our products include brake rotors and drums, brake calipers and anchors, differential cases and carriers, crankshafts, various housings, hubs, flywheels, boiler sections, and covers to name a few. Nearly 75% of all North American sourced brake rotors are made by Waupaca Foundry. And, a single tractor can have more than 75 iron castings made by Waupaca Foundry.

Located in the U.S., our foundries serve the following markets:

- Agriculture
- Construction
- Infrastructure
- Commercial Vehicle
- Light Truck and Passenger Car
- Material Handling
- Hydraulics
- Power Tools
- Power Transmission
- Heating, Ventilation, and AC Equipment



## WAUPACA FOUNDRY EARNS FIAT CHRYSLER QUALITY AWARD

For the second consecutive year, Waupaca Foundry received the Outstanding Quality award from Fiat Chrysler Automobiles (FCA). Waupaca Foundry was one of 73 global suppliers to receive this award out of more than 2,500 suppliers and the only foundry recognized. Waupaca Foundry has supplied iron castings to Fiat-Chrysler since 1999, including crankshafts used in automotive powertrains.

Fiat-Chrysler presented this award to recognize top-level performance and a dedication to excellence from suppliers that meet these qualifications:

- Supplier production is analyzed for 11 consecutive months,
- Suppliers must achieve scores of 100 percent on warranty and incoming material quality,
- Suppliers go above and beyond expectations.

“Our continued commitment to process improvement is driving direct results for our customers,” said Cody Rhodes-Dawson, plant manager for Waupaca Foundry. “We are ranked according to exacting standards of quality, reliability, and consistency to guarantee performance in our customers’ products.”

Waupaca Foundry credits its production management system called “Waupaca Way,” which engages all employees in continual improvement of casting quality, production efficiency, customer service and on-time delivery.

“We are proud of all our team who embrace our commitment to continual improvement to reap results for our customers,” said Mike Nikolai, President, COO and CEO of Waupaca Foundry. “Expected outcomes for our customers are high quality and high satisfaction, and it’s rewarding when our team is recognized for their effort.”



## COMMITMENT TO QUALITY

We believe our customers deserve the best quality, on time, at a competitive price. Many of the products we make, such as brake components, are safety critical and demand high quality. We understand and meet or exceed the strict standards and requirements of our customers, stakeholders, and government agencies, and accountability lies with all members of the organization through understanding their roles in supporting quality and customer satisfaction. We maintain company-wide certifications to the ISO 9001 and ISO/TS 16949 international quality standards, and our manufacturing and inspection processes ensure customers have the highest quality castings in the industry.

We pride ourselves on the way we apply science to our product design and manufacturing processes. From our top leaders to our manufacturing teams, metallurgists are involved in controlling process consistency and continuously improving our technology. We have developed proprietary processes and customized equipment to monitor iron temperature, additives, and casting materials down to a hyper-detailed level, which ensures that our products are consistently durable and reliable.

Other examples of our technology, including digital imaging, robotic core production, and automated iron pouring, allow us to increase efficiency while maintaining quality and reducing production costs.

In conjunction with these efforts, our research and development team is tasked with developing and promoting high-strength materials to facilitate lightweight casting designs and other uses of advanced materials. The initial stage of research and development for all new product materials includes consideration for performance, product safety, and regulatory aspects of our products.

We create educated, informed buyers via our customized training events and technical road shows. Through our unique Foundry 101 industry initiative, we share how Waupaca Foundry improves total casting manufacturing cost with our custom-built equipment along with casting design and engineering support.



## WAUPACA FOUNDRY EARNS PROFESSIONAL EXCELLENCE AWARD



Toyota Industrial Equipment Manufacturing (TIEM) honored Waupaca Foundry for excellence in launching iron casting parts used on material handling equipment. TIEM, a division of Toyota Industries North America, is a top-selling forklift producer in the United States. Waupaca Foundry has supplied iron castings to TIEM since 2002 including hubs, drums, brackets, wheels and sheaves.

In 2017, Waupaca Foundry was awarded the contract to produce 21 parts at three of its gray and ductile iron foundries in Waupaca, Wisconsin; Marinette, Wisconsin and Tell City, Indiana. According to TIEM, supply chain partners are required to be customer centric, innovative and proactive, as well as agile and flexible. Waupaca Foundry rapidly and flawlessly launched iron casting parts while maintaining build schedules to support TIEM's production volume.

Waupaca Foundry earned one of five available professional excellence awards and is the first Tier II supplier to be recognized.

“

*“We were able to flawlessly launch new parts for TIEM because at all levels within our organization our culture is focused on partnering with our customers to meet their goals.”*

*John Wiesbrock  
Executive Vice  
President*

”

## WAUPACA FOUNDRY ANNOUNCES MANUFACTURING ALLIANCES

Waupaca Foundry entered into separate manufacturing alliances with Dotson Iron Castings (Dotson) and Kohler Industrial Castings (Kohler). Under the agreements, Waupaca Foundry customers requesting horizontal molding will access Kohler's and Dotson's capabilities with a streamlined supply chain managed by Waupaca Foundry.

Waupaca Foundry operates 35 vertical molding machines nationwide. Both Dotson and Kohler recently installed new horizontal molding capacity. Offering both horizontal and vertical molding capabilities provides casting buyers the flexibility to source suppliers to best suit their production needs.

The new manufacturing alliance creates a more sustainable supply chain for both foundries' OEM and Tier I customers.

For Dotson and Kohler, the agreements will open new markets through Waupaca Foundry's existing customer relationships.

“These three companies have a strong reputation in our metalcasting industry and with our customers around the globe,” said Jean Bye, Dotson Iron Castings president and CEO.

“We're pleased to provide Waupaca customers with access to our new, state-of-the-art horizontal molding line and look forward to serving the needs of this diverse group moving forward,” said Mike Marbach, vice president of global kitchen products and industrial castings for Kohler Co.

## RESPONSIBLE PROCUREMENT

Waupaca Foundry's procurement strategy seeks to purchase products and services with high quality and competitive costs through better purchasing processes, and, dealing with all of our suppliers with trust, respect, ethics, honesty, and integrity. Waupaca Foundry values the long-term relationships we have established with our strategic suppliers, many of which go back 30 years or more.

Our supply chain for raw materials is global and diverse. Waupaca's supply chain management organization structure includes procurement, order fulfillment, and new product delivery processes and teams. The role of the procurement teams is to centrally manage all sourcing and buying decisions to leverage costs across the organization while also ensuring that these decisions adhere to established controls and procedures. Logistics, supplier development, and supplier quality are also the responsibility of the procurement teams.

Purchased cost-reduction processes are also led by the supply chain management team, including implementing alternative melt materials, supplier-consigned inventories, just-in-time deliveries, and strategic-sourcing initiatives.

We also seek to mitigate risks through the utilization of multiple methods for tracking incoming materials with longer lead and logistic times by product. Several logistical solutions are used for incoming materials, including trucking, rail, and water vessel transport. Critical components routinely ship via two transportation methods in order to reduce risk. For example, foundry coke and sand are delivered by both truck and rail on a weekly basis in order to ensure an uninterrupted flow of key materials. Where feasible, we have also established alternate supply sources on a local and regional basis that can be used as potential contingency sources if needed.

In addition to managing risks associated with our supply chain, a primary objective is to ensure environmental compliance and promote environmental stewardship and social responsibility throughout the supply chain. In support of these efforts, the completion of our 2015 goal to rank and screen our top suppliers has resulted in the identification of potential areas for sustainability recognition and improvement. Strategies to communicate these findings with this group are being developed (who represents 70 percent of our total annual spend). Current actions include:

- Focus on relevant topics during supplier site surveys.
- Communicating improvements through all business contacts including delivery, logistics, cost reduction, new products and dunnage discussions.
- Sharing information through new vendor bidding process and contractor safety program.
- Implementation of a WFI Scrap Conference event with material suppliers.

No material changes in the supply chain structure or supplier relationships has occurred in 2018. Waupaca Foundry was not subject to the U.S. Security and Exchange Commission's Dodd-Frank Wall Street Reform and Consumer Protection Act in 2016. This act regulates the use of conflict minerals, which are mined in conditions of armed conflict and human rights abuses, notably in the eastern provinces of the Democratic Republic of the Congo. Due to the importance of this issue to both Waupaca Foundry and our customers, we pursue the following regarding conflict minerals:



## **Conflict Minerals Policy Statement**

Waupaca Foundry, Inc. is committed to sourcing raw materials and components from companies that share our values with regard to human rights, ethics, and environmental responsibility. We expect all of our suppliers to abide by the requirements of our code of conduct, which prohibits human rights abuses and unethical practices. We also require all suppliers to comply with all applicable legal standards and requirements.

On August 22, 2012, the U.S. Securities and Exchange Commission (“SEC”) issued the final conflict minerals rule under section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Conflict Minerals Rule”). The Conflict Minerals Rule requires publicly traded companies to report annually the presence of conflict minerals (tin, tungsten, tantalum, and gold, or “3TG”) originating in the Democratic Republic of the Congo and adjoining countries (“Covered Countries”).

Waupaca Foundry supports the goal of ending violence, human rights violations, and environmental devastation in the Covered Countries. We are committed to complying with any requirements applicable to our Company under the Conflict Minerals Rule.

Waupaca Foundry will assist our customers in implementing their conflict minerals programs. We strive to work cooperatively with our customers and supply chain partners in implementing conflict minerals compliance programs.

Waupaca Foundry requires our suppliers to provide us with complete conflict minerals declarations. We may reconsider our willingness to partner with suppliers that fail to comply with this policy.



## INVESTING IN OUR COMMUNITIES

We continue to support the communities in which we do business in a variety of ways, including:

- Donating equipment to schools and universities.
- Supporting volunteer fire, rescue, and EMS departments in a variety of communities.
- Participating in leadership roles in a variety of business, civic, and environmental organizations.
- Sponsoring charities, non-profit organizations, events, and fundraisers.



### Waupaca Foundry Recognized For Contribution To Local Volunteer Fire, EMS Departments

Communities need volunteer fire and EMS department members to answer the call for service at all hours, including work hours. In 2018, Waupaca Foundry was nominated by the Amherst Wisconsin Fire District to receive Platinum recognition for its support of volunteer fire and EMS departments.

Many of Waupaca Foundry team members volunteer on local emergency medical service departments, and Waupaca Foundry not only allows its first responder to leave work to respond to emergencies, but it also compensates its employees for their time away from work while responding to an emergency.

The Portage County Fire Chief's Association (PCFCA) recognizes that it may be a hardship for an employer to allow its employees to leave during assigned work hours. In response, PCFCA developed a three-tiered recognition program (Platinum, Gold and Silver) for area employers that allow employees to leave work to respond to emergencies.

To earn Platinum recognition: Waupaca Foundry has a formal, written policy encouraging employee participation in volunteer firefighter/EMS work. Employees are allowed to leave every time their pager alarms with no conditions or negative actions taken against them. Additionally, Waupaca Foundry compensates wages for time away from work.

"Nationally, volunteerism is down. In Amherst alone, we have lost half of our volunteer [firefighter] membership. On behalf of all fire departments around, we thank Waupaca Foundry," said Fire Chief Victor Voss.



*Pictured left to right: Fire Chief Victor R. Voss (far left) pictured with Waupaca Foundry President, COO and CEO Mike Nikolai and members of his health and safety team including forklift operator Brian Swan (also Assistant Chief at Amherst Fire District) and maintenance mechanic Bart Sopa (also a volunteer interior firefighter at Amherst Fire District)*



## INVESTING IN OUR COMMUNITIES *(Continued)*

### Waupaca Foundry Invests In Students' Futures

Waupaca Foundry recognizes the impact the next generation will have on the manufacturing industry, and as a result, chooses to invest in their futures. By fostering their creativity and interests, we hope to only help grow their potentials.

For more than 40 years, Waupaca Foundry has awarded scholarships to deserving high school seniors in the areas that we house operations. In 2018, Waupaca Foundry was able to grant \$39,000 to 27 students. The scholarship program is a longstanding benefit for young adults who need assistance in financing their post-secondary education.

Additionally, Waupaca Foundry brings the metal casting industry into the classroom.

Through our foundry in a box program, Waupaca Foundry has educated many primary and secondary school students about our casting processes. Students help build sand molds, pour liquid tin into molds and use files to sand off rough edges of their homemade casting. In 2018, Waupaca Foundry attended many in-school presentations, a STEM learning camp and EAA KidVenture in Oshkosh, Wisconsin with the simulation tool.

Waupaca Foundry also contributes to school programs through donations and partnerships.

Waupaca Foundry has collaborated with many educational institutions, such as Tell City-Troy School District, Kent State University, St. Peter Lutheran School and Stephenson Area Public Schools, to better prepare students for the future of automated manufacturing. Through in-kind and monetary donations, Waupaca Foundry has helped establish and support the schools' robotics programs.

Commodore Manufacturing, a work-based learning program at Perry Central High School in Tell City, Indiana, was launched with the in-kind and monetary help of Waupaca Foundry. The program allows the students to grow technical hands-on learning skills through partnerships with local companies, like Waupaca Foundry. Commodore Manufacturing produces tools used by Waupaca Foundry team members for its operations.

"As many manufacturers continue to develop and advance technology and invest in robotics for operations, we will rely on this next generation of innovators," said Gary Greubel, Waupaca Foundry human resources manager.



## INVESTING IN OUR COMMUNITIES *(Continued)*

### WAUPACA FOUNDRY NAMED METALCASTER OF THE YEAR

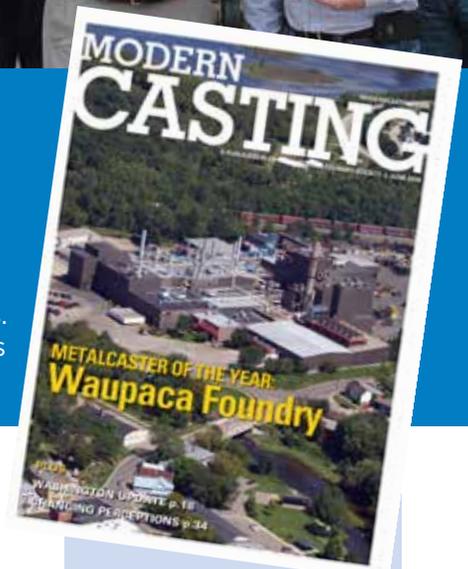
Waupaca Foundry was awarded the 2018 Metalcaster of the Year by the American Foundry Society for its forward sustainability efforts.

The award recognizes Waupaca Foundry's success in reducing energy intensity, water usage and landfill waste — with the help of both manufacturing and technological innovations and the company's core values.

"Sustainability goes back to our continuous improvement culture," said President, COO and CEO Mike Nikolai. "You can get credit from customers for the cost reduction—they recognize you are not only doing something good for the environment but also something that is good for their costs long term."

Waupaca Foundry was the first foundry to receive the ISO 50001 Energy Management System certification accreditation. Company-wide, installation of mechanical and thermal sand reclamation, closed-loop water and heat recovery systems, have also helped Waupaca Foundry realize its goals.

In 2010, Gary Gigante — the former president and CEO of Waupaca Foundry — presented his AFS Hoyt Memorial Lecture and called upon the metalcasting industry to find green and cleaner solutions in their operations. The same year, Waupaca Foundry set out with their own sustainability goals to be reached by 2020.



### Waupaca Area Chamber Names Waupaca Foundry Business of the Year

Waupaca Foundry was named the 2018 Large Business of The Year by the Waupaca Area Chamber of Commerce for its business practices and commitment to the community. Waupaca Foundry was previously honored with this award in 2003 and 2012, and in 2016.

To be eligible for the award, the business must demonstrate economic enhancement to the area, provide service to the community, enhance the community image, and enrich community life. Waupaca Foundry has a history of providing leadership, financial and in-kind support to schools, nonprofit organizations, and civic and environmental initiatives.

Waupaca Foundry employs 4,369 employees enterprise-wide, with nearly one-third employed in Waupaca, Wis., generating 10.4 percent of total income and 9.9 percent of total sales in Waupaca County every year.

"We are so fortunate to have Waupaca Foundry in our community," said Terri Schulz, president of the Waupaca Area Chamber of Commerce. "They are a very generous corporate citizen supporting our schools and non-profit organizations financially along with donations of equipment, supplies and volunteers," she said.

# Environmental Stewardship



At Waupaca Foundry, everyone is responsible for Environmental, Health, and Safety (EHS). Continual improvement in EHS performance is integral to our culture. All of our plants are certified to OHSAS 18001 and ISO 14001, and we use these management systems' frameworks to support achievement of our sustainability goals. See our Occupational Health and Safety section for more information on how we are managing those issues at our facilities. Waupaca Foundry - Plant 1 in Waupaca, Wis., earned ISO 50001 energy management certification in the fall of 2016, making it the first United States metalcaster to receive the accreditation...and only the second company in Wisconsin!

## Waupaca Foundry's Environmental Leadership Has Been Recognized by the:

**Federal government:** Under the U.S. Department of Energy's Better Buildings, Better Plants Program, the company voluntarily agreed to reduce energy usage by 25 percent over 10 years and has reduced energy intensity at all six of its plants by more than 21.3 percent from 2009-2018.

**State government:** Waupaca Foundry President, COO and CEO Mike Nikolai received the Sustainable Leadership Award from the Wisconsin Sustainable Business Council. The award honors leaders who are driven by sustainable, long-term business practices — not short-term market-driven goals.

**Industry:** Waupaca Foundry earned the title of 2018 Metalcaster of the Year in recognition of its commitment to sustainability. Company objectives have positively impacted its energy usage, pollution control technologies, recycling success and water consumption.

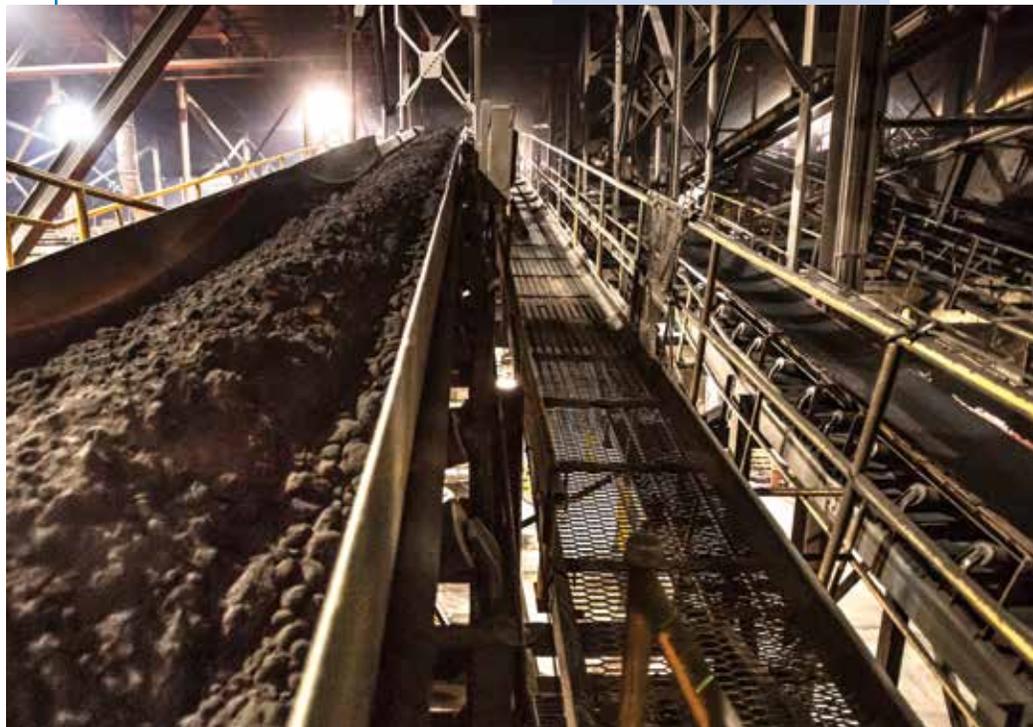
## MATERIAL USAGE AND PRODUCTION MATERIAL EFFICIENCY

In 2018, more than 2,679,258 tons of material were melted. Approximately 75 percent of the materials used in our melt process come from recycled materials. Along with the metal raw material, Waupaca Foundry also used approximately 193,000 tons of coke in the melt process. Derived from coal, coke is a carbonaceous material that provides energy and a carbon addition source used to melt metal and create cast iron.

One of our goals for 2018 was to continue a feasibility study to identify and evaluate melt system modification strategies to reduce the coke-to-melt usage ratio, saving us money spent on raw materials while also reducing our energy consumption and associated greenhouse gas emissions. We continually look for opportunities to incorporate alternative recycled materials into our process, such as using shredded steel, direct reduced iron fines, and oil filters. This includes identifying recycled materials that were previously not able to be recycled. Use of the new alternatives will keep these materials out of landfills while also providing us with new raw material sources.

To support the study and implementation of coke reduction improvements, alternative carbon sources have been identified to replace a percentage of feedstock coke, thus reducing coke usage while simultaneously increasing iron carbon pickup. Additional coke reduction actions have included strategic replacement of key equipment, adjustments of dehumidification systems to reduce incoming air moisture, improvement of coke quality control and improvement of available data and metrics to optimize coke use. To date, the results of these efforts are allowing Waupaca Foundry to improve its coke use ratio and define a long-term investment plan to increase melting efficiencies at all cupola facilities.

The sand used to make the cores and molds in casting metal parts is another significant material used in our process. We look to reclaim and reuse the sand to the extent possible, and we estimate that each grain of sand is used approximately 50 times before it is no longer able to be used to create quality castings. A feasibility study was conducted in 2015 at the Waupaca, Wis., and Tell City, Ind., foundries to

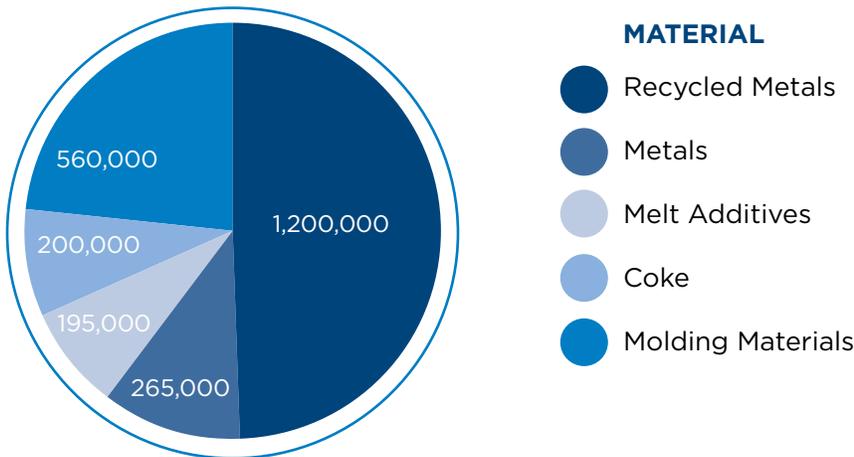


## MATERIAL USAGE AND PRODUCTION MATERIAL EFFICIENCY *(Continued)*

determine reduction opportunities for new clay and sand reclamation system technologies. By using less sand in our process, we can reduce the amount of sand that must be landfilled. Lab scale tests were conducted on target foundry by-products to prove initial capability of the proposed technology to separate clay from waste system sands and dust collection points using a high-pressure, water-attrition scrubbing method. The recovery process will discharge no new waste material. Moving forward, pilot tests will be conducted to confirm the proposed technology will actually work in practice. Recovered materials will be characterized and performance tested using the foundry test facility at the University of Northern Iowa. This work was completed in July 2017 with study data concluding that the proposed technology was not feasible. As a result of this outcome, a renewed emphasis is being placed in the optimization and expansion of sand reclamation technologies already in use at Waupaca Foundry.

### KEY INPUT MATERIALS USED IN 2018

**TOTAL TONS USED**  
Rounded Value



## ENERGY USE

Our primary impact to the environment is as an energy- using entity. It takes a large amount of energy to melt metals and run our operations, including natural gas, electricity, and coke, and we are committed to managing our energy use efficiently. Energy savings have a direct effect on our bottom line, and we have set a target of reducing energy intensity (measured in mmBtu/ton of product shipped) by 25 percent by 2020. From the program baseline year of 2009 to 2018, a cumulative energy intensity improvement of 21.3 percent has been realized.

Note: 2018 resulted in a slightly reduced improvement as compared to 2017 due to:

- cupola plants experiencing variable coke quality (increased moisture content %), which resulted in a significant detriment to typical melt/coke ratios.
- operational inefficiency due to nationwide labor shortages.
- colder than normal weather, which resulted in additional heating demand.

This improvement stems from a number of energy-use-reduction strategies. Recent project examples include lighting replacements, compressed air distribution and air treatment upgrades, compressed air adaptive control systems, cooling tower variable frequency speed (VFD) controls (fans and pumps), energy monitoring system / sub-metering, and engineered compressed air nozzles. We continue to strategically and systematically reduce our energy footprint through a number of targeted initiatives:

- As one of the first 32 charter companies in the U.S., we participate in the Better Plants program, a U.S. Department of Energy initiative designed to foster energy efficiency and long-term sustainability.
- We have launched a pilot initiative at our jobbing foundry in Waupaca, Wis., to implement ISO 50001, the Energy Management System standard. ISO 50001 specifies requirements for establishing, implementing, maintaining and improving an energy management system, and enable an organization to follow a systematic approach in achieving continual improvement of energy performance. Moving forward we intend to implement ISO 50001 across the organization. ISO 50001 certification was achieved at the pilot facility in October 2016.



*A Waupaca Foundry melt operator checks the cupola tuyeres at its Tell City, Ind., foundry.*

## Energy Policy

- R - Review established energy management objectives and targets.**
- E - Ensure the availability of information and resources to achieve those objectives and targets.**
- D - Drive for continuous improvement in the efficient use of energy.**
- U - Use energy efficiency as a key component of new equipment, major renovation, and new design.**
- C - Commit to energy management excellence through compliance with applicable legal and other requirements.**
- E - Educate employees on their energy management responsibilities.**

## ENERGY USE *(Continued)*

- We have invested \$27 million in the expansion of the two plants in Waupaca, Wis. The new buildings have energy efficiency features such as high-efficiency LED lighting and waste heat recovery systems to provide building and domestic water heat. The waste heat is recovered from the cupola iron-melting process mainly, but also from other systems such as air compressors, maximizing the energy savings during the cold season. These energy projects have earned energy rebates from Wisconsin's Focus on Energy program.
- We have publicly endorsed the U.S. Department of Energy's *Accelerate Energy Productivity 2030* goal to double U.S. energy productivity by 2030 (e.g., increasing the economic value created per unit of energy used). As part of this endorsement, Waupaca Foundry commits to:
  - Improve energy productivity within our organization, state or community;
  - Share solutions, success stories, and progress;
  - Encourage other organizations to endorse the Energy 2030 goal; and,
  - Participate in Energy 2030 education and outreach activities.

Moving forward in fiscal year 2019, additional focus will be on compressed air user optimization, through additional adaptive compressor controls, as well as process improvements to the cupola operations to improve energy efficiency in our melting processes.

In 2018, we used 917,058 megawatt hours (MWh) of electricity. Our combined energy consumption from coke, natural gas, and electricity was over 16,347,491 million British thermal units (MMBtu).



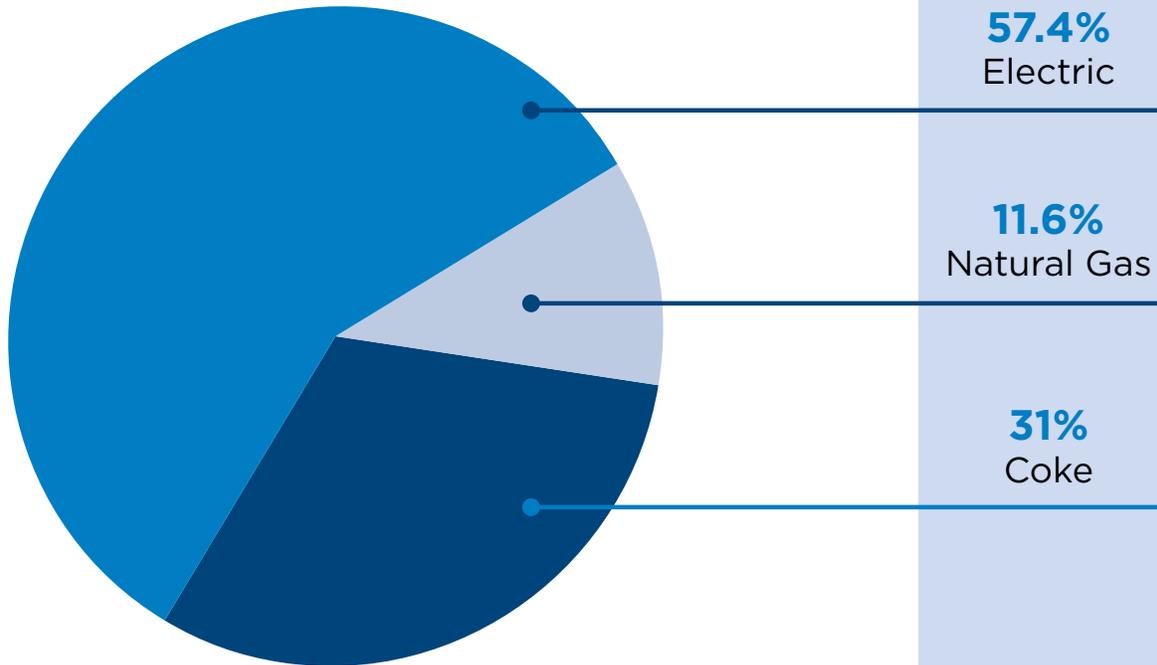
*As in quality systems, our environmental programs must maintain an equivalent level of focus and utilize available metrics to monitor energy and put the procedures in place to affect continuous improvement.*



*Bryant Esch  
Environmental Coordinator*

## ENERGY USE *(Continued)*

### ENERGY CONSUMPTION BY TYPE, FY18



With the addition of Lawrenceville (formerly Hitachi Metals Automotive Components) and its electric melt, Waupaca Foundry has experienced a slightly increased dependence on electrical consumption after fiscal year 2016. We also track our energy consumption per ton of iron melted so we can capture gains in energy efficiency that may occur even as our overall energy increases due to higher production rates. Our consolidated energy intensity was 6.023 mmBtu/ton of iron melted for Waupaca Foundry facilities.



*A Waupaca Foundry melt operator oversees the electric melt furnaces at its Marinette, Wis., ductile iron foundry.*



## EMISSIONS

### Air Emissions

Foundry processes generate dust, sand, and other particles resulting from the molding of our customers' castings that, if improperly handled, could impact the atmosphere. Air filtration systems and advanced baghouse technology are used to achieve superior air pollution control results at our facilities. The air pollution controls we have put in place are considered as "best available" by the U.S. Environmental Protection Agency (USEPA) and associated state regulatory agencies regardless of applicable regulations, which are driven by the installation date of the control equipment. A key component to this technology is the use of advanced bag leak detection probes installed within the emission control systems at each plant. In most cases, this technology is not mandated by a regulatory agency but utilized as an elective continuous improvement. Because even small holes can affect the performance of baghouse filters, these probes are used to monitor the integrity of the baghouses and performance of the filtration system.

### GHG Emissions

GHG emissions are divided into three categories:

- Scope 1 emissions are emissions that result directly from an organization's operations, such as burning fossil fuels.
- Scope 2 emissions are indirect emissions from a utility provider resulting from energy used by the organization, such as electricity, steam, or chilled water.
- Scope 3 emissions are the result of other sources, indirectly related to an organization.

Currently we track only our Scope 1 and Scope 2 emissions. Scope 1 emissions include the use of coke in the melting process and the combustion of natural gas at our facilities. Fuels used in relatively small quantities representing less than 1 percent of total energy consumption, such as gasoline, light oil, and LPG are not included in these calculations. Scope 2 emissions are the result of purchased energy utilized at our plants. In 2018, our total GHG emissions were 1,288,467 tons of carbon dioxide (CO<sub>2</sub>). The Total CO<sub>2</sub> Emissions graph shows the breakdown of our Scope 1 and Scope 2 emissions by facility. The majority of our Scope 1 emissions come from the use of coke, a high-carbon content material, in our melt process.

Emissions, as well as our climate change risks/opportunities and management strategies, are reported to CDP (formerly the Carbon Disclosure Project), the largest database of primary corporate climate change information in the world.

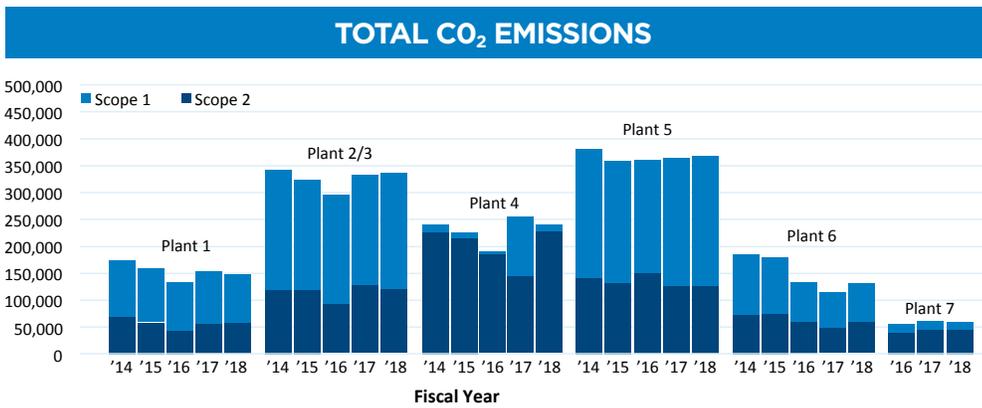


## A Long-Term Commitment...

The company began retrofitting plants with elective sophisticated air pollution controls beginning in 1999. Both air emission controls and leak detection technology have surpassed regulatory requirements and created new industry benchmarks in pollution control.



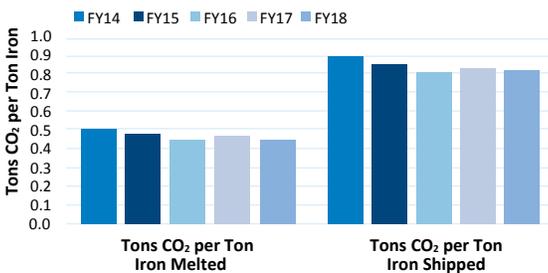
## EMISSIONS (Continued)



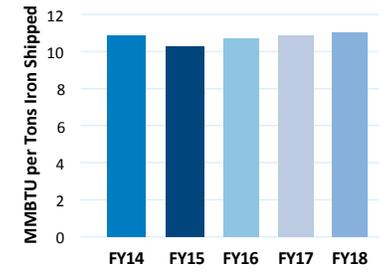
In addition to our absolute GHG emissions, we also normalize our GHG emissions based on tons of iron melted and tons of product shipped, similar to the way we track our energy consumption. The graph shown below includes normalized values for our consolidated GHG emissions as well as total energy use per ton of iron shipped.



### NORMALIZED CO<sub>2</sub> EMISSIONS (SCOPE 1 & 2)



### NORMALIZED TOTAL ENERGY USE



Although we do not currently track the GHG emissions related to the transportation of products, we recognize that transportation is a significant issue for us due to the size and weight of our products. As our customers look to support greater fuel efficiency in their products, there will be more demand for lightweighting iron castings, reducing associated transportation impacts.

## Lightweighting Achieved Through Design Optimization

Waupaca Foundry, in collaboration with Hitachi Metals America, has the capabilities to meet weight reduction targets while generating significant cost savings and stronger components.

### Situation

To meet its lightweighting objectives, an automotive original equipment manufacturer (OEM) originally selected a 13.34-pound aluminum forging for its front steering knuckle over a 23.81-pound ductile iron concept. Although the aluminum component achieved the weight reduction goal, it resulted in a considerable cost increase when compared to ductile iron.

After the launch of the aluminum component, the OEM asked Hitachi Metals to explore a lightweight ductile iron knuckle to replace the aluminum component. To be successful, the ductile iron solution needed to weigh 17.6 pounds.

The front steering knuckle connects various suspension and brake components to the wheel-end assembly. Fit and function requirements included:

- Provide secure mounting to 10 different suspension and brake parts
- Avoid interference with other adjacent components
- Strengthen to handle a variety of extreme driving events
- Ensure reliability for a minimum of 10 years under severe driving conditions
- Prevent brake noise and deliver desired handling and ride
- Provide clearance to surrounding parts in all possible driving situations.

### Solution

Hitachi Metals design engineers developed a solution to meet the key requirements by redesigning and optimizing the shape of the knuckle using a high-strength ductile iron material.

Testing verified the parts strength, durability and stiffness. Continued optimization of the casting achieved the lightweight target of 17.6 pounds.



### Knuckle Design Evolution



Aluminum Forging



Initial Design



Final Design



Final Casting

## TOTAL WATER USE

Historically our foundries consumed large quantities of water, including non-contact cooling water used to cool running machinery and the exterior of the cupolas used in our melt process. By 2020, water consumption will be aggressively reduced 80 percent from 2010 values. Waupaca Foundry has already made significant progress towards this goal by installing closed-loop water cooling systems. Several of our plants have installed such systems for machine cooling.

Prior to these initiatives, cooling water flowed through machines just once prior to discharge. With the new closed-loop systems, non-contact cooling water is recycled to improve efficiencies and reduce water consumption. For example, implementation of this technology has resulted in a 30- to 95-percent reduction in cooling water use at our Marinette ductile iron foundry, with water demands varying on a seasonal basis. The recent Plant 1 expansion project in Waupaca included six new warmbox machines on a closed-loop cooling water system that will save an estimated 50,000 gallons of water per day, or approximately 15 million gallons annually.

In FY2018, the combined water usage for all Waupaca Foundry locations was 509 million gallons from municipal water supplies compared to 506 million gallons in 2017, representing a year to date water use reduction of 65.5 percent from 2010 values.

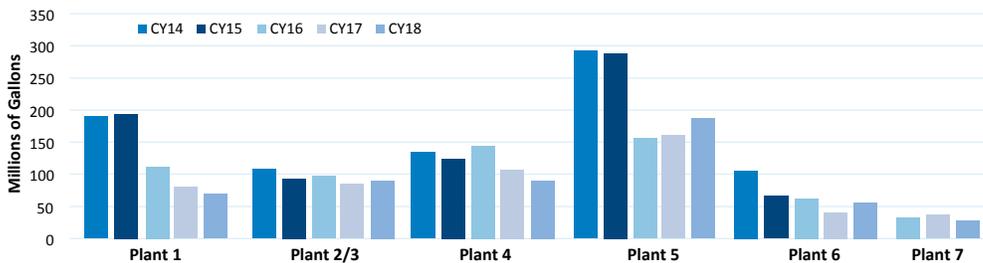


### CLOSED LOOP

Closed-loop cooling water systems have the potential to reduce plant water cooling demands by 80 percent or more. In some cases, non-contact cooling water discharges are reduced to near zero and daily water use is drastically reduced.



### WATER USAGE



## IMPACTED WATER BODIES

As a result of plant improvements we implemented over the last decade, contaminated process water requiring wastewater treatment and discharge has been completely eliminated from our facilities. None of Waupaca Foundry's plants withdraw water from, or negatively impact, waters that are protected or considered to be of high biodiversity value.

## WASTE

In 2018, Waupaca Foundry generated a total of 764,520 tons of solid waste. Of this, only 17.5 tons was hazardous and the remaining majority of 572,389 tons was recycled in lieu of disposal. We minimize the generation of hazardous waste through initiatives such as product substitution and effective work practices. Significant sources of non-hazardous waste included sand dust from our baghouses, melt dust, slag, spent foundry sand, cores, and refractory.

One of Waupaca Foundry's highest volume byproducts is spent foundry sand used to make molds for the casting process. Although the sand is recaptured and recycled to the extent possible, there comes a point when it can no longer be used for creating quality castings and it becomes a spent material. Successful initiatives have been developed that continue to reduce the use of foundry sand while concurrently looking for ways to keep foundry sand out of landfills by finding beneficial uses for the sand that can also aid the local communities. The majority of the sand that can no longer be used in the casting process does not end up in a landfill—approximately 80 percent, or 470,000 tons, of sand is recycled annually. This reclaimed sand finds new life in applications in construction, agricultural use, and geotechnical fill.

Waupaca Foundry has been working with state and local agencies, including the Wisconsin Department of Transportation, to use foundry sand as a highway subbase fill, geotechnical fill, and other general construction uses. Not only does this keep the sand out of landfills, but it also reduces the need for mining native materials from other places to be used as the source for these applications. Our goal is to reduce the generation of spent foundry sand 30 percent by 2020. This material also gives us an opportunity to partner with our local communities on projects, and additional beneficial reuse efforts are discussed in our community section.

## SIGNIFICANT SPILLS

Waupaca Foundry uses a number of chemicals in its process to keep its equipment operating at peak levels, including coremaking resins, hydraulic oil, lubricants, and anti-freeze. There were no significant spills in 2018 at any of our operations.

## ENVIRONMENTAL COMPLIANCE

Waupaca Foundry is committed to identifying and maintaining compliance to legal and other requirements to which our organization subscribes and that are applicable to the environmental aspects of our activities, products, and services. Our commitment is reflected in our EHS Policy and incorporated into our sustainability targets and objectives. FY2018 resulted in no fines or sanctions associated with environmental noncompliance events.



### WAUPACA FOUNDRY ENVIRONMENTAL, HEALTH, AND SAFETY POLICY—CAST

**C - Commitment** to environmental, health, and safety (EHS) excellence through compliance with EHS regulations and other requirements.

**A - Always strive** for continuous improvement and prevention of accidents, injuries, and pollution.

**S - Set and review** EHS objectives and targets.

**T - Train** employees on their EHS responsibilities.

## EMISSIONS *(Continued)*

### 'STEEL SLAG' BILL SIGNED INTO LAW

This year, Waupaca Foundry testified in favor of a slag deregulation bill to further promote the recycling of slag byproducts resulting from melting operations.

“Slag” is the byproduct that looks like stony waste matter that is separated from metals, such as iron during the melting process, to turn metals from solid to liquid. Under current law, the Department of Natural Resources administers rules relating to the management and disposal of solid waste. “Solid waste” includes garbage, sludge from treatment plants and pollution control facilities, and other discarded or salvageable materials.

This bill provides that “solid waste” does not include slag generated by the production or processing of iron or steel and that is managed as an item of value in a controlled manner and is not discarded.

As a contributor to the issue, Waupaca Foundry was invited to attend the signing session of Act 285, Assembly Bill 941 by Governor Scott Walker in April 2018 at the State Capital in Madison, Wis.



*Pictured left to right are: Toni Herkert, Todd Stuart, Marco Gonzalez, Jason Mugnaini, Lucas Vebber, Steve Hall, Ethan Hollenberger, Bob Venable, Rob Thompson, Senator Duey Stroebel, Evan Miller and John Soper.*

### AFS Green Foundry Case Study Awards

At the inaugural American Foundry Society’s EHS Division Green Foundry Case Study Awards, Waupaca Foundry was recognized for two of three awards for its exemplary sustainability efforts.

Waupaca Foundry was honored with the Environmental Engagement award for its sledding hill project made from reused foundry sand. Casting processes require large volumes of sand, which were once disposed of after first use. However, through research and recycling efforts, Waupaca Foundry was able to find ways to use 70 percent of foundry sand materials for projects, such as the 42-foot-sledding hill in Waupaca, Wis.

Annually, Waupaca Foundry melts more than 2.2 million tons of scrap metal, resulting in an abundance of excess heat. To harness this excess energy, Plant 1 in Waupaca, Wis. implemented a closed-loop heat recovery system that provides a significant portion of the building heat for the winter months and year-round hot water. Besides the savings factor, the heating system reduces 4,600 metric tons of carbon dioxide to the environment per year. This waste heat recovery project earned Waupaca Foundry runner-up for the Sustainable Industry award.



*Pictured: Waupaca Foundry Environment Engineer Todd Gunderson (middle) and Director of Environmental Engineering Byrant Esch (far right) accept the AFS Green Foundry awards.*

# A World-Class Workforce



## A TENURED WORKFORCE

Waupaca Foundry has a history of encouraging people to reach their greatest potential. This has the dual benefit of providing us with the skilled workforce that allows us to produce innovative, best-in-class products while simultaneously improving our sustainability program through the same type of innovation. We're proud that Waupaca Foundry has been an employer of choice and we believe in taking care of our employees and offering opportunities for personal development. The result: customers have the most qualified production team in the industry. From operations to administration, we are dedicated to creating advancement opportunity for our employees throughout the company. Many of our team members have started in general foundry positions and have progressed into a variety of careers over the years. In fact, president, COO and CEO, Mike Nikolai started with Waupaca Foundry in 1993 as a metallurgist at the company's gray iron foundries in Waupaca, Wis. He held progressively responsible positions, including production manager, assistant plant manager in Tell City, Ind., plant manager in Etowah, Tenn., and vice president of operations. He was appointed president, COO and CEO on April 1, 2015.



G4-10



G4-11



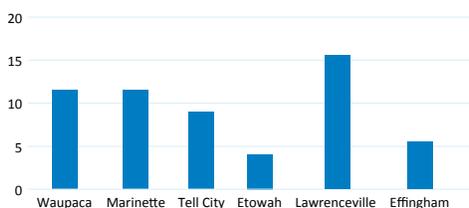
G4-LA11

## A TENURED WORKFORCE *(Continued)*

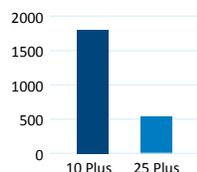
The opportunity for career growth and personal development is a significant reason why more than half of Waupaca Foundry's employees have been with the company greater than 10 years. Much of the organization's success can be attributed to the experienced workforce and the direct employee/management relationship that is clearly recognized at the manufacturing facilities.

The following graphs show the average length of employee service time by location and the number of employees that have been employed by Waupaca Foundry for more than ten years, as well as those who have worked for us for 25 years or more.

**AVERAGE SERVICE YEARS**



**YEARS OF EMPLOYMENT**



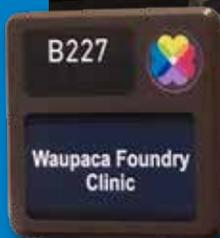
Waupaca Foundry's code of conduct recognizes the right to collective bargaining (as similarly recognized by national regulations). However, employees have chosen to maintain a union-free environment with the exception of the unionized Lawrenceville foundry that merged with Waupaca Foundry in April 2016.

## Waupaca Foundry Opens Free Medical Clinic For Employees

To counteract rising healthcare costs nationwide and minimize the financial impact on employees, Waupaca Foundry partnered with ThedaCare of Waupaca, Wis. to staff a dedicated medical clinic for foundry team members and their families.

The clinic is a pilot project with the potential of rolling the benefit out company-wide. Care at the clinic is free to foundry employees and retirees, and their dependents. Waupaca Foundry is one of the first employers to offer such a comprehensive program in Waupaca County.

The clinic is staffed by advanced nurse practitioners. Services include lifestyle medicine and wellness consults for chronic disease management, urgent care, labs, care for injuries, and acute care for illness and immunizations.



## SKILLS DEVELOPMENT

In addition to careers in metallurgy and foundry technology, we also have support positions in IT, sales, purchasing, human resources, accounting and finance, and administration. Our company is dedicated to helping our employees cultivate career paths that give them professional satisfaction while also developing the workforce that we need. One hundred percent of our employees receive performance reviews annually, and during this process we work with our employees to lay out a career development path for them. Some common opportunities are:

- Specialized operational positions
- Leadership positions
- Support and administrative positions

We have developed a customized internal training program intended to teach entry-level employees more specific foundry knowledge and processes. Experts from specific areas provide thorough instruction on casting iron the Waupaca way.

We advanced a number of training program goals that we set for 2018, including:

- Provide 100 percent tuition reimbursement for employees' continuing education (following company guidelines) – Waupaca Foundry continued to provide tuition reimbursement for 100 percent of our employees. In 2018, 73 employees participated in the reimbursement program.
- Provide annual career training for 100 percent of our employees, with training related to specific job requirements as well as developmental training for future career growth - Through 2018, we provided career training / job specific training to 100 percent of our employees.
- Achieve Six Sigma or related training for 90 percent of our workforce by the end of calendar year 2017 – 100 percent of our workforce has received Six Sigma related training (lean, green belt, black belt, kaizen, 6S, etc.) and the program achieved the goal prior to the targeted completion date.
- Provide leadership training to 100 percent of the employees in leadership positions by 2025. Through 2018, leadership training had been completed for 53 percent of our applicable employees. (\*For leaders with greater than six months of service.)
- Foster and maintain a 50 percent or greater total promotion rate for management level positions from internal employees - 80 percent of our management level positions are filled with internal employees that have been promoted from within Waupaca Foundry.

Waupaca Foundry has a history of offering opportunities for personal development to take our employees to their greatest potential. We are dedicated to career pathing through training and development programs that develop each individual. In 2018, Waupaca Foundry invested \$1,709,980 million in total training and employee development programs.



## SKILLS DEVELOPMENT *(Continued)*

### Partnership With College Grows Employee Skillset

It is Waupaca Foundry's mission to develop talent and promote team members from within the organization. A partnership with Ivy Technical College Community College in Indiana has allowed just that.

With Ivy Tech, Waupaca Foundry production employees in Tell City, Ind., have the opportunity to take a credited class in maintenance through the college to develop a more technical skillset.

During the 8-week class, students learn the basics of mechanical power transmissions, motor mounting, keyseat fasteners and assembly, understanding shafts, couplings and bearings, belt drive concepts, chain drive concepts, rigging, and more.

Similar to other back-to-school programs Waupaca Foundry provides, the cost of tuition, books and fees are covered, and the employees are also paid for their time while attending class.

The skills acquired through this class enable production employees to transition to available mechanical maintenance positions with ease. As desired, a mechanical maintenance certificate is also available upon completion through the college.

Pictured here, the Spring 2018 class shared the skills they learned to HR and maintenance colleagues. As a team, the students repaired a mechanical drive and demonstrated appropriate rigging and lifting techniques for various items.

"The success of this program has contributed to the rapid growth of Waupaca Foundry as a regional leader in sustainable workforce development," said Mallory Sherfield, Ivy Tech Community College workforce alignment program manager in Evansville. "Partner companies look to Waupaca as an institutional mentor for best practices in training and talent retention."



*Pictured left to right are: Ivy Tech Instructor John Anslinger, Anthony Dakota Harlen, Eric Alderson, Jesse Volocko, Jeremy Dimmett, David Armondi, and Darron Ransome Jr. (Not pictured is additional graduate Jason Ford).*

## OCCUPATIONAL HEALTH AND SAFETY

Providing a preventive health policy and promoting continual improvement of safety in the workplace are fundamental responsibilities of management. Our safety management system relies on risk identification and mitigation, supervisor accountability, employee safety teams, workplace hazard assessments, equipment maintenance, and ongoing training to create a safe workplace for our employees and visitors.

Waupaca Foundry is committed to all persons working under its control, including its contractors, having a high level of safety awareness. We achieve this through a variety of mechanisms, including monthly safety talks for our employees, review of work instructions and training specific to those instructions (i.e., lock out/tag out, fall protection, and hot zone work), bulletin boards, company newsletters, signage, and near-miss reporting. We also recognize the importance in active employee engagement in the safety program. Employees participate in reporting safety suggestions and near misses, our behavior-based safety (BBS) program, Safety Kaizen events, and in several safety committees that include electrical safety, incident review, mobile crane safety, ergonomics, noise reduction, and emergency response.

A large percentage of our injuries can be attributed to ergonomics. To address this, significant investments have been made in the automation of processes, such as installing robots to automate repetitive tasks in grinding and core making workstations.

At Waupaca, we know that leading metrics are critical to monitor for improved safety performance. We have updated our suggestion/near-miss reporting database into a combined form to encourage continued reporting, and better track the information and solutions to closure. We also continue company-wide serious incident review, including “near-miss” situations to reduce the risk of potential serious incidents. Safety scorecard metrics now include goals for risk identification and reduction; focusing on areas where incidents occur most often.

We also track two lagging indicator metrics to evaluate our safety performance: total recordable incident rate (TRIR, representing OSHA reportable incidents), and the Days Away, Restricted, Transferred (DART) rate, which describes the number of OSHA recordable injuries and illnesses resulting in days away from work, restricted work activity, and/or job transfer experienced during the year. Both TRIR and DART are calculated based on a rate for 100 full-time employees. We have established a goal to reduce our TRIR to 2.0 or less by 2019.



### WAUPACA FOUNDRY PARTNERS WITH OSHA FOR SAFETY PROGRAM

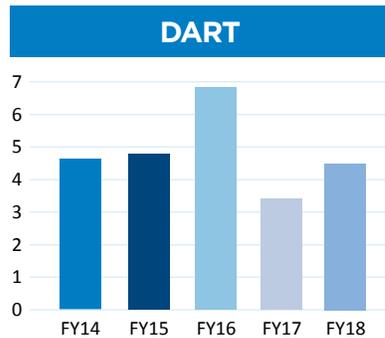
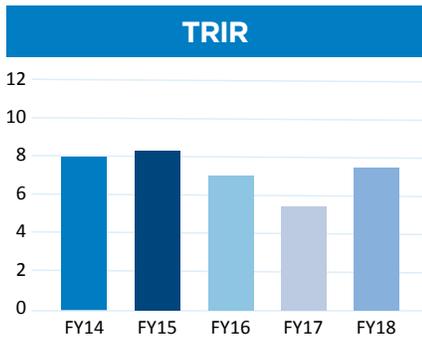
Waupaca Foundry and several Wisconsin-based foundries have partnered with the Appleton area office of the Occupational Safety and Health Administration (OSHA) to better identify risk in the workplace for both employers and workers. Together, the organizations signed the Northeast Wisconsin Risk Reduction Partnership.

Participating organizations focused on sharing combined expertise and knowledge to further promote safety. Together, they developed a joint agreement with a common objective to identify risk related to foundry operations and implement measures to eliminate and/or reduce the risk rather than reactively reviewing past measures.

“By working collaboratively and sharing best practices, we will ensure all parties are on a road to continual improvement in reducing risk,” said Robert Bonack, OSHA’s area director in Appleton.



## SAFETY METRICS



The 2019 goal for our DART rate is 1.0 or less.

We did not suffer any fatalities during 2018. Waupaca Foundry works cooperatively with OSHA on risk-reduction initiatives for our industry.

## EMPLOYEE WELLNESS AND SUPPORT

In support of our commitment to improving the health of our employees, spouses, and retirees, we continue to offer a progressive health and wellness program called Health Awareness Together (H.A.T.). Over the years, this program has dramatically contributed to the overall health and well-being of the team. The program has helped to reduce modifiable health risks while fostering positive cultural changes. Employees who elect to participate are not only rewarded with a higher quality and healthier lifestyle, but we offer financial incentives for participation as well.

We also offer an employee assistance program to support our employees and provide them assistance with personal concerns and the challenges of balancing work and personal life. The program is open to employees and their dependents, spouses or significant others, and others permanently residing in an employee’s household whether they are related or not.



*I see the doctor every six months to discuss my health and for blood tests. I did my lab work at the Waupaca Foundry Clinic, and they sent my doctor the results. It saved me a bunch of money, and I like saving money. Thanks, Waupaca Foundry; still taking good care of me, 23 years and counting!*

*Waupaca Foundry employee,  
Waupaca, Wis.*

## EMPLOYEE WELLNESS AND SUPPORT *(Continued)*

### PATRIOT AWARD

Laura Roloff, a core room forewoman at Waupaca Foundry's Plant 2/3 location in Waupaca, Wis., received the Patriot Award. This marks the third time a Waupaca Foundry manager has received the award.

Roloff was nominated by core room operator, Nathan Kaminske. Kaminske has worked for Waupaca Foundry since 2015 and has simultaneously served in the Wisconsin National Guard. He was deployed to Afghanistan in November 2018.

The award recognizes those who go above and beyond to allow for flexible schedules, time off during deployment and show the utmost respect and support for their active duty military team member and team member's family. It is supported by the Employer Support of the Guard and Reserve (ESGR), an office of the Department of Defense. The ESGR's mission is to encourage the employment of members of the National Guard and Reserve who bring leadership to the civilian workforce.



*Laura Roloff (right) was nominated by Nathan Kaminske (left) for ESGR's Patriot Award.*

“

*It goes to show that we are a company that supports the military, and we can accept applicants that can't guarantee they're always going to be here, but we make sure they have a job to come back to. Nate is still on my payroll; he's not going anywhere.*

”

*Laura Roloff  
Core Room Forewoman*

## I AM WAUPACA

Together, all of our employee initiatives help us to develop and maintain a committed workforce that is as solid as the castings we create. Working together as a team with a shared vision allows each of our employees to say with pride, “I am Waupaca.”

“One of our key initiatives is to provide good jobs and career advancement so, together, we can best serve our customers and our community,” said Kirk Kallio, Waupaca Foundry director of human resources.



# Report Parameters and GRI Index

## REPORT PARAMETERS

This report updates our 2017 Sustainability Report and describes our activities during our 2018 fiscal year, covering the time period from April 1, 2018, through March 31, 2019. We intend to report on an annual basis, with our fiscal year calendar.

The evaluation of topics to report to stakeholders in this Sustainability Report is focused on material aspects that align with the company's business objectives and our stakeholder needs and interests. We are reporting in accordance with the Core requirements of the Global Reporting Initiative (GRI) G4 reporting framework ([www.globalreporting.org](http://www.globalreporting.org)). See also our GRI Content Index.

We have chosen not to externally assure this report, but may elect to do so in future years. This report covers all of Waupaca Foundry's U.S.-based manufacturing facilities.

Restatements of information and significant changes from the previous reporting period are addressed within the individual sections of this report.

We encourage [comments and feedback](#) on our report.



TRC Environmental Corporation (TRC) was retained to assist WFI with the development of this sustainability report to ensure consistency with the Global Reporting Initiative (GRI) Core requirements. TRC served as a consultant to the Sustainability Leadership Team, facilitating the assessment of materiality, analysis of sustainability metrics, and review of existing WFI targets and objectives.



## GRI CONTENT INDEX

General Standard Disclosures	Page(s)	External Assurance
<b>STRATEGY AND ANALYSIS</b>		
G4-1	3	No
<b>ORGANIZATIONAL PROFILE</b>		
G4-3	4	No
G4-4	4	No
G4-5	6	No
G4-6	5	No
G4-7	5	No
G4-8	21	No
G4-9	4	No
G4-10	42	No
G4-11	42	No
G4-12	25	No
G4-13	25	No
G4-14	12	No
G4-15	12	No
G4-16	16	No
<b>IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES</b>		
G4-17	N/A*	No
G4-18	14	No
G4-19	15	No
G4-20	15	No
G4-21	50	No
G4-22	50	No
G4-23	50	No
<b>STAKEHOLDER ENGAGEMENT</b>		
G4-24	16	No
G4-25	16	No
G4-26	16	No
G4-27	16	No
<b>REPORT PROFILE</b>		
G4-28	50	No
G4-29	50	No
G4-30	50	No
G4-31	50	No
G4-32	50	No
G4-33	50	No
<b>GOVERNANCE</b>		
G4-34	11	No
<b>ETHICS AND INTEGRITY</b>		
G4-56	12	No

\*Waupaca Foundry is a Hitachi Metals group company.

## SPECIFIC STANDARD DISCLOSURES

DMA and Indicators	Omissions	Page(s)	External Assurance
<b>ECONOMIC PERFORMANCE</b>			
G4-DMA*		20	No
G4-EC1		27	No
G4-EC8		20	No
<b>MATERIALS</b>			
G4-DMA*		31	No
G4-EN1		32	No
G4-EN2		31	No
<b>ENERGY</b>			
G4-DMA*		33	No
G4-EN3		34	No
G4-EN5		35	No
<b>WATER</b>			
G4-DMA*		39	No
G4-EN8		39	No
G4-EN9		39	No
<b>EMISSIONS</b>			
G4-DMA*		36	No
G4-EN15		36	No
G4-EN16		36	No
G4-EN18		37	No
<b>RESOURCE EFFICIENCY (EFFLUENTS AND WASTE)</b>			
G4-DMA*		40	No
G4-EN23		40	No
G4-EN24		40	No
G4-EN25		40	No
<b>COMPLIANCE</b>			
G4-DMA*		40	No
G4-EN29		40	No
<b>EMPLOYMENT</b>			
G4-DMA*		42	No
G4-LA2		47	No
<b>HEALTH AND SAFETY (OCCUPATIONAL AND CUSTOMER)</b>			
G4-DMA*		46	No
G4-LA6	Partial LA6 – Not reporting by gender or region.	46	No
<b>TRAINING AND EDUCATION</b>			
G4-DMA*		44	No
G4-LA9	Partial LA9 – Not reporting by gender or region.	44	No
G4-LA11	Partial LA1 – Not reporting by gender or region.	42, 44	No

\*Specified content begins on listed page number