



# 2019

Economic,  
environmental,  
and social performance  
and impacts



Sustainability  
Report

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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

Thank you for your interest in Waupaca Foundry's Sustainability Report for the 2019 fiscal year. As in prior years, Waupaca Foundry (WFI) has collected key information designed to provide a useful introduction to 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 2019 fiscal year proved to be notable in many ways and offered challenges and opportunities for the metalcasting industry. Demand for iron castings was moderately strong, however, softening markets resulted in opportunities to grow value-added service offerings.

For iron casting components, a longstanding production model consists of the casting first produced at a metalcasting facility, and then transferred to additional supplier locations for machining, paint, and other finishing services required to prepare the part for its assembly and end use. Such manufacturing logistics are common in modern production systems and can represent waste and inefficiency in the repeated transportation of product and ancillary materials.

In an ongoing effort to streamline the supply chain, WFI developed and opened a 50,000-square-foot manufacturing space to CNC machine air disc brakes. This vertically integrated production model removes waste in the supply chain and adds value for customers, resulting in reduced transportation demands. Additionally, iron chips collected during the machining process are returned and reused in the metalcasting process to make new iron castings.

At the end of our fiscal year (Q1 2020), the COVID-19 pandemic presented significant uncertainty. Manufacturers curtailed or closed operations, while others maintained, and in some cases increased, production as part of the US infrastructure to maintain essential services in response to the pandemic. As WFI worked to support our customer base, production schedule impacts introduced inefficiencies to our operations, which dramatically affected year-end results. I want to express my gratitude to our employees on how they responded to these challenges, which only reaffirmed for me, again, that we have the best team in the world.

Despite these setbacks, environmental performance improvements continued in 2019. These include a reduction in WFI's cumulative energy intensity by 21.1 percent from 2009 to 2019. Landfilled waste was significantly avoided, with reuse being achieved for 70.5 percent of all byproducts/wastes through beneficial reuse and other recycling programs. WFI also achieved a 66.3 percent decrease in water use compared to 2010 values.

We will continue to set objectives and targets for key sustainability programs. 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.

In the meantime, my best wishes for you and your loved ones.



**Mike Nikolai**  
President,  
COO and CEO



# About Us



2019 SALES  
**\$1.64**  
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 2,310,214 tons of melt in FY2019. Our castings are produced using our custom-built vertical green sand molding machines and created by a workforce of nearly 4,500 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 FY2019 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.

**2019:** WFI opens a machining operation adjacent to its gray iron foundry located on the east side of Waupaca.



## OUR LOCATIONS

Waupaca Foundry employs a staff of more than 241 at its headquarters in Waupaca, Wisconsin. Our plants employ locally and deliver globally, serving a range of market sectors worldwide.



### PLANT 1

**WAUPACA, WI**  
578 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 1

**IRONWOOD, MI**  
40 Employees

**Facility Type:** Gray iron casting cleaning and finishing facility.  
**Markets served:** Agriculture, construction, material handling, hydraulics, and power transmission  
**Products Finished:** Hydraulic housings, covers, brackets, bearing blocks, clutch housings, pulleys



## PLANT 2/3

### WAUPACA, WI

879 Employees



### WAUPACA FOUNDRY MACHINING CENTER

15 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

742 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**  
886 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**  
708 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

205 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

231 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 80 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.



“

*“Our efforts to reduce energy impact are entirely home-grown. Our engineers and technicians have designed and implemented innovative systems that are continually improving our manufacturing processes.”*

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

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## 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

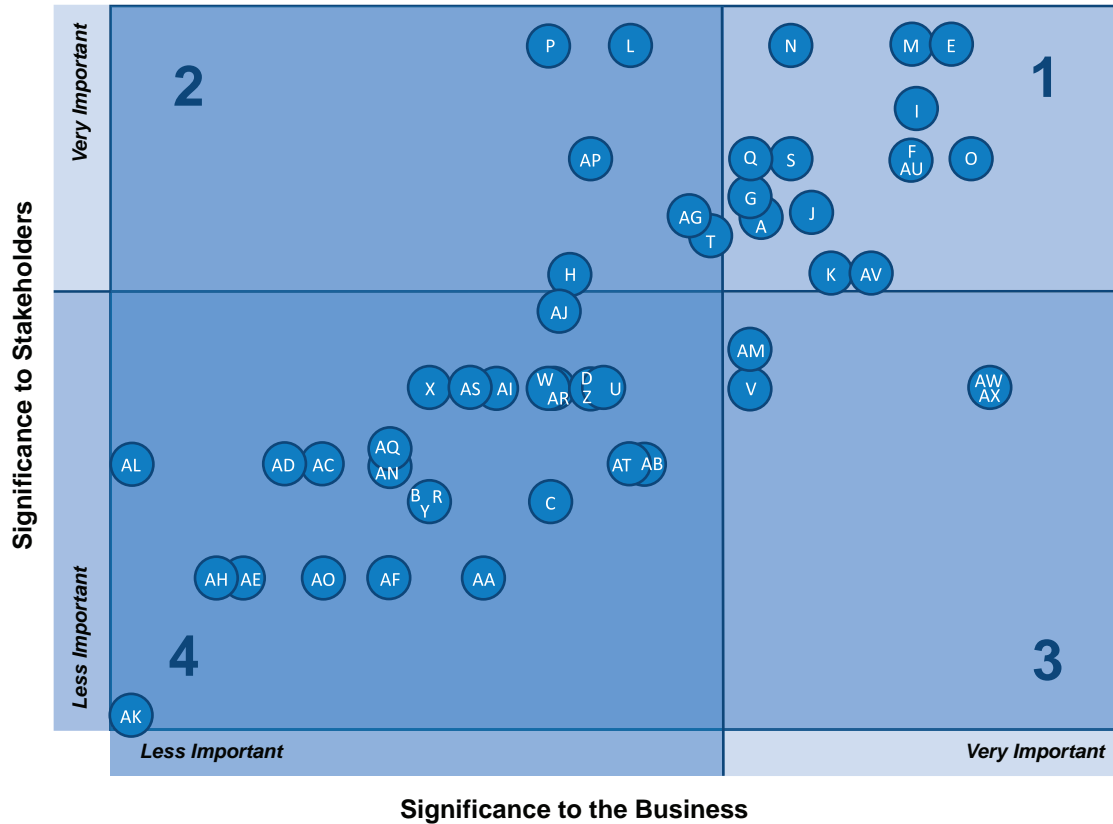
The team then used this ranking to evaluate appropriate targets for disclosure and performance improvements. In setting objectives and targets, the team reviewed the availability and quality of current data to assess the ability to improve disclosure, as well as the complexity of the effort required 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 means to periodically evaluate our focus areas and allows us to concentrate on those areas of greatest concern to our stakeholders and 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 2019 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 2020.)</p> <p>Completion of a feasibility study in fiscal 2015 to determine melt system modification strategies to reduce the coke-to-melt usage ratio. The feasibility project identified efficiency opportunities to be pursued in 2019, which included additional testing and verification of coke quality, the development of a metric to monitor/evaluate melting efficiency across all plants, and the development of a long-term energy efficiency investment plan to improve melt efficiency.</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 off-site 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 2020.)
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 2019 ended with a 55 percent result.  Foster and maintain a 50 percent or greater total promotion rate for management level positions from internal employees. Fiscal 2019 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.

# 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 \$91.7 million in 2020 dollars 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 \$277.8 million in 2020 dollars 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.

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

- Agriculture
- Construction
- Infrastructure
- Commercial Vehicle
- Light Truck and Passenger Car
- Fitness
- Material Handling
- Hydraulics
- Power Transmission
- Heating, Ventilation, and AC Equipment
- Oil & Gas Rail



## WAUPACA FOUNDRY EARNS GM SUPPLIER QUALITY EXCELLENCE AWARD

Waupaca Foundry earned General Motors 2018 Global Supplier Quality Excellence Award for supply chain excellence. The award recognizes the Lawrenceville, Penn., ductile iron plant, which makes suspension components for General Motors (GM).

The award is presented to suppliers that meet or exceed stringent quality performance measures established by GM. Suppliers must show above-standard performance in 13 specific requirements. Among the stringent service requirements, automotive suppliers must also meet and maintain IATF 16949 quality management standards.

“GM’s goal is to ‘earn customers for life.’ Fundamentally, it’s about changing behaviors, holding ourselves accountable, and delivering on our commitments,” said Rick Demuynck, Executive Director, Global Supplier Quality and Development for General Motors. “It’s about putting the customer at the center of everything we do... and that applies to every function, every employee, and every supplier and their family of employees as well. Through your plant’s performance, you are helping to live that culture.”

This was the seventh year Global Supplier Quality and Development presented the prestigious recognition award. Of the thousands of global suppliers to GM, fewer than 20 percent are honored annually with this award.

“It’s an honor to be recognized for our continued commitment to quality, process control, and exceptional service,” said John Wiesbrock, Waupaca Foundry Executive Vice President, Sales, Marketing, and Supply Chain Management.



## 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 IATF 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.



## OPERATIONS EXPAND INTO MICHIGAN

Waupaca Foundry expanded operations in Ironwood, Mich., to process iron castings produced at its Waupaca, Wis., plants, creating 61 new jobs.

The expansion addressed increasing customer demand and added iron casting processing capabilities, including cleaning and finishing.

Before choosing the new location, Waupaca Foundry had identified a strong pool of motivated, talented workers in the Gogebic County region, many of whom had lost their jobs because of the Ojibway Correctional Facility closing in December 2018.

“We applaud the company for choosing to locate here and are thrilled to welcome them to Michigan,” said Michigan Governor Rick Snyder.



“

*“Waupaca’s expansion here rather than in another state means good jobs for Michigan residents and underscores the strength of our business environment and talented workforce.”*

*Jeff Mason, CEO of Michigan Economic Development Corporation*

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## WAUPACA FOUNDRY OPENS MACHINING OPERATIONS

Waupaca Foundry opened machining operations in Waupaca, Wis., to expand operations beyond raw castings. The expansion supports customer demand for brake components in the commercial vehicle market, specifically Class 8 truck manufacturers.

Components are now cast and machined on site rather than shipped to Tier 1 suppliers.

“We provide a ‘one-stop shop’ for component production,” said Jason Grasman, manager of the facility. “Customers could potentially have a casting supplier, a machining supplier, and a coating supplier for one part. Complexity in the process increases with each supplier you add, so this makes it much more convenient for our customers.”

Additionally, the facility features automation and ergonomic innovations:

- Robots unpack and pack parts onto skids to reduce the potential for repetitive injury to workers by eliminating manual handling of the components.
- Automated guided vehicles (AGV) are programmed with maps of the facility and transfer all parts to one of three machining cells.
- State-of-the-art inverted, twin spindle CNC lathes produce consistently tight tolerance, high-quality components.
- Waupaca Foundry recycles and re-melts iron chips machined from the castings to make new iron castings.



## 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 2019. 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 Invests in Local Education

Waupaca Foundry donates and partners with local educational institutions to ensure that the next generation has access to budding opportunities.

Waupaca Foundry has collaborated with William Tell Elementary School's Vex Robotics Team since its inception in 2012. Waupaca Foundry has donated six robots to the program and sponsored the group to attend the 2018 VEX Robotics World Championship Tournament where one team — the Marksmen — placed above 65 percent of the competing teams in skills and challenges.

At Heritage Hills High School in Lincoln City, Ind., Waupaca Foundry continues to help pave the path from school to career by inviting students to its plant for a tour, presenting at the nighttime job fair and demonstrating the metalcasting process with Foundry in a Box. Waupaca Foundry also donates to the school's School to Career (S2C) Program to inform students about the career and educational opportunities in the surrounding area for internships and jobs after high school or college graduation.

At the college-level, Waupaca Foundry has supported the University of Wisconsin-Whitewater's art and design program for over seven years. Over the university's 2019 spring break, Waupaca Foundry helped sponsor eight students in the program to visit Santiago, Guatemala, and build a kiln and ceramic water filters to help bring clean water to the area.

Investing in educational programs does not end with the students, though. During the summer of 2019, Waupaca Foundry opened its doors to local educators for the first Summer Educator Meeting in Etowah, Tenn. Professionals from elementary and secondary schools and colleges attended to learn about the future of manufacturing and how viable careers for the next generation are already located in their communities. The day was a success, and Waupaca Foundry plans to host an annual Summer Educator Meeting.

Waupaca Foundry continues to work with and support many additional educational institutions, such as Kent State University, Perry Central School District, St. Peter Lutheran School, and Stephenson Area Public Schools.

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



Waupaca Foundry sponsored William Tell Elementary School's Vex Robotics Team to attend the 2018 VEX Robotics World Championship Tournament.

# 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 21.1 percent from 2009-2019.

**State organizations:** Waupaca Foundry earned the title of 2019 Wisconsin Business Friend of the Environment Award from WMC for significant progress in the facilitation of water use reduction for its Wisconsin-based facilities in Waupaca and Marinette, Wisconsin.

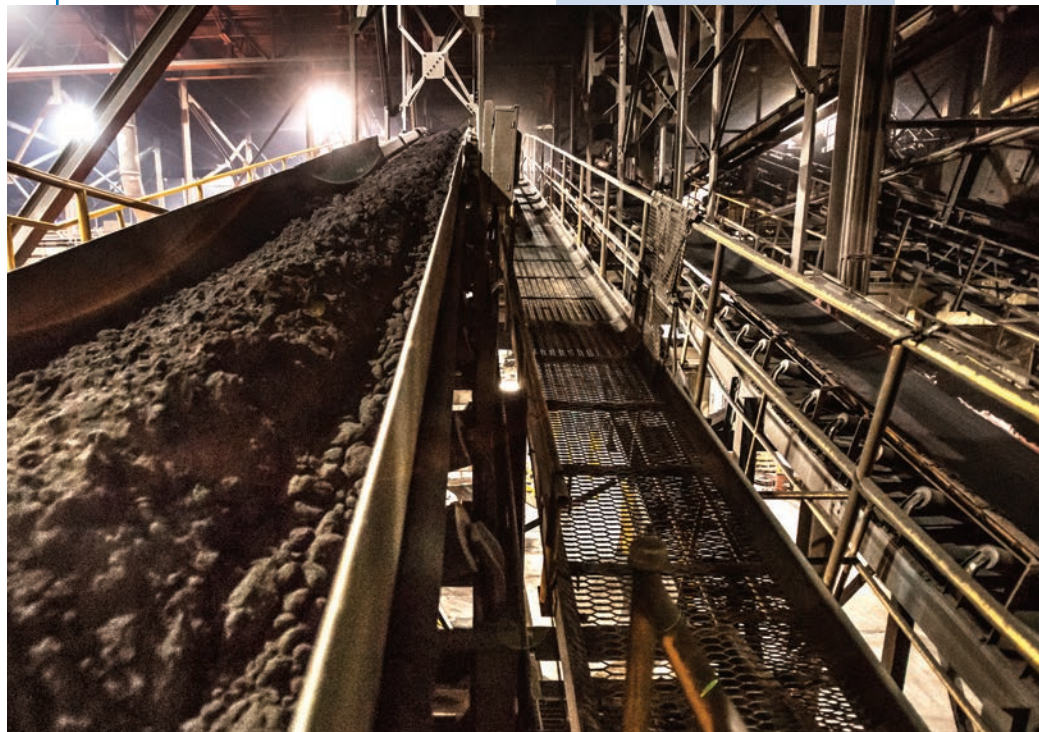
## MATERIAL USAGE AND PRODUCTION MATERIAL EFFICIENCY

In 2019, more than 2,310,214 tons of material were melted. Approximately 85 percent of the materials used in our melt process come from recycled materials. Along with the metal raw material, Waupaca Foundry also used approximately 171,000 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 2019 was to continue to implement 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 continuously 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 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 determine



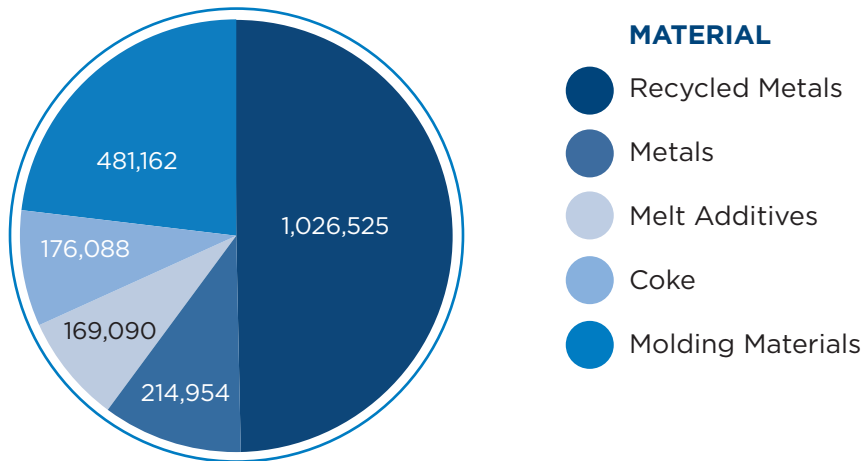
## MATERIAL USAGE AND PRODUCTION

### MATERIAL EFFICIENCY *(Continued)*

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 byproducts 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 2019

**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 2019, a cumulative energy intensity improvement of 21.1 percent has been realized.

Note: 2019 resulted in a slightly reduced improvement as compared to 2018 due to:

- Reduced production volume (vs. FY2018) posed a significant factor affecting the metric, as Waupaca Foundry facilities achieve higher efficiency levels with greater production volumes.
- Significant negative impacts due to COVID-19 pandemic effects on March 2020 performance.
- Operational inefficiency due to nationwide labor shortage.
- Colder than normal weather during Fall 2019 resulted in additional heating demand.
- Negative impacts were partially offset by ongoing coke quality/supply improvements, increased use of alternate carbon sources and optimization of currently implemented blast dehumidification technology.

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., implementing 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)*

As part of our continual improvement culture, we continued to increase the efficiency of our production processes to reduce our environmental footprint. At our plant in Tell City, Ind., we optimized a desiccant cupola blast air dehumidification system that removes humidity from the air used in the melting process. This system provides more stable melting conditions throughout the year and reduces energy consumption.

In Waupaca, Wis., a waste heat recovery system was expanded to increase its energy efficiency by 15 percent. This project received a grant from Wisconsin's Focus on Energy program as well as recognition from the U.S. Department of Energy as an industry best practice in 2019.

Expanded energy awareness programs and empowerment of our facility energy teams was also a focus for 2019. Forty employees from across all plants received formal technical training totaling over 1,000 hours and five individual energy assessments in the form of "Treasure Hunts," which resulted in over \$1,000,000 in savings opportunities identified.

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 2020, 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 2019, we used 851,324 megawatt hours (MWh) of electricity. Our combined energy consumption from coke, natural gas, and electricity was over 14,763,500 million British thermal units (MMBtu).



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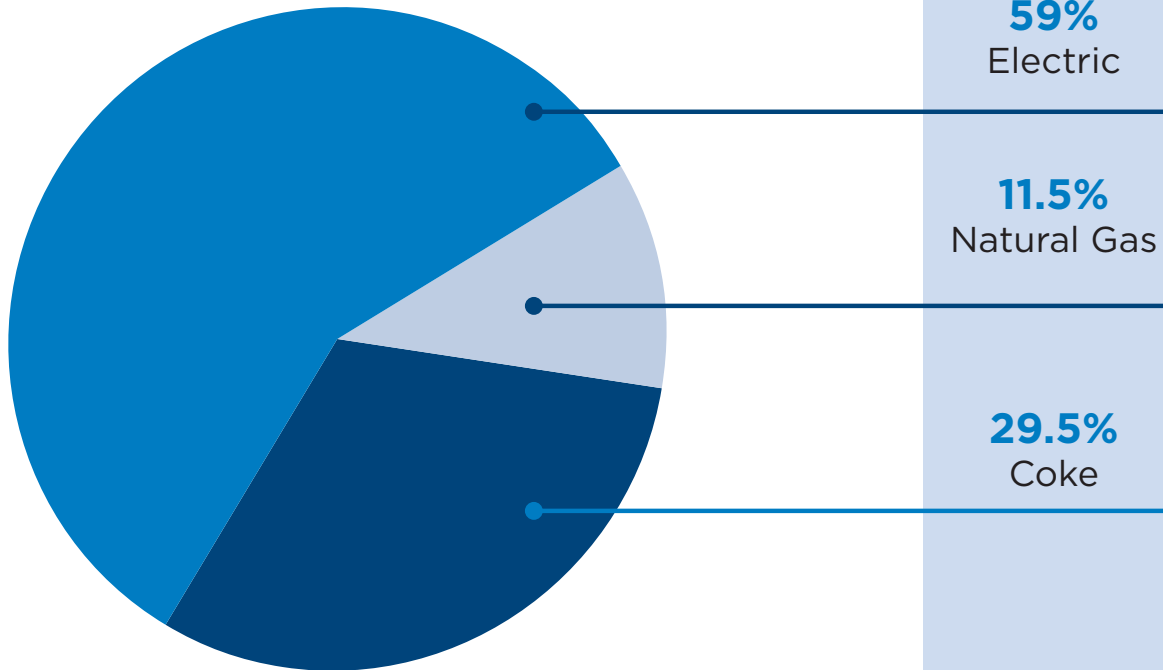
*Waupaca Foundry is committed to improving energy efficiency and implementing the changes needed to make Waupaca a worldwide sustainability reference.*

*Marco Gonzalez,  
Corporate Energy  
Manager*

”

## ENERGY USE *(Continued)*

### ENERGY CONSUMPTION BY TYPE, FY19



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 6.143 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 2019, our total GHG emissions were 1,167,960 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...

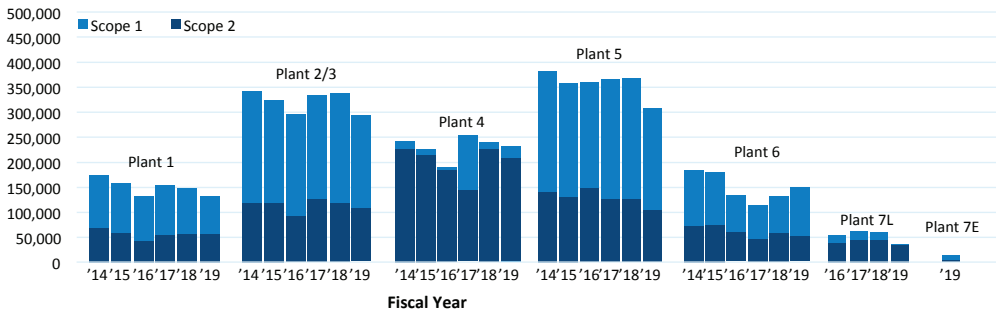
The company began retrofitting plants with elective sophisticated air pollution controls beginning in 1999. Both air emission controls and leak detection technology have surpassed regulatory requirements and created new industry benchmarks in pollution control.



# EMISSIONS *(Continued)*

## TOTAL CO<sub>2</sub> EMISSIONS

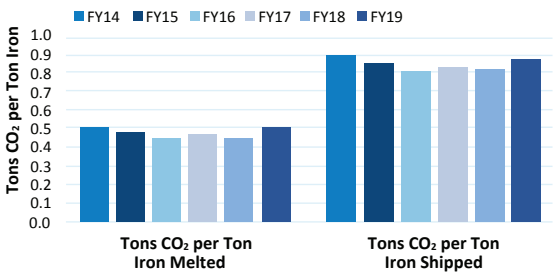
### TOTAL CO<sub>2</sub> EMISSIONS



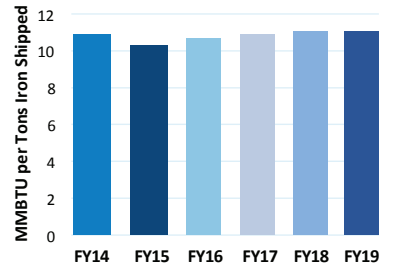
\* All tons in U.S. Tons

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 Ambitions Yields Results

Waupaca Foundry, in collaboration with Hitachi Metals, is dedicated to meeting original equipment manufacturer (OEM) customer's lightweighting targets with the ability to provide lightweight components with superior strength, toughness, and heat resistance, cost effectively.

Automakers are increasingly looking to accelerate lightweighting as they develop future products as government agencies continue to set higher requirements for reduced fuel consumption and greenhouse gas (GHG) emissions. For these newer technologies, however, OEM manufacturers need to install more advanced emissions control systems and fuel-saving technologies such as turbocharging and hybrid-electric propulsion. The additional requirements to support safety system advances and automated driving capabilities also demand more components, which directly impairs fuel efficiency and increases GHG emissions.

Continued weight reduction of vehicle components will be an essential part of meeting upcoming regulatory and market demands.

Hitachi Metals and Waupaca Foundry are tackling the creation of optimized lightweight designs by utilizing computer-aided engineering (CAE). Their research laboratory continuously strives to improve the speed and precision of CAE methods that further enables the company to quickly deliver exceptional weight reduction solutions to customers.

The OMEGA KNUCKLE® is an example of the companies' lightweighting expertise. The component maintains strength and rigidity while also realizing a component weight reduction that was not seen in previous products. Optimization achieved fuel savings and reduced GHG emissions for millions of vehicles worldwide.

#### OMEGA KNUCKLE®



## 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 FY2019, the combined water usage for all Waupaca Foundry locations was 433 million gallons from municipal water supplies compared to 509 million gallons in 2018, representing a year to date water use reduction of 66.3 percent from 2010 values.

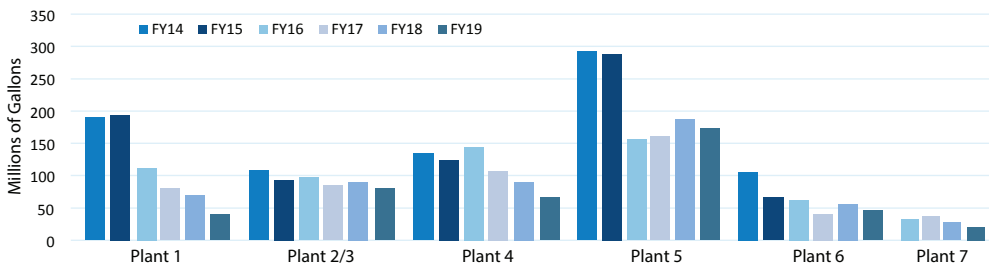


### CLOSED LOOP

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 2019, Waupaca Foundry generated a total of 662,976 tons of solid waste. Of this, only 6.3 tons was hazardous and the remaining majority of 467,703 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 373,000 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 2019 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. FY2019 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.

## BUSINESS FRIEND OF THE ENVIRONMENT

Waupaca Foundry earned the 2019 Business Friend of the Environment award in the category of environmental innovation for outstanding leadership in integrating sustainable business practices throughout its manufacturing operations.

Sponsored by Wisconsin Manufacturers and Commerce (WMC), the annual Business Friend of the Environment award recognizes small, medium, and large businesses throughout Wisconsin in three categories: sustainability, the use of innovative technology, and environmental stewardship.

“Waupaca Foundry is a clear leader when it comes to environmental innovation,” said WMC Director of Environmental & Energy Policy Lane Ruhland. “These efforts show the business community is dedicated to protecting our state’s natural resources not just because it is good for our state’s future, but because it is also good for business.”

The award recognized Waupaca Foundry’s progress in reducing water use and wastewater treatment in key areas of manufacturing production.

- As a result of plant improvements, contaminated water no longer requires wastewater treatment.
- Plant upgrades substituted single-use water cooling systems with a closed-loop and air-cooled heat exchangers. Demands for water have since been cut 72 percent and non-contact cooling water discharge has been reduced to near zero.

Waupaca Foundry has decreased water use at its Wisconsin facilities by 2.65 billion gallons since 2014, which represents enough saved water to fill over 4,000 Olympic-sized swimming pools.

In addition to reducing water use, Waupaca Foundry also recycles 555,000 tons of spent foundry sand and slag annually. Sand that can no longer be recycled is used in general construction, road construction, agricultural use, and geotechnical fill. Air pollution control uses baghouse air filtration and filter leak detection to maintain the highest pollution controls in the foundry industry.

“Foundries are the original recyclers,” said Bryant Esch, environmental coordinator for Waupaca Foundry. “Our primary function of recycling scrap iron into new products serves as a primary sustainable activity. However, how we use innovative technology and engineering to drive other sustainability initiatives, such as water, energy and waste reductions in the metalcasting process, is critical to our overall success.”

Esch says additional air and closed-loop systems are in design and anticipates that organizational efforts will meet or exceed the water use reduction sustainability goal — reducing water use by 80 percent — for the 2020 timeline.



*Pictured (left to right): Wisconsin State Senator Tom Tiffany presents award to Bryant Esch, environmental coordinator, and Marco Gonzalez, corporate energy manager.*



# 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



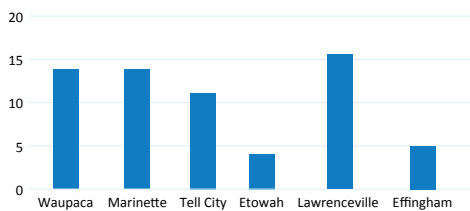
G4-LA11

## A TENURED WORKFORCE *(Continued)*

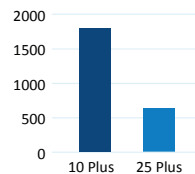
The opportunity for career growth and personal development is a significant reason why more than half of Waupaca Foundry's employees have been with the company greater than 10 years. Much of the organization's success can be attributed to the experienced workforce and the direct employee/management relationship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

## DIRECTOR OF RESEARCH AND PROCESS DEVELOPMENT HONORED WITH EDUCATION AWARD

Greg Miskinis, director of research and process development at Waupaca Foundry, received the Fred Linebarger Education Award and assumed the role of AFS Technical Council chair for 2019 through 2021 at the American Foundry Society (AFS) 2019 CastExpo.

The AFS Cast Iron Division Board of Awards recognizes those who are not educators by profession but devote their time to educating and promoting the foundry industry and casting process to others.

For over 25 years, Miskinis has presented Foundry 101, a Waupaca Foundry program, to prospective and current casting buyers, engineers and various manufacturing roles to increase their knowledge about the casting industry and emphasize the importance of the foundry community. Originally, an internal program to complement Waupaca's foundry training program, Miskinis and Phil Bodenheimer were the first Waupaca Foundry employees to perform Foundry 101 for external customers.

"We recognize the value of our customers making informed choices about their casting purchases, and I do believe that Waupaca Foundry and the entire casting market have benefited from our efforts," Miskinis said.



*Greg Miskinis, Waupaca Foundry director of research and process development, receives the Fred Linebarger Education Award.*

## 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 2019, 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 2019 alone, over \$300,000 of tuition reimbursement was provided for employees' elective continuing education.
- 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 2019, 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. One hundred 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 2019, leadership training had been completed for 55 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. Currently, 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 2019, Waupaca Foundry invested \$1,299,319 million in total training and employee development programs.



## SKILLS DEVELOPMENT *(Continued)*

### Development of Workplace Skills, From High School to Internships and Full-time Careers

It is Waupaca Foundry's mission to develop talent and promote team members with the development of workplace skills, from high school to internships and full-time careers.

Waupaca Foundry prides itself on being able to provide skilled trade opportunities in the communities it has operations. Many of those opportunities span high school work-op programs that become summer help or internships, and then develop into full-time careers.

Waupaca Foundry has been partnering with local high schools for many years to provide students with work opportunities outside of the classroom. However, the company has recently taken that one step further by becoming the client of an Indiana high school. Perry Central Junior-Senior High School, with in-kind and monetary help from Waupaca Foundry, established a work-based learning program for student-named Commodore Manufacturing. The program allows students to gain hands-on experience in business and manufacturing, and the students even produce tools used by Waupaca Foundry.

Over 40 years ago, Waupaca Foundry started its Summer Help Program that not only provides college-aged students the opportunity to make money but also provides valuable work experience and an insight into the variety of careers in the metalcasting industry. It has since grown to house internships in accounting, computer science, engineering, human resources, manufacturing maintenance, marketing, and technician positions for about 40 interns each year from all over the United States. Waupaca Foundry's goal is to assist young professionals and tradesman in developing a skill set they can use in the future, at either Waupaca Foundry or elsewhere.

Once hired on fulltime, the investment in the company's employees' education does not stop. Waupaca Foundry works with local colleges to create programs that fill needs within the company. For all back-to-school programs provided, Waupaca Foundry covers the cost of tuition, books, and fees, and pays the employees for their time while attending classes. This is not all inclusive of all education and is only for the cohort program.

"Investing in our communities at all educational levels, from elementary school through college, gives us the confidence that when hiring or promoting internally we have a highly skilled person, ready to perform at a high level," said Kirk Kallio, director of human resources.



*Perry Central Junior-Senior High School students a part of Commodore Manufacturing.*

## OCCUPATIONAL HEALTH AND SAFETY

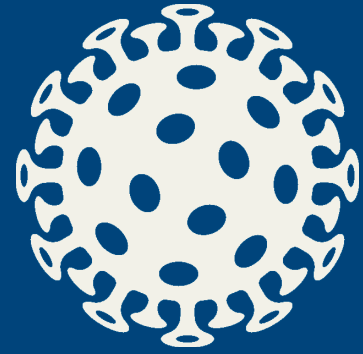
Providing a preventive health policy and promoting continual improvement of safety in the workplace are fundamental responsibilities of management. Our safety management system relies on risk identification and mitigation, supervisor accountability, employee safety teams, workplace hazard assessments, 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 maintained our goal to reduce our TRIR to 2.0 or less.



### WAUPACA FOUNDRY'S EARLY RESPONSE TO COVID-19

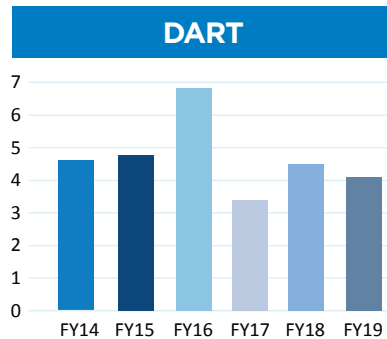
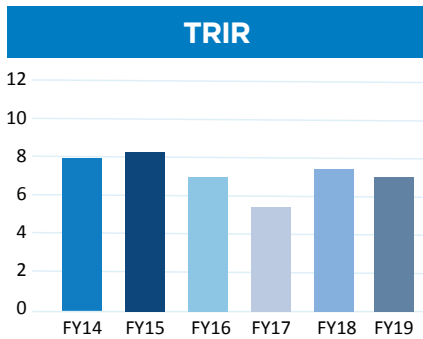
In early January 2020 as COVID-19 was becoming a prevalent issue in China, Waupaca Foundry was already working aggressively to create COVID action teams and implement the proper response, policies, and protocols for each of its places of operations.

The teams, filled with the company's health and safety experts, developed several action plans to prepare for and prevent the spread of the virus.

This included ensuring and preserving an adequate supply of personal protective equipment — including respirators — improving sanitization of high-traffic areas within the company, restricting and eliminating travel, and screening visitors prior to entering the company's facilities.



## SAFETY METRICS



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

We did not suffer any fatalities during 2019. 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.



*Waupaca Foundry works hard to improve benefits for its number one resource.*

*Waupaca Foundry employee,  
Waupaca, Wis.*



## WAUPACA FOUNDRY SWEEPS BUSINESS AWARDS

In October 2019, Waupaca Foundry was honored at the annual McMinn County Economic Development Authority 2018 Industry Awards.

The ductile iron component supplier in Etowah, Tenn., and three of its team members were recognized with APEX awards. The annual Make It in McMinn celebration recognizes companies and individuals for adaptability, performance, and excellence in their industry or profession.

Of the five awards presented, Waupaca Foundry earned four. Awards included:

- Waupaca Foundry received the APEX Distinguished Service Award. The company had previously earned this award in 2014. The award honors organizations that partner with local McMinn County civic groups through service, funding, or other assistance toward specific projects and participated or provided financial assistance on projects that improved the quality of life for the citizens of McMinn County. Waupaca Foundry is a primary sponsor of the Etowah Christmas Project, Support our Seniors, Keep McMinn County Beautiful, Junior Achievement, and many other projects and activities.
- Misty Webb received the APEX Production Worker of the Year Award. Webb is a core room team leader with ten years of experience at the plant. She is an active community volunteer both at work and with her family.
- Diana Elrod received the APEX Professional of the Year Award. Elrod is the assistant plant manager and has worked at Waupaca Foundry for 20 years. She holds a variety of quality and management certifications and has been an active community volunteer.
- Caleb Martin received the APEX Young Professional of the Year Award. Martin is a human resources assistant and has worked at the foundry for five years. He is a veteran of the United States Army, a member of the plant's emergency response and its emergency medical teams, and a volunteer firefighter.



*Pictured (left to right): Waupaca Foundry's Caleb Martin, Misty Webb, Diana Elrod, and Kenley Hansen accept APEX awards from annual McMinn County Economic Development Authority 2018 Industry Awards.*

“

*We are proud of Misty, Diana, and Caleb. These awards are well deserved and are appropriate recognition for the work they do for Waupaca Foundry and for the community. The award the plant received is a reflection of our entire employee population, many more of whom serve the community in various important ways.*

”

*Kenley Hansen, Plant Manager*

## 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 2018 Sustainability Report and describes our activities during our 2019 fiscal year, covering the time period from April 1, 2019 through March 31, 2020. 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	41	No
G4-11	41	No
G4-12	26	No
G4-13	26	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	49	No
G4-22	49	No
G4-23	49	No
<b>STAKEHOLDER ENGAGEMENT</b>		
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G4-25	16	No
G4-26	16	No
G4-27	16	No
<b>REPORT PROFILE</b>		
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G4-29	49	No
G4-30	49	No
G4-31	49	No
G4-32	49	No
G4-33	49	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		28	No
G4-EC8		20	No
<b>MATERIALS</b>			
G4-DMA*		31	No
G4-EN1		31	No
G4-EN2		30	No
<b>ENERGY</b>			
G4-DMA*		33	No
G4-EN3		33	No
G4-EN5		34	No
<b>WATER</b>			
G4-DMA*		38	No
G4-EN8		38	No
G4-EN9		38	No
<b>EMISSIONS</b>			
G4-DMA*		35	No
G4-EN15		35	No
G4-EN16		35	No
G4-EN18		36	No
<b>RESOURCE EFFICIENCY (EFFLUENTS AND WASTE)</b>			
G4-DMA*		39	No
G4-EN23		39	No
G4-EN24		39	No
G4-EN25		39	No
<b>COMPLIANCE</b>			
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G4-EN29		39	No
<b>EMPLOYMENT</b>			
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G4-LA2		46	No
<b>HEALTH AND SAFETY (OCCUPATIONAL AND CUSTOMER)</b>			
G4-DMA*		45	No
G4-LA6	Partial LA6 – Not reporting by gender or region.	45	No
<b>TRAINING AND EDUCATION</b>			
G4-DMA*		44	No
G4-LA9	Partial LA9 – Not reporting by gender or region.	43	No
G4-LA11	Partial LA1 – Not reporting by gender or region.	41, 44	No

\*Specified content begins on listed page number