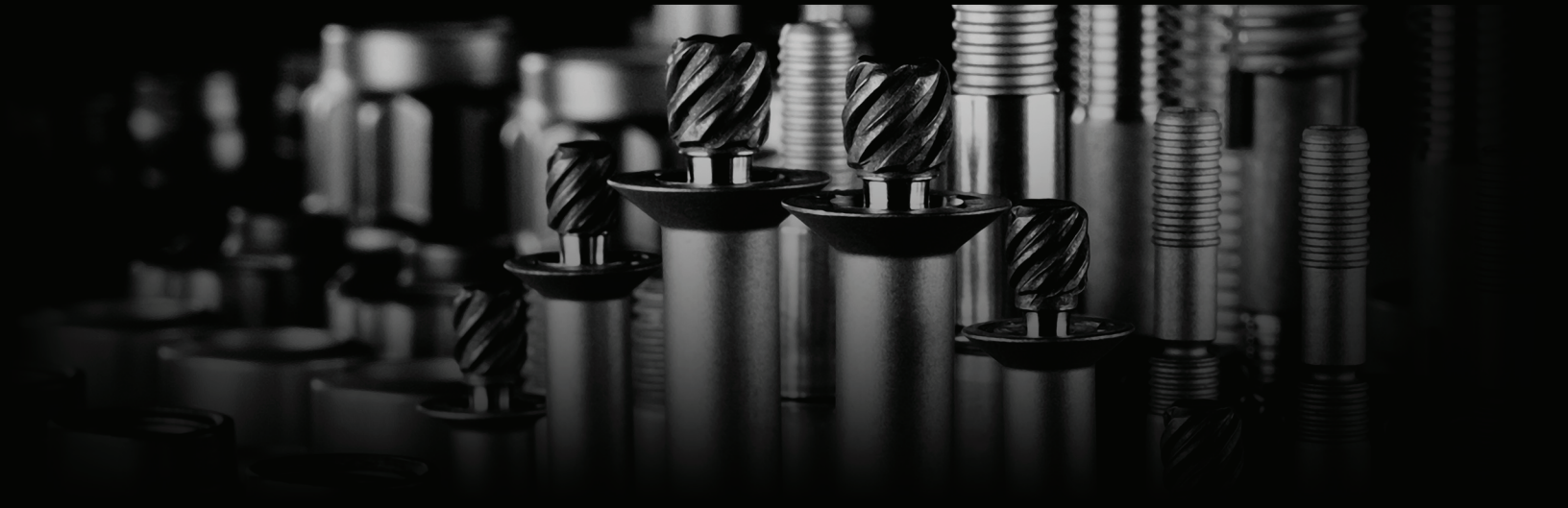
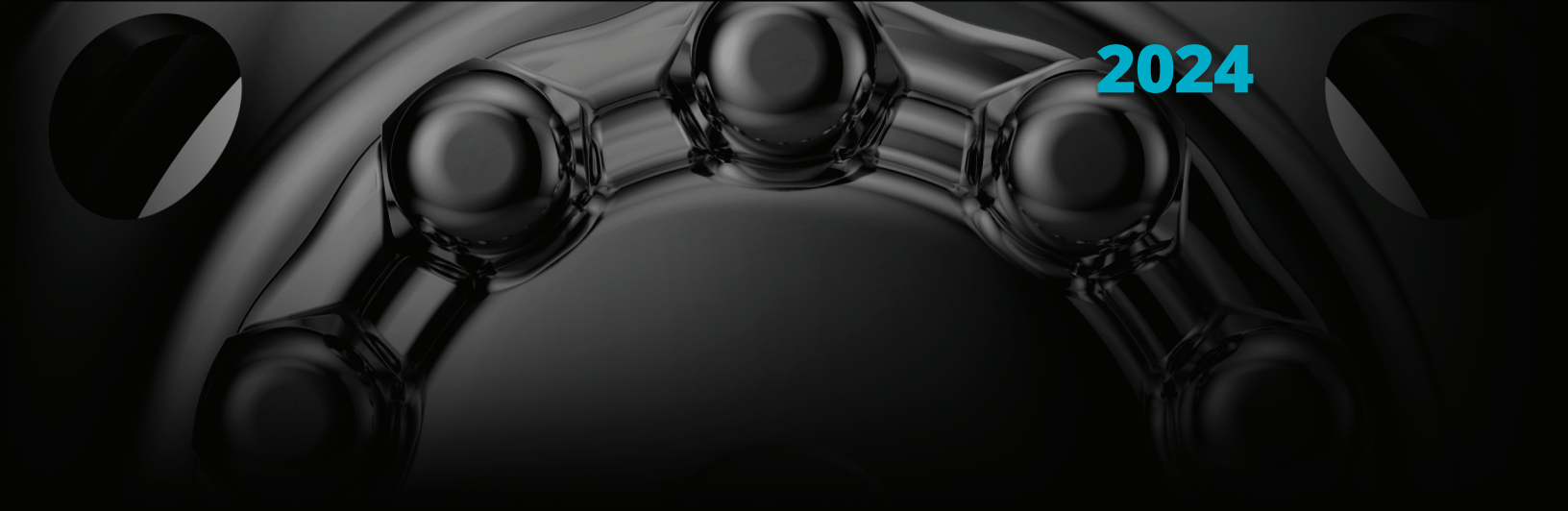


**HOWMET  
AEROSPACE**



Environmental,  
Social and  
Governance  
Report



**2024**

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*Forward-Looking Statements: This report contains, in addition to historical information, statements concerning Howmet Aerospace's expectations, goals, targets, strategies or future performance. These "forward-looking statements" include such words as "anticipates," "believes," "estimates," "expects," "intends," "plans," "should," "will," or other words of similar meaning and are subject to a number of known and unknown risks and uncertainties. Some of the factors that may cause Howmet Aerospace's actual results to differ materially from those expressed or implied in the forward-looking statements include deterioration in global economic or financial market conditions generally or in the markets served by Howmet Aerospace; the impact of potential cyberattacks and information technology or data security breaches; factors affecting Howmet Aerospace's operations, such as manufacturing difficulties, supply chain disruptions, failure to attract and retain a qualified workforce or labor disputes, natural disasters or other unexpected events; the loss of significant customers or adverse changes in customers' business or financial conditions; changes in the regulatory environment; the outcome of contingencies, including legal proceedings, government or regulatory investigations, and environmental remediation; geopolitical, economic, and regulatory risks relating to Howmet Aerospace's global operations; and the other risk factors summarized in Howmet Aerospace's [Form 10-K](#) for the year ended December 31, 2024, and other SEC reports.*

# WHO WE ARE

## Our Vision

We are a company of innovators and makers. We are transforming the future with high-performance engineered solutions that are paired with advanced manufacturing expertise.

## Our Mission

Leverage our differentiated technologies to reduce the carbon footprint of our customers by delivering products that enable lighter, more fuel-efficient aircraft and commercial vehicles and enable sustainable power generation.

## What We Do

We are a manufacturer of high-performance advanced engineered solutions for the aerospace, defense and transportation markets.

### Engine Products



Produce components enabling quieter, cleaner and more fuel-efficient aerospace engines and industrial gas turbines.

### Fastening Systems



Make aerospace and industrial fasteners to hold together aircraft, jet engines, commercial trucks, wind turbines, solar panels and more.

### Engineered Structures



Manufacture advanced, multi-material parts that make aircraft and vehicles lighter and more fuel efficient.

### Forged Wheels



Forge strong aluminum wheels that allow commercial trucks to run lighter and more fuel efficiently.

## How We Operate

As one team, with one direction, using one plan.

### Value Our People

- Emphasize health and safety.
- Foster a “speak up” culture.
- Embrace a welcoming and inclusive work environment.
- Support the communities where we operate.

### Drive Operational Excellence

- Lead with integrity.
- Continuously improve operations.
- Focus on the few things that matter.
- Align to win together.
- Deliver value to shareholders.

### Win with Our Customers

- Collaborate to solve customer challenges.
- Innovate for our customers’ success.
- Deliver with quality.
- Act with our customers in mind.

# CEO STATEMENT

I am pleased to share Howmet Aerospace's 2024 Environmental, Social, and Governance (ESG) report, highlighting the meaningful progress we have made throughout the year.



At Howmet Aerospace, our global team of 24,000 employees is committed to manufacturing high-performance engineered solutions with determination, integrity and purpose. Our innovations drive advancements in fuel efficiency and lightweighting, helping our customers succeed while making a lasting, positive impact on industries and communities worldwide.

In a world facing geopolitical and economic uncertainties, we recognize the importance of building a strong, resilient business. Stability allows us to continue delivering high-quality products, providing reliable employment and supporting the industries that rely on us. We achieved a 12 percent revenue growth in 2024, demonstrating our ability to adapt and stay focused on long-term success.

We remain committed to sustainable growth and our ESG priorities, ensuring that Howmet Aerospace continues to operate responsibly while creating value for our shareholders, customers, employees and communities.

## Reducing Greenhouse Gas Emissions

In 2024, we met our three-year target of reducing greenhouse gas (GHG) emissions from our own operations and achieved a 21.7 percent reduction versus our 2019 baseline. Through strategic improvements in the efficiency of our production processes, we avoided approximately 95,600

metric tons of these emissions annually, achieving a 13.7 percent intensity improvement.

## Achieving Our Water Goals

Water is a vital resource, and responsible water management is crucial for both our business and the communities we serve. We are proud to have achieved a 16.5 percent intensity improvement in water usage since 2019, reflecting our commitment to sustainable resource management. By optimizing our processes and investing in water-efficient technologies, we have reduced our environmental footprint while ensuring operational resilience.

## Safety Culture

Safety is not just a priority—it is a fundamental value. We are committed to fostering a workplace where every employee feels protected and empowered to perform their best, ensuring that safety remains at the heart of our operations. We proactively identify risks, implement rigorous safety protocols, and invest in training programs that reinforce a culture of responsibility. We closed the year with no fatalities or serious injuries among our employees and contractors. Our incident performance was strong, reflecting our ongoing dedication to the well-being of our workforce.

## Investing in Exceptional Talent

Our success is driven by the talent, dedication and expertise of our employees. In 2024, we were proud to create more than 700 well-paying jobs, strengthening the communities where we operate and providing meaningful career opportunities. We are committed to fostering an inclusive and dynamic workplace culture—one that values professional growth, and ensures opportunities for all. By investing in training, development and employee well-being, we empower our workforce to innovate, collaborate and drive our company forward.



## Showcasing Our Performance

We recognize that sustainability is an ongoing journey, one that requires continuous improvement, transparency and accountability. To reinforce our commitment, we publish the comprehensive data on our ESG performance at the end of this report, providing a clear view of our progress and impact.

Our ESG performance is rigorously monitored against international standards, and we actively engage with stakeholders to gather feedback and drive meaningful improvements. By openly sharing our

achievements and challenges, we aim to foster a culture of collaboration, innovation and responsibility.

I encourage you to explore the data in this report to gain deeper insights into our metrics and the specific case studies that exemplify our dedication to sustainable progress.

I sincerely thank our employees, partners and stakeholders for their firm commitment to advancing our ESG initiatives. Together, we are building a future where responsible business practices and sustainability go hand in hand.

**John C. Plant**

*Chairman and Chief Executive Officer*

April 8, 2025

# ESG APPROACH

Wherever Howmet operates, we strive to understand the impact we have on our stakeholders and surrounding communities, as well as the impact the world around us has on our business. We rely on this understanding to drive positive change and to expand opportunities for generations to come.

Climate change and supply chain decarbonization remain a prime focus of our Environmental, Social and Governance (ESG) program. We recognize the need to act on greenhouse gas (GHG) levels in the atmosphere to reduce the substantial climate change risk for society.

Our business strategy is to decarbonize the footprint of our products at every step in the value chain—from responsibly sourcing raw materials to product manufacturing, use by our customers and the end-of-life recycling. Our position as a manufacturer of high-performance multi-material products comes with a responsibility to manage these decarbonization ambitions throughout our complex and global supply chain. The following sections describe our advancement toward our decarbonization goals: [Climate Change](#), [Energy](#) and [Supply Chain](#).

We believe that by focusing our business on our fundamentals and values, which are specified in our Code of Conduct, we hold ourselves to the highest levels of integrity and compliance. This strengthens our three-lever ESG approach and helps us navigate through challenges.

## Governance Approach

Our commitment to ESG starts at the top of our organization with our Board of Directors. Our board is committed to our ESG goals and maintains oversight for ESG matters at the full board level and through various board committees. The full board reviews our comprehensive ESG program at least annually.

## Three-Lever ESG Approach

### Customer

Through our sustainable product development and innovations, enable our customers to achieve their sustainability goals. It is here where we make a substantial impact with our products, which reduce fuel consumption and improve efficiencies.

### Operations

Reduce our environmental footprint by enhancing efficiency, act on our social responsibility and keep our people safe, empowered and engaged.

### Supply Chain

Drive ESG into our suppliers' processes and practices and leverage their expertise to achieve our sustainability goals.

As our board members' backgrounds span a broad range of industries, including aerospace, transportation and finance, they bring a wide variety of skills, qualifications and viewpoints that strengthen their oversight ability. In our Proxy Statement, we provide a skills matrix summary for each board member that includes environmental, social and corporate responsibility.

## Goals and Metrics

To help guide our actions, we developed several ESG goals and associated performance metrics to address material issues for our company and stakeholders. These goals aim to minimize negative effects. Key metrics can be found throughout this report, with a comprehensive listing located in the [ESG Performance Metrics](#) section.

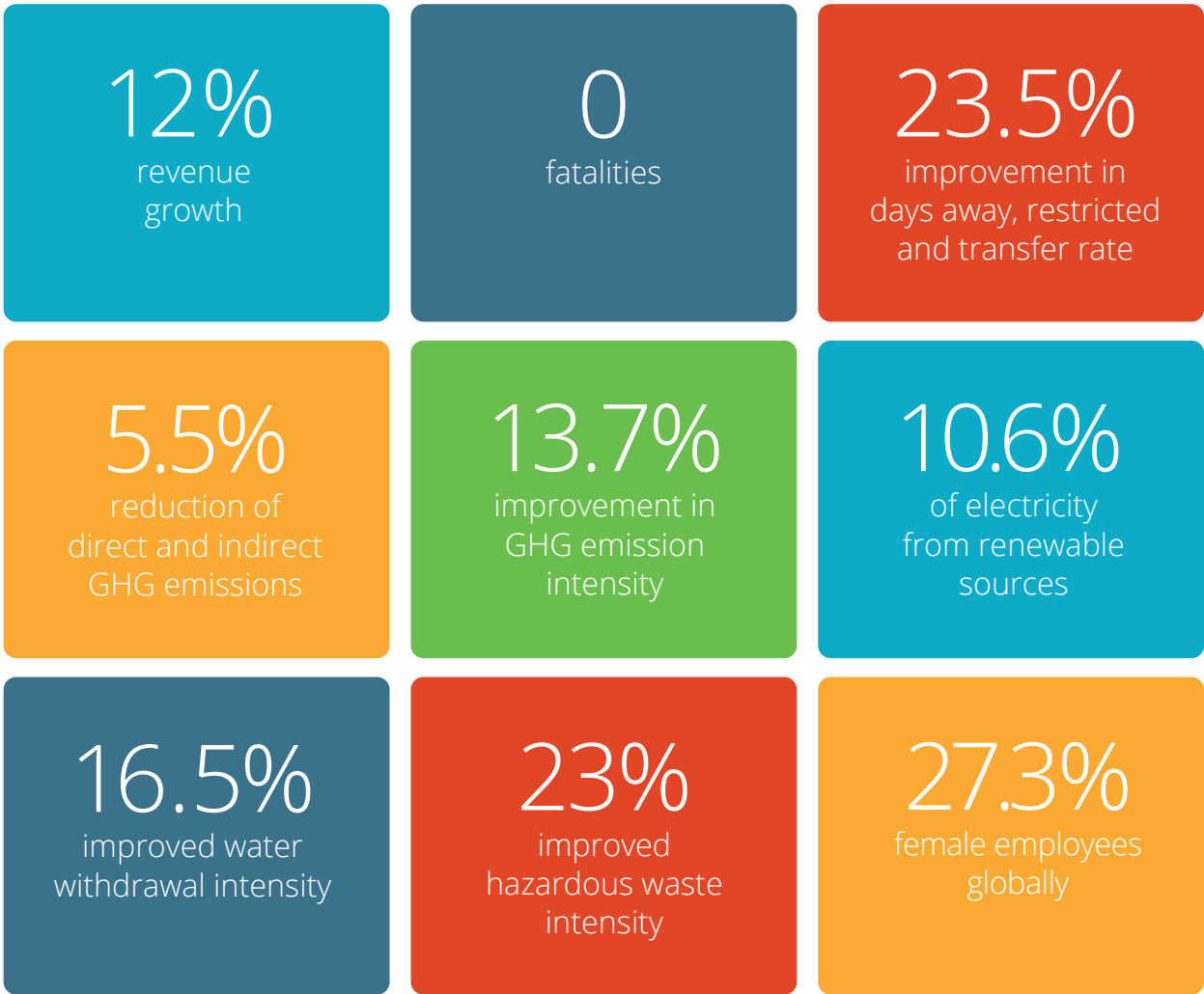
Awareness

Raising awareness and building capacity with our internal and external stakeholders is vitally important to achieving our commitments. In 2024, we continued to engage our stakeholders through an array of activities to share the importance of ESG sustainability. These include supplier workshops,

customer engagements, investor meetings and various internal stakeholder events.

In addition to providing information on key ESG topics, this report also includes insight into our priorities and initiatives. Case studies highlighted in several sections exemplify our approach and culture.

2024 PERFORMANCE



Metrics compare to 2023 except for Water Withdrawal which compares to 2019 baseline and Hazardous Waste which compares to 2022 baseline. Fatalities, Electricity from Renewable Sources and Female Employees Globally are indicators covering 2024.

# REPORTING, MATERIALITY AND ASSURANCE

We developed the 2024 Howmet Aerospace ESG Report in accordance with the Global Reporting Initiative (GRI) Standards and the Sustainability Accounting Standards Board (SASB) Aerospace and Defense Sustainability Accounting Standard. Our reporting is also aligned with the Task Force on Climate-Related Financial Disclosures (TCFD) framework.

Together with our Form 10-K and Proxy Statement, this ESG report is part of our collective ESG-related disclosures. Performance data beyond that contained in this report can be found on [our website](#).

We believe that standardization of ESG disclosures allows for better peer-company comparison and transparency on the risks and opportunities that we face.

## ESG Impact Assessment

We periodically identify and assess our ESG impacts and review our topics for materiality to match our report content with internal and external expectations to ensure a balanced approach between relevancy and transparency.

We updated our assessment of topics in 2024, defining the range of assessed ESG issues based on relevant industry and regulatory references, including:

- Reporting standards, such as SASB, GRI and European Sustainability Reporting Standards (ESRS);
- Existing and upcoming ESG regulations;
- Customer ESG questionnaires and feedback;
- ESG raters;
- Feedback during stakeholder discussions; and
- Our enterprise risk management process.

We refined the list of topics based on internal expertise and feedback received from our stakeholder engagement. In 2024, we carried out a company-wide “double materiality assessment” as per the EU Corporate Sustainability Reporting Directive (CSRD Material Topics); we considered both potential impacts of our operations and our value chain on people and the environment and potential risks and opportunities for Howmet linked to sustainability-related topics.

For the various topics, we assigned internal subject matter experts (SMEs) to assess the impacts of Howmet and its value chain. We classified impacts as positive or negative, actual or potential. Actual impacts were evaluated considering scale (size of impact), scope (how widespread the impact is), and, for actual negative impacts, remediability, that is, how difficult it is to remediate the impact. For potential impacts, we also considered probability.

SMEs also considered risks and opportunities for Howmet linked to each assessed topic. To carry out the identification and assessment of impacts, risks and opportunities, SMEs evaluated Howmet operations, and, as necessary, researched our value chain, industry, customers, competitors and stakeholders among others.

Impact assessment results, as well as identification of opportunities, were reviewed and weighted against each other to ensure cohesiveness and proportionality. Risks were carried over from the outcomes of our enterprise risk management system; where new risks had been identified by the SMEs, discussions were held to ensure consistency. Final results of the assessment were reviewed and approved by our leadership.



From this assessment, we identified the following topics as the basis for our 2024 ESG reporting.

## CSRD MATERIAL ESG TOPICS

ESGTopic	Reporting Boundaries
Climate Change	Global own operations and value chain
Energy	Global own operations and value chain
Waste	Global own operations
Water	Global own operations located in water-scarce areas
Health and Safety	Global own operations
Human Capital: Employment, Working Conditions, Equal Treatment and Opportunities	Global own operations
Business Ethics	Global own operations
Human Rights	Supply chain of Global own operations
Product Safety	Global operations – own products

We have elected to report also on the following list of additional topics:

Other Topics	Reporting Boundaries
Stakeholder & Community Engagement	Global own operations
Water	Global own operations not located in water-scarce areas
Supply Chain	Supply Chain of Global own operations
Air Emissions	Global own operations
Biodiversity	Global own operations
Legal Compliance	Global own operations
Chemical Management	Global own operations
Privacy	Global own operations

We see our assessment process as a learning journey, and we expect to further refine it in the future.

## Assurance

We sought third-party assurance of our 2023 GHG Scope 1 and 2 emissions and ten categories of our Scope 3 emissions. The accuracy and completeness of all other information in this report is verified by our internal experts and processes, which include our environment, health and safety (EHS) and ethics and compliance audit and assessment processes.

The external assurance process has been a very valuable learning experience, and it presented opportunities to improve our systems. It has also increased the credibility of our internal and external reporting.

# PRODUCTS

- **We support the industry's drive to increase the use of sustainable aviation fuels (SAFs) and emerging engine technologies.**
- **We unveiled the Green Concept Wheel, which reduces carbon dioxide equivalent (CO<sub>2</sub>e) emissions by 80 percent compared to its standard counterpart.**
- **We developed materials and cooling techniques that enable aero engines to run hotter and under higher pressures, increasing fuel efficiency.**

Working in close partnership with our customers, we solve complex engineering challenges to advance the next generation of air and ground travel. Together, we make flying faster, more fuel-efficient, quieter and cleaner and ground fleet transportation ever more sustainable.

The challenges of climate change, resource scarcity and more are increasingly driving the global markets in which we compete. Our next-generation products are enabling our customers to achieve significant fuel-economy improvements, reduced emissions and maintenance efficiencies. Made from our advanced materials and technologies, these products are strong, efficient and durable.

## Aerospace

Airlines and aircraft manufacturers have a clear need for more efficient engines and lighter aircraft that deliver fuel efficiency and reduce emissions. After a prolonged lull, demand for aircraft is accelerating as airlines renew capacity to meet increasing worldwide demand for air travel. More efficient and lighter aircraft are essential for the industry to meet its goal of achieving net-zero carbon emissions by 2050, which was set in late 2021 by the International Air Transport Association (IATA). The International Civil Aviation Organization's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which established a goal of stabilizing international emissions at 2019 levels, will be a key framework for meeting the industry's long-term goal.

Our products and technologies are well positioned to support the industry's drive to increase

the use of sustainable aviation fuels (SAFs) and emerging engine technologies, such as hydrogen engines, open fan concepts and ultra-high-efficiency engine concepts. These advancements are fully aligned with our core capabilities of developing lighter aerospace engines and structure products and materials that are capable of operating at extremely high temperatures.



*Aero engine blades*

We engage in concurrent engineering with our customers to optimize designs for commercial, defense and land-based turbine engine components. We continue reinforcing our engineering and manufacturing expertise to produce compliant products at a high rate. This minimizes scrap, as well as the footprint and resources needed to produce our products. We are also expanding our suite of technical capabilities and solutions, including process modeling and data analytics, to help our customers achieve significant fuel economies, reduced emissions and maintenance efficiencies.

Materials and cooling techniques that we developed enable aero engines to run hotter and under higher pressures, increasing fuel efficiency. For aerospace and defense engines, our single crystal airfoils with advanced cooling schemes operate in environments 200°C above the melting point of the metals.

We recycle and purchase scrap material to use in our alloy systems. Approximately 60 percent of the alloy content we use is made from recycled materials, minimizing the need to purchase mined virgin elementals. Some alloys contain up to 100 percent reverted or recycled materials.

Other Howmet Aerospace solutions that enable an engine to withstand higher temperatures and pressures include:

- A technique for growing single crystal turbine airfoils, which is a grain structure that aligns better to centrifugal force inside the engine, resists deformation and increases blade temperature capability and product life;
- Complex ceramic shapes that form internal passages in the turbine airfoils to increase the efficiency of cooling air flowing across the metal surfaces;
- Advanced coatings that protect metal engine parts from extreme temperatures and the damaging effects of oxidation and corrosion;
- Extensive process modeling to reduce the number of iterations required for physical process development;
- Rapid prototyping techniques that enable timely evaluation of iterative part configurations;
- The first-ever aluminum-lithium front fan blade forging developed with Pratt & Whitney that improves fuel efficiency; and
- Isothermal forging capabilities for the most demanding engine applications on the latest generation of commercial and military engines.

We have also developed new materials and product forms that enable our customers to reduce material and energy usage in their processes. These include titanium sheet products with improved formability that enable temperature differences of up to 110°C during superplastic forming compared to standard processes. This reduces energy usage and improves tool life for complex formed parts.

Our titanium extrusions capabilities enable us to provide our customers with lean and hot stretch formed extrusions that provide significant buy-to-fly improvements, reducing material usage and machining time.



*Formed titanium T-chords*

Lighter aircraft use less fuel and emit fewer greenhouse gases. New generation aircraft like the Boeing 787 and Airbus A350 make extensive use of carbon fiber reinforced plastic, or CFRP, composite materials for most of their structures. The extensive use of composites requires titanium for key structural components, which we are providing for both lightweight aircraft. For example, our lightweight titanium seat rail for the Boeing 787 airframe is up to 20 percent lighter than its predecessor.



*Finished titanium seat rails*

Our Ergo-Tech® blind bolt family of fasteners enables efficient assembly automation and more aerodynamic wing structures through their one-sided installation. Our customers have been able to increase assembly throughput and deploy robotic automation of aircraft assembly using this fastening system. In addition, our Flite-Tite® fasteners

help enable large-scale, aerodynamic, lightweight and more fuel-efficient composite airframes by controlling the flow of energy in both the structure and fasteners, thereby protecting against lightning strike damage. Our focus on metal coating improvements is also helping our customers achieve compliance with rigorous chemical regulations. These initiatives will help to remove hazardous materials such as chromate from the manufacturing process.

Learn more. [→ go](#)

## Commercial Transportation

The commercial ground transportation industry is accelerating its transition toward sustainability, driven by ambitious CO2 emission targets, evolving regulations, and rising customer expectations for environmentally responsible solutions. At Howmet Aerospace, we remain at the forefront of these changes, introducing groundbreaking innovations that reduce environmental impacts while enhancing operational efficiency.



### THE GREEN CONCEPT WHEEL: DRIVING SUSTAINABILITY

In 2024, Howmet Forged Wheels unveiled the Green Concept Wheel, an industry-leading advancement in sustainable manufacturing. This Ultra ONE® Dura-Bright® wheel is produced with 80 percent lower CO2 emissions compared to its standard counterpart.

Key inputs to this substantial improvement include:

- Sustainable Aluminum Sourcing: Leveraging low-carbon aluminum with reduced energy requirements in its production;



- Renewable Energy Integration: Transitioning to electricity sourced from renewable energy for manufacturing processes; and
- Optimized Manufacturing Flow: Implementing innovative production techniques to minimize waste and energy usage.

The Green Concept Wheel embodies our commitment to supporting the commercial transportation industry in achieving ambitious emission reduction targets, particularly across the European market where stringent sustainability goals are reshaping the sector.

The wheel's lightweight design continues to deliver the dual benefits of reducing fuel consumption and increasing payload capacity, making it a complete solution for fleets looking to achieve operational and environmental excellence.

### MEETING EPA GREENHOUSE GAS PHASE 2 REGULATIONS

The U.S. Environmental Protection Agency's GHG Phase 2 regulations set ambitious standards for reducing CO2 emissions and improving fuel efficiency in medium- and heavy-duty vehicles. Since the introduction of these standards, Howmet Aerospace has collaborated closely with truck and trailer manufacturers to develop innovative solutions that help achieve compliance while delivering performance and sustainability benefits.



By partnering with manufacturers to develop solutions that exceed Phase 2 requirements, Howmet Aerospace has established itself as a key contributor to cleaner, more efficient freight transport across the U.S. Key contributions include:

- **Lightweight Wheel Design:** Alcoa® Wheels reduce vehicle weight by up to 45 percent compared to steel wheels, directly contributing to improved fuel economy and reduced emissions, which are key metrics under Phase 2 regulations.
- **Aerodynamic Enhancements:** Alcoa® Aerodynamic Steer Covers reduce drag and improve fuel efficiency, addressing aerodynamic performance goals outlined in the regulations.
- **TPMS Compatibility:** Recognizing the critical role of tire pressure monitoring systems, or TPMS, in maintaining optimal tire pressure for fuel efficiency and emissions reduction, Alcoa® Wheels integrated valve-mounted TPMS compatibility across its North American wheel portfolio. This helps Original Equipment Manufacturers (OEMs) meet GHG Phase 2 requirements while enabling fleets to leverage real-time tire monitoring to enhance safety, performance and sustainability.

## SUPPORTING ELECTRIC AND ZERO-EMISSION VEHICLES

The global shift toward Zero-Emission Vehicles (ZEVs) marks the next frontier in sustainable transportation. Howmet Aerospace is working directly with ZEV innovators to provide wheel solutions that meet the unique demands of these new vehicles.

Key initiatives include:

- **Optimized Lightweight Wheels for Electric Vehicles:** Improving range and payload capacity for electric trucks, which face unique weight challenges due to battery systems;
- **Enhanced Load-Bearing Capabilities:** Designing wheels to handle the increased torque and weight distribution of ZEVs without sacrificing durability or performance;
- **Thermal Management:** Exploring advanced finishes and designs to improve heat dissipation, a critical factor in Electrical Vehicles (EV) and alternative fuel vehicle efficiency; and

- **Collaboration on Fitments:** Partnering with new and existing OEMs to ensure that Alcoa® Wheels integrate seamlessly into new vehicle architectures.

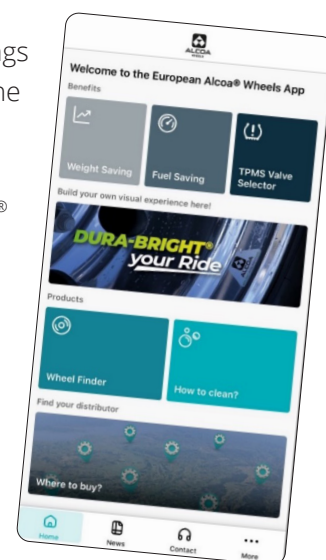
## DIGITAL SOLUTIONS FOR THE MODERN FLEET

In addition to product innovation, we've expanded our digital capabilities to provide fleet operators with tools that optimize decision-making and enhance sustainability outcomes.

## EUROPEAN ALCOA® WHEELS MOBILE APP

Our new mobile application for Android and iOS brings powerful functionality to users' fingertips, including:

- **Fuel and Weight Savings Calculator:** Evaluate the potential savings and return on investment achievable with Alcoa® Wheels;
- **Valve Compatibility Finder:** Easily identify suitable valves for tire pressure monitoring systems to maintain optimal performance; and
- **Maintenance and Cleaning Guidance:** Access best practices for keeping Alcoa® wheels in peak condition.



In addition to wheels, our fastening systems also enable lighter weight and more efficient aerodynamics on electric medium- and heavy-duty trucks. We have fastening solutions for securing battery covers, aerodynamic wheel covers, electrical groundings and trailer assemblies. Our fasteners for the latter are up to 10 percent lighter than other options without sacrificing joint strength.

Our products and technologies will continue to help fleet owners achieve their goals in an increasingly efficient and sustainable manner.

Learn more. [→ go](#)

## Defense and Space

Security and defense providers are experiencing broader requirements in response to continued and new threats. Defense aircraft must fly farther and carry more payloads. Land vehicles must carry multiple communication and weapon systems. These needs are challenging the industrial base to respond with material solutions that provide higher performance while using less fuel.

We have been listening and innovating. Our solution systems are lighter, stronger, faster and more sustainable across the air, land, sea and space defense domains.

Our advanced single crystal airfoils enable improved thrust, efficiency and loiter capability for defense engines. We are supporting the latest F135 engine technology with the world's most complex airfoils to achieve engine performance, reliability and durability.

Our monolithic forged aluminum and titanium bulkheads on the F-35 Joint Strike Fighter reduce total material volume, saving 136 to 181 kilograms (300 to 400 pounds) per jet. This allows the jets to use less fuel to stay on station longer, carry more critical payload and offer flexibility to counter any number of threats from a single platform.



*F-35 Joint Strike Fighter*

The F-35 also features more than 48,000 of our Eddie-Bolt® 2 fasteners, which enable assembly of the aircraft's lightweight composite structure.

Based on customer feedback, we have been developing a specialized titanium alloy for use in cryogenic applications, such as liquid hydrogen storage tanks for launch vehicles. This will enable weight savings and associated payload increases.

Learn more. [➔ go](#)

## Energy

Our fasteners are used to assemble the structures in solar panel fields to improve structure reliability and reduce assembly costs. Our applications in the industry also include robust, maintenance-free electrical connections in direct current combiner boxes, which are critical components in getting solar power from the field to the grid.

We have redesigned our larger 14-millimeter BOBTAIL® lockbolts to enable installation with battery tools. This allows us to address additional field-installed customer demand in photovoltaic solar tracking structures and wind turbine nacelles and tower sub-structures.

In the wind power market, our fastening systems for wind turbines provide superior joining and fatigue strength in even the most extreme loading and corrosion-prone environments. These attributes reduce maintenance requirements, cost and the safety risks associated with our customers' employees accessing these structures.

Gas-fired power generation reduces CO2 emissions by 50 percent compared to coal-fired power generation. Our airfoils for industrial gas turbines support higher engine operating temperatures and pressures to maximize base load efficiency and reduce nitrogen oxide emissions by 40 percent. We are supporting a drive by OEMs to increase operational efficiency, such as fast starts and fuel flexibility, and turbine availability and reliability through longer-life components.

We supply the world's largest industrial gas turbine blades, which are more than one meter in length. This enables combined cycle power generation of 900 megawatts and pushes turbine efficiency toward 64 percent, which is best-in-class efficiency.



*Industrial gas turbine blade being installed*

# ENERGY

- In 2024, we achieved an annual energy savings of around 333,000 gigajoules through improved efficiencies.
- While we produced more goods in 2024, our increased energy consumption was largely offset by these savings.
- We utilized a new data management system to manage and report on energy consumption.

Fundamental to reducing our environmental footprint and that of our customers is measuring our energy use and implementing cost-effective, energy-saving solutions to achieve our energy-reduction goals.

In 2024, natural gas and electricity accounted for approximately 98 percent of total energy use at our manufacturing locations. Diesel, gasoline and propane for our mobile equipment fleet accounted for about 2 percent of our energy use.

## GLOBAL ENERGY CONSUMPTION

Millions of gigajoules

	Direct	Indirect		Total
		Source from Grid	Generated On-Site	
2020	7.21	3.98	0	11.19
2021	7.08	3.91	0	10.99
2022	7.19	4.03	0	11.22
2023	7.44	4.11	0.001	11.55
2024	7.46	4.19	0.003	11.66

*For some locations, the December 2024 electricity and natural gas consumption was estimated due to final invoices not yet having been received. Data changes from prior reporting are due to minor conversion adjustments and estimated data being updated with actual data and data corrections.*

We strengthened our energy data management practices in 2024, using our newly implemented sustainability data management system for our annual GHG. Our 2024 ESG Report is the second to use data from the new system, which is populated with invoice-retrieved natural gas and electricity data that originates from a procurement data management system. Energy unit conversion calculations within the system are aligned with Intergovernmental Panel on Climate Change (IPCC) guidelines.

A team of designated individuals from each business continuously tracks and routinely shares details on our energy-efficiency projects and supports our internal and external reporting to all stakeholders. These projects are geared toward energy efficiency within our buildings, production equipment efficiency, on-site energy generation and increased fuel efficiency of our mobile fleet. We prioritize initiatives with the highest potential efficiency gains. Progress on these projects is reviewed with our senior leadership quarterly.

Energy-efficiency projects implemented in 2024 reduced our annual consumption by approximately 333,000 gigajoules. When combined with the results from prior years, we have achieved a cumulative annual savings of 1.52 million gigajoules from the 2019 baseline. This success is contributing to the achievement of our 2024 GHG emissions goal (see the [Climate Change](#) section.)

Examples of 2024 energy-efficiency projects include:

- Reducing heat loss by enhancing the insulation of pipework and furnaces;
- Installing energy efficient heat exchangers for surface treatment burners;
- Recuperation of heat in Air Conditioning units;
- Optimizing shift patterns to product heating and cooling cycles;
- Industrial furnace enhancements for more efficient fuel burning;
- Transitioning to more efficient comfort heating sources like infrared; and
- Production line automation.

Our overall energy consumption was 11.7 million gigajoules in 2024, which was a 1.0 percent increase over 2023. This increase was driven by increased production, which offset the energy savings achieved during the year. Our energy use per unit of metal increased from the previous year due to a decrease in aluminum consumption caused by market conditions. As a testament of our energy-efficiency achievements, energy intensity based on revenue improved 10 percent from the prior year.

## ENERGY INTENSITY

	Millions of Gigajoules per Billion Dollars of Revenue	Hundreds of Gigajoules per Metric Ton of Purchased Metal
2020	2.13	0.90
2021	2.21	0.55
2022	1.98	0.62
2023	1.74	0.61
2024	1.57	0.67

*Data changes from prior reporting are due to minor conversion adjustments and estimated data being updated with actual data.*



# CASE STUDY

## CATCHING RAYS IN CASABLANCA

Howmet's Fastening Systems facility in Casablanca, Morocco, is harvesting the power of the sun to meet between 25 and 37 percent of its energy needs.

Rooftop solar is one part of Howmet's broader strategy to reduce our carbon footprint and transition to renewable energy. Casablanca is one of three locations worldwide with new rooftop solar arrays.

While Howmet continues to evaluate facilities for potential solar projects, not all locations, and not all buildings, are fit for constructing solar arrays. In addition to climate conditions, building age, construction type, and roof replacement schedule need to be considered, among other factors.

The rooftop array in mostly sunny Casablanca produces about 900 megawatt hours of electricity each year—that translates into an annual reduction of 400 metric tons in CO2 emissions. The energy offset also saves the facility between US\$50,000 to US\$75,000 each year.

"The reduced emissions and cost savings become even more important where production is expanding like it is in Casablanca," says Abdelmoughit Asloune, managing director. "Our return on investment improves as we meet growth demands. More importantly, we can produce more while consuming less, which is the key to our local and global sustainability initiatives."



*More than 900 solar panels create energy atop the Howmet facility in Casablanca.*

# CLIMATE CHANGE

- **We met our goal of 21.5 percent, or 217,000 metric tons, combined Scope 1 and Scope 2 GHG emissions contraction by 2024 from a 2019 baseline through internal reductions and the use of renewable energy credits.**
- **We avoided approximately 23,000 metric tons of combined Scope 1 and Scope 2 GHG emissions through the implementation of various energy efficiency projects during the year.**
- **We acquired third-party limited verification of two additional Scope 3 categories.**

Climate change is a defining issue of our time, and we recognize the potential risk that comes with both the physical changes due to adapting to increasing temperatures and the transition to a low-carbon economy.

We also see climate change as an opportunity for us to contribute to minimizing the carbon footprint of the value chain with our lightweight and fuel-efficient products for the transportation, industrial and aerospace markets. We integrate these risks and opportunities into our enterprise risk management process.

We publish and annually update our climate strategy, which follows the TCFD framework. ([View the most recent TCFD disclosure](#)). This strategy includes three key levers:

- Products that positively impact the emissions of our customers' final products (see the [Products](#) section);
- Direct and indirect (Scope 1 and Scope 2) emissions associated with our own operations; and
- Emissions occurring in our supply chain (Scope 3).

We have made progress against all three levers.

## Greenhouse Gas Goals

We believe that our role in the transition to a lower-carbon economy is aligning our Scope 1 and Scope 2 emissions with the goals of the Paris Agreement. This means that our target framework, pace of emission contraction and ultimate goal of net zero will be based on science and proven

technologies. Achieving net zero by the end of year 2050 requires an annual 4.2 percent contraction in annual emissions from our base year of 2019. This is how our absolute greenhouse gas targets and milestones were derived.

Our objective is to manage a credible and realistic transition plan that we have divided into near-, medium- and long-term periods on our way to 2030 and then 2050. Our goal setting periods follow the three-year cadence of our business planning cycle.

In 2021, we set our first near-term goal of a 21.5 percent reduction in absolute Scope 1 and Scope 2 emissions by 2024 against our 2019 baseline year. To achieve this, we initially identified more than 100 energy-saving projects that represented an investment of US\$28.3 million. Since the beginning of our first GHG target period, our energy efficiency projects have collectively saved approximately 95,600 metric tons CO<sub>2</sub>e from our annual Scope 1 and 2 emissions (See the [Energy](#) section). This, combined with renewable energy credits purchased for the first time in 2024, allowed Howmet to meet its near-term greenhouse gas goals ending at the conclusion of 2024. Renewable energy credits used meet RE100 criteria, which considers wind, solar, geothermal, sustainably sourced biomass and sustainable hydropower as renewable energy sources.

Our Transition Technology Workgroup, which consists of the energy and technology leads of each of our businesses, has identified opportunities to fur-

ther reduce emissions from our operations. The group has created a plan that includes the procurement of renewable energy and the continued increased energy efficiency within our operations. Our plan is both economically achievable and realistic. The outcomes of this exercise resulted in a goal that covers a second three-year period that ends in 2027.

### **Next Goal Period**

33.6 percent, or 339,000 metric tons, absolute reduction of combined Scope 1 and Scope 2 (market based) global GHG emissions by 2027 from a 2019 baseline.

For this next goal period, the targeted reductions are aligned with science-based net zero 2050 target scenarios. This requires our Scope 1 and Scope 2 GHG emissions to be 33.6 percent—339,000 metric tons—below our 2019 emissions by the end of 2027.

We anticipate accomplishing these reductions through a combination of continued energy-efficiency projects at our locations, the transition to power sources with lower carbon intensities, and the procurement of renewable energy. Funding was approved in 2023 for projects starting in 2024 and early 2025, and additional identification and estimation of opportunities are underway.

We are also working toward setting a goal for Scope 3 GHG emissions. We believe that the quality, assurance, and specificity of Scope 3 data has not yet achieved the level of maturity that justifies a credible target. Although we have not set a Scope 3 target, we are engaging with key suppliers to analyze their contribution to these emissions.

## **Performance**

### **Scope 1 and Scope 2 Emissions**

Our GHG emissions are typically associated with the consumption of natural gas and electricity for heating, forging, casting and treating metal in our energy-intensive processes.

Our 2024 Scope 1 and Scope 2 Market Based GHG emissions equaled 0.80 million metric tons,

which was a 21.7 percent reduction from the 2019 baseline.

The GHG emission performance in 2024 was due to energy efficiencies, expanding on-site solar generation and the procurement of renewable energy. About 23,000 metric tons of savings were accomplished through energy efficiencies and, to a small extent, by the implementation of on-site solar panels, including those at the Casablanca facility in Morocco and the Simi Valley facility in California. At our Fasteners location in Simi Valley California, we worked with the building owner to install photovoltaic/solar panels. The solar installation offsets approximately 50 percent of the site's electricity consumption, providing renewable energy to the plant at a lower cost as compared to the local utility. While the Simi Valley site is not a particularly large site, the solar installation is a great example of how we are driving CO<sub>2</sub>e reduction throughout the business. Our on-site renewable energy generation, although small in absolute terms, increased 156 percent from 2023. The percent of our electricity consumption from renewable sources was 10.6 percent and includes on-site generation in addition to purchased renewable energy credits. Since 2019, we have captured 93,900 metric tons of savings through energy efficiency projects.

In 2024, our GHG emission intensity improved 13.7 percent over 2023, which reflects all the GHG-reduction initiatives implemented during the savings initiative. Our revenue increased 12 percent over the prior year.

Our global 2023 Scope 1 and 2 GHG emissions were assured by an independent third party in 2024. ([View the report.](#)) This “independent limited assurance engagement” is a continued effort that we started with our 2020 emissions. This is the first year that the reviewers used our newly implemented sustainability data reporting software. Benefits of the new system include the use of software supported and maintained emission factor libraries and greater visibility of data throughout the organization.

For emission year 2023, we began reporting both location-based and market-based emissions. This

## GREENHOUSE GAS EMISSIONS

Million metric tons of carbon dioxide equivalents

	Scope 1 (Direct)	Scope 2 (Indirect)		Total Location-based	Total Market based
		Location-based	Market-based		
2020	0.38	0.43	-	0.81	-
2021	0.37	0.39	-	0.76	-
2022	0.38	0.42	-	0.80	-
2023	0.39	0.42	0.46	0.81	0.85
2024	0.39	0.39	0.40	0.78	0.80*

Gases included in the calculations are carbon dioxide, methane, nitrous oxide, and CFC and HFC from refrigerant releases (since 2020). Releases of SF<sub>6</sub> and NF<sub>3</sub> are not considered a significant source of GHG emissions for our operations. We had zero biogenic emissions in 2024. We used the World Resources Institute's GHG protocol methodology based on operational control, regional or country Scope 1 and 2 emission factors and 4th IPCC Assessment Global Warming Potential factors. Data changes from prior reporting are due to estimated data being updated with actual data.

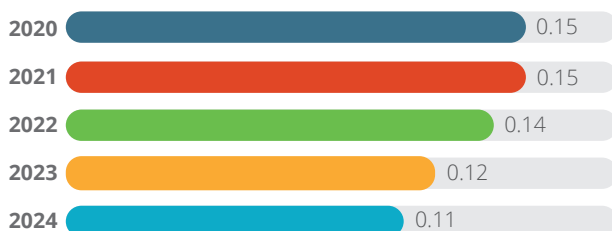
\*Market based total does equal sum of market based provided Scope 2 and Scope 1 due to rounding.

methodology provides better insight toward our consumption of energy from lower-carbon power sources. We continued reporting both values in 2024.

In 2024, our climate change management efforts and performance received a Climate Disclosure Project (CDP) climate change score of "A" in the "Scope 1 & 2 Emissions" category and a score of "B" in the "Scope 3 Emissions" category. Our activities around business strategy, and assessment of the dependencies, impacts, risks and opportunities were recognized with the maximum score of "A/A-".

## GREENHOUSE GAS EMISSION INTENSITY

Million metric tons of Scope 1 and Scope 2 Location Based CO<sub>2</sub>e per billion dollars in third-party revenue



### Scope 3 Emissions

Our Scope 3 emissions are predominantly upstream and related to emissions of goods procured. Since we do not manufacture products that consume energy, we do not estimate emissions linked to the use of our products. Our downstream emissions represent less than 2 percent of our calculated Scope 3 emissions.

We are continuing to work with our suppliers to understand our upstream GHG emissions. Since our most significant Scope 3 emissions are related

to the purchase of primary metals, it is important that we use suppliers that are focused on energy efficiency, renewable energy and advanced technologies to minimize their GHG impact and, in turn, our Scope 3 emissions.

Through our Global Supplier Sustainability Program, we engage with our suppliers to obtain a better understanding of the carbon intensity of the materials and products that they provide to us. (See the [Supply Chain](#) section.) This effort has greatly enhanced our understanding, and that of our suppliers, of our material footprint from cradle to gate.

Our Scope 3 GHG emissions totaled 1.8 million metric tons in 2024, with purchased metals accounting for approximately 55 percent of the total. The 20.0 percent decrease from 2023 was due to a change in calculation methodologies, including updated emission factors and using supplier provided emissions data, and a decrease in metal consumption.

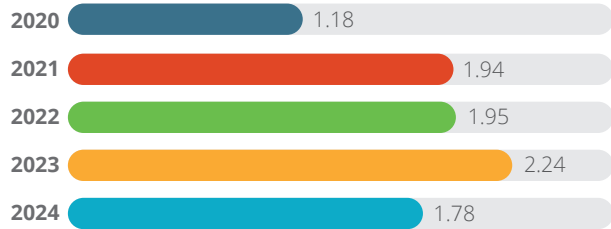
In 2024, we expanded our efforts on limited assurance of Scope 3 emissions, obtaining for the first time third-party limited assurance on Scope 3 categories nine and twelve for our 2023 data. ([View the report.](#)) As a result, we obtained limited assurance for 10 out of the 11 Scope 3 categories that are mandatory and applicable to Howmet. We are not calculating Scope 3 category 10 "Processing of Sold Goods" because we lack customer data to do so. Given the nature of our products that undergo very limited processing, we expect associated emissions to not be material. The outcome of our third-party limited assurance is indicative of our



continued commitment to strengthen our Scope 3 data and prepare for a Scope 3 GHG target. For more information on our calculation methodology, see the Sustainability portal of our website.

## SCOPE 3 GREENHOUSE GAS EMISSIONS

Million metric tons of carbon dioxide equivalents



*These values are based on Greenhouse Gas Protocol Scope 3 methodology for purchased goods (expanded in 2022 to include non-metals), capital goods (since 2020), fuel and energy-related activities, upstream and downstream transportation, waste generated from operations (since 2020), business travel (since 2021), employee commuting (since 2022), upstream leased properties (since 2022) and end-of-life treatment of sold products. Data change from prior reporting is due to the use of updated emission factors for some suppliers and supporting data.*

## SCOPE 3 GREENHOUSE GAS EMISSIONS BY CATEGORY

Million metric tons of carbon dioxide equivalents

Category	2020	2021	2022	2023	2024
1: Purchased Goods & Services	0.90	1.60	1.62	1.89	1.44
2: Capital Goods	0.13	0.14	0.07	0.08	0.03
3: Fuel- and Energy-related Activities	0.10	0.10	0.10	0.10	0.11
4: Upstream Transportation	0.04	0.06	0.03	0.03	0.05
5: Waste from Operations	0.01	0.01	0.03	0.03	0.03
6: Business Travel			0	0	0
7: Employee Commuting			0.06	0.06	0.06
8: Upstream Leased Assets			0	0	0.01
9: Downstream Transportation	0.01	0.02	0.02	0.02	0.02
10: Processing of Sold Goods					
11: Use of Sold Goods	Not required	Not required	Not required	Not required	Not required
12: End-of-Life Treatment of Sold Products	0.01	0.02	0.02	0.02	0.04
13: Downstream Leased Assets	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14: Franchises	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
15: Investments	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>Total Scope 3 Emissions</b>	<b>1.18</b>	<b>1.94</b>	<b>1.95</b>	<b>2.24</b>	<b>1.78</b>
Number of Categories Reported	7	8	10	10	10

# AIR EMISSIONS

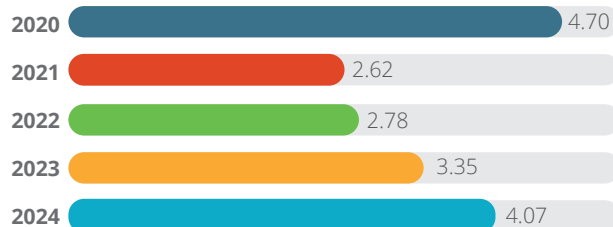
- While Howmet increased production in 2024, we reduced our total emissions of particulate matter.
- Our energy efficiency projects helped offset production-related increases in our non-metal air emissions.
- We had no significant unplanned air releases or emissions limit violations.

Across our manufacturing operations, we believe our risks from air emissions are minimal. We aim to ensure that we do not have a detrimental impact on our communities and local habitats, continuing to invest in controls, technologies, people and designs to achieve this goal. We consider minimizing air emissions beyond GHGs important to our operating efficiency and business.

Major processes contributing to our emissions include metal recycling, melting, casting, forging, grinding and machining, as well as the cleaning and coating of our products. Our approach to controlling and minimizing the emission of criteria air pollutants and metal hazardous air pollutants (HAPs) is driven by our internal air management standard, EHS management system, redundant internal controls and regulatory requirements. We track and measure emissions through source testing, site-specific consumption data, conservative published emission factors and parametric monitoring.

## TOTAL METALLIC HAZARDOUS AIR POLLUTANT EMISSIONS - GLOBAL MANUFACTURING OPERATIONS

Metric tons



Metallic hazardous air pollutants include chromium (total), cobalt, cadmium and nickel.

Some of our super alloys contain small amounts of metallic elements that are important to deliver performance features desired by our customers. Minimizing waste of these valuable resources not only helps us achieve our environmental goals but also makes good business sense. We added additional capture and control technologies in 2024 to control particulate matter and metal HAPs emissions. Furthermore, we prevented the disposal of these captured metallic elements by finding reuse and recycling outlets (see [Case Study](#)). These control technology upgrades and resource management initiatives, together with refined preventative maintenance programs, help us to continually focus on roadmaps for improvement in strategies, resource allocation and the sharing of best practices across our businesses.

## TOTAL CRITERIA AIR POLLUTANT EMISSIONS - GLOBAL MANUFACTURING OPERATIONS

Metric tons

	Nitrogen Oxides	Particulate Matter	Sulfur Oxides	Volatile Organic Compounds
2020	316	290	2.78	174
2021	281	239	3.03	206
2022	319	261	2.97	206
2023	327	319	2.69	284
2024	322	250	3.32	225

VOCs are not technically considered criteria pollutants, but they are a precursor to ozone, which is a criteria pollutant.

The GHG/energy-efficiency reduction projects we implemented this year had the added benefit of reducing our criteria air pollutant emissions.

These emissions are associated with the combustion of fuels, typically natural gas. Even as production levels increased, we used less fuel per unit of production.

In 2024, we had no significant unplanned air releases or emission limit violations. We remain focused on further reducing criteria and HAP pollutants by evaluating new reduction strategies and upgrading our data management, analysis and forecasting capabilities.

# WATER

- **We ended 2024 with a 16.5 percent improvement in our water withdrawal intensity compared to our 2019 baseline, exceeding our 2024 target of an 8.6 percent reduction.**
- **Approximately 78 percent of the water we withdrew was cleaned and returned to the local resources base.**
- **We set new targets limiting water withdrawal intensity, as well as absolute water withdrawal, in water-scarce regions.**

At Howmet, we see disciplined management of water resources as more than good environmental stewardship—it's also a business advantage and a key aspect of our operational resilience. Most of our manufacturing locations are in areas where water is plentiful; however, as climate patterns shift, it is very prudent for us to take appropriate reductions and mitigation actions to minimize future risk and to integrate related considerations in our business decision-making.

In 2024, we continued significant efforts across our businesses to reduce the volume of water we withdraw. As a result, we ended the year with a 16.5 percent improvement in our water withdrawal intensity compared to our 2019 baseline. This is 91 percent beyond our established goal of an 8.6 percent improvement by the end of 2024. Also this year, we set two new water targets: 19 percent water withdrawal intensity reduction by 2027 vs 2019, and a 0 percent absolute water withdrawal increase from high and severe water-scarce areas (total in 2027 vs total in 2019).

Our efforts, policies, and controls with respect to water use were recognized externally. ISS ESG scored Howmet as an A+ on freshwater use intensity and MSCI ESG stated that water stress does not present significant risk to operations of the company.

Our facilities use water primarily for cooling, plating and rinsing processes, as well as for potable and sanitary uses. Our larger forging facilities are our biggest users of water, followed by our casting

plants. The majority of our operations are in industrialized areas, with 99 percent of our water sourced from municipal supplies. Most of the water we withdraw is not consumed but treated and returned to the local system for further use.

We assess if our locations are in areas with water stress using two publicly available tools—the World Resources Institute (WRI) [Aqueduct](#) and the World Wildlife Fund (WWF) [Water Risk Filter](#). These tools are complex models that use a variety of inputs. At their core, however, they measure the water stress/scarcity of a geographic region. A water-stressed or water-scarce area is one in which the available water is being used at a higher rate than it is being recharged.

In 2024, we used these tools to evaluate areas where we might need to prioritize additional water conservation efforts. In general, we focus on areas of high scarcity, such as Southern California. Our double materiality assessment considered impacts, risks, and opportunities across our value chain and indicated water withdrawal from high-scarcity areas as a material topic due to the potential local impact of our locations in high water scarcity areas. We took a first step this year by setting a target to limit our absolute water withdrawal from these areas (in sum). Across Howmet, this includes 11 sites representing 10 percent of our total water withdrawal.

Each of our locations maintains a water-balance diagram that identifies how and where water is used throughout the facility. These diagrams,

which include daily usage volumes, are used to identify opportunities to eliminate, minimize, or reuse water. In addition, actual monthly usage is compared to these diagrams to monitor for unusual changes in volume that might require further investigation. At older sites, finding and repairing water leaks is a priority.

## TOTAL WATER WITHDRAWAL

	Megaliters Withdrawn	Withdrawal Intensity (megaliters withdrawn per billion dollars of revenue)
2020	4,242	807
2021	3,734	747
2022	3,981	702
2023	4,089	616
2024	4,328	582

*Rainwater not included. Some fourth quarter or December data has been estimated. Data changes from prior reporting are due to estimated data being updated with actual data.*

## Wastewater

We track all wastewater (excluding rainwater) discharged at our locations. With water withdrawal, we obtain discharge information from utility invoices, discharge monitoring reports, metering or estimation.

Our internal standard for water and wastewater management requires that locations characterize their wastewater to assess the potential environmental impact associated with their discharge and identify any regulatory requirements that may apply because of water quality standards, pre-treatment standards and effluent limitation guidelines. Our primary goal is mitigating environmental impact in compliance with location-specific water discharge permit limits.

Most of our operations discharge to local wastewater treatment plants, with many conducting on-site pretreatment prior to discharge. As such, we operate within the stringent requirements of our discharge permits and consents, with oversight from various stakeholders. We have no facilities that operate in locations without local discharge requirements.



# CASE STUDY

## Water Conservation Project Shows Nature Knows Best

Situated in the foothills of southern California, Howmet's Rancho Cucamonga facility has a long history of being resource conscious when using water.

"Summers especially are very dry, and statewide water restrictions are commonplace," says Stuart Rowbottom, Rancho Cucamonga plant manager. "Costs have risen dramatically, and they will continue to rise as the population increases and water becomes even more scarce."

Stuart says that when his team learned of California's Turf Replacement Program, opting in was an easy decision. The program offers rebates for property owners who convert their grass turf to organic, drought tolerant landscaping. When they learned of the program, Rancho Cucamonga was maintaining grass turf along their plant border. They previously used about four million gallons of water per year for irrigation.

The turf was removed in the fall of 2024 and replaced with native species like coast rosemary, dwarf olive and coyote bush, planted in beds of natural mulch.



*Drought-tolerant native plants take root in place of grass turf.*

"The native species have already adapted to the southern California climate," says Naro Kuch, senior environmental engineer, "so they won't need nearly as much water to thrive."

Naro says that as Howmet advances resiliency and conservation across the globe, the Rancho Cucamonga project registers as a bit of a paradox. "We've already picked much of the low-hanging fruit when it comes to conservation," he says. "So, it's a bit ironic that unconventional thinking in this case was as simple as returning to nature."

# CIRCULAR ECONOMY AND WASTE

- In 2024, we launched a new data management system to improve the visibility of opportunities for material reuse and recycling.
- We have formally identified wastes as a material topic through our new Double Materiality Assessment.
- Our circular materials management approach is taking off with improved attention and data on diversion and reuse.

We see the value in all materials that we use as well as those that are by-products, residuals, or waste from our manufacturing processes. We believe it is important to find secondary uses for these production residues in accordance with a circular economy. We understand that the production of materials from extractive sources can have a larger impact on climate, biodiversity, water scarcity, deforestation and other environmental metrics. As such, viewing materials as valuable inputs to the economy enhances business sustainability.

In 2024, we not only invested in a new data management system for our environmental metrics data to improve data reliability, auditability, and usefulness, but we also spent time and resources to train our staff, building awareness and engagement around circular economy concepts and business opportunities.

End-of-service recyclability for the types of products manufactured by Howmet is a competitive advantage for us. We want aerospace materials to continue providing future value in the aerospace industry. We are involved in discussions to eliminate the barriers to enhance the end of service recyclability without impacting safety or quality. We want to get to the point where we collect our products back at their end of service, but there are industry barriers to navigate. As an early step this year, Howmet led an industry brainstorming session at the International Aerospace Environmental Group to identify “circularity blockers,” so as an industry, we can improve circularity performance.

We are also changing our perspective from being managers of waste to becoming circular material managers and have reorganized our tracking and analysis of such materials. We try to keep materials in the economy, providing additional value through reuse and recycling and eliminating waste that is disposed of in landfills or through incineration. We are always seeking potential users of our co-products and process residual materials. Because the legal definition of waste varies across the jurisdictions in which we operate, we have adjusted our tracking system to show all residuals and categories of waste more transparently.

In 2024, we achieved reductions in hazardous waste intensity, even as our production levels grew at many locations. We’ve achieved a 23 percent reduction in hazardous waste intensity since the 2022 baseline. This is an important step in our journey to reduce our impact from the generation of waste materials.

## HAZARDOUS WASTE

	Hazardous Waste Generated (thousand metric tons)	Hazardous Waste Intensity (thousand metric tons of waste per billion dollars of revenue)
2022	26.6	4.70
2023	26.1	3.94
2024	26.9	3.62

*Some fourth quarter or December data have been estimated.*

Also in 2024, 28 percent of our manufacturing locations reported a residuals diversion rate greater than 80 percent. We also had 25 percent of our manufacturing locations generate less than 10

metric tons of hazardous waste. Our circular material management rate (total residuals diversion rate) increased this year to 57 percent.

Although disciplined management of residuals and waste is often an opportunity, we understand that disposal of waste still has the potential to cause additional risks and liabilities for the business, if not diligently handled. We have a well-established set of internal controls to audit and assess current and potential treatment, storage, and disposal facilities on their management practices, compliance history, and financial stability. To supplement this process, in 2024, we also joined CHWMEG, a non-profit trade association comprised of manufacturing and similar industrial organizations who strive to reduce, recycle, or reuse the wastes associated with their operations but are concerned about potential environmental liability associated with the wastes and spent materials that are related to their companies' manufacturing and business processes. This association also conducts extensive waste vendor due diligence reviews.

### 2024 WASTE AND RESIDUALS

Thousand metric tons

	Total Generated	Diverted from Disposal	Directed to Disposal
Hazardous	26.9	12.3	14.6
Non-hazardous	67.2	32.9	34.3
Non-waste residuals	21.0	19.9	1.09
Overall CMM (Diversion) Rate	NA	57%	NA

*Diverted includes preparation for reuse, recycling and other recovery operations. Disposal includes landfilled, incinerated with and without energy recovery, and other disposal methods. CMM (Circular Materials Management) is the proportion of our total residuals diverted from disposal.*

### LANDFILLED WASTE

	Landfilled Waste (thousand metric tons)	Landfilled Waste Intensity (thousand metric tons of waste per billion dollars of revenue)
2020	25.3	4.81
2021	23.6	4.71
2022	28.0	4.93
2023	32.1	4.84
2024	34.3	4.62

Some fourth quarter or December data have been estimated.

### Spills

We use internal standards, safeguards and processes to prevent spills and then respond quickly and effectively to minimize the impact if one does occur.

We require our locations to have a spill prevention control and countermeasure plan or similar plan in place if they meet specific volume thresholds for oil or oil products. This plan includes employee training on spill prevention and response that is provided upon hiring and annually thereafter.

Our internal incident management program drives an analysis of a spill's root cause and contributing factors, and it also ensures corrective measures are put in place to prevent a reoccurrence. Our low internal reporting threshold increases the visibility of spills to our leadership to facilitate information sharing across facilities and enhance incident awareness.

We define a significant spill as one that is in excess of 1,893 liters (500 gallons) and/or meets our definition of a major environmental incident, which includes [CERCLA](#) reportable releases. We had no significant spills that met this criteria in 2024.

### Remediation

We are involved in ongoing and long-term assessment, cleanup and monitoring of contamination resulting from historic releases and disposal practices at current, former, divested and third-party properties.

In 2024, our payments for these activities were approximately US\$ 2 million. Our remediation reserve balance, which reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated, was approximately US\$ 19 million as of December 31, 2024.

# CASE STUDY

## Waste Challenge Spurs Win for Circular Economy

When tasked with reducing hazardous waste from engine-parts manufacturing, employees in Wichita Falls, Texas, pushed the boundaries of traditional thinking.

“At first we looked at the challenge in a conventional sense,” says Ross Miller, EHS manager for the facility. In other words, says Ross, find ways to reuse or recycle existing waste to limit what goes to the landfill.

As an example, the team found they could reuse some materials on site to make staging pads. While this would reduce the amount of waste being land-filled, the plant could only reuse so much. In addition, the process could create safety risks or other unintended outcomes.

“So, we stepped back and looked at the bigger picture,” says Ross.

That bigger picture took the team from linear “take-make-waste” thinking to a “circular economy” mindset. Working with recycling and reuse ven-

dors, they explored if and how the material might have value for other industries.

After several months of research and collaboration, the team found markets for 97 percent of the materials formerly disposed of as hazardous waste. Spent acidic and caustic liquids, as well as sludge, from metal processing are now sent to a recycler for nickel recovery. From there, leftover liquids and solids are sold to steel facilities where they are fully consumed in the manufacturing process.

The team’s success did not stop at hazardous waste. The facility now sends 100 percent of the dust captured in the plant’s air pollution control equipment to a nickel recovery operation. More recovered nickel in the economy means less ore mining.

“Without overengineering or overcomplicating the process, we were able to reduce virgin raw materials consumed in other industries while at the same time eliminating more than 30 metric tons of landfill waste annually,” says Ross.



# BIODIVERSITY

- **We conducted a global biodiversity screening project and prioritized our manufacturing sites for further evaluation.**
- **We subsequently launched a biodiversity impact assessment of the top-priority sites based on the screening (plus our largest site) to evaluate the potential impacts using quantitative site-specific information.**
- **Our water withdrawal, GHG, circular materials management, and air emissions reduction efforts are helping minimize our contribution to the five high-priority pressures on local sensitive species.**

All human activity, not just industrial activity, may contribute to or has the potential to impact the survival of sensitive species on this planet. Understanding those connections, proximities, and potential relative impact pathways is important to protecting healthy ecosystems on which we depend for our own health and resilience.

Although Howmet's 2024 double materiality assessment did not identify biodiversity as a material topic under this new process, we gain a better understanding of potential impacts, expanding mitigation actions, and integrating consideration of our potential contributions to material drivers on biodiversity loss into our business decision making.

In 2024, we took measures to identify sites near protected areas, key biodiversity areas, and those with a high STAR (Species Threat Abatement and Restoration metric) ratings using a consultant to help interpret the results of an IBAT (Integrated Biodiversity Assessment Tool) report. We also reviewed the lists and counts of Critically Endangered, Endangered, and Vulnerable species (as classified on the International Union for Conservation of Nature, or IUCN, Red List of Threatened Species). In this screening, we used the United Nations Environment Programme ENCORE Explore tool to estimate potential industry category impacts and materiality ratings for the impact drivers. The high impact drivers for the area/in-





dustrial activities were identified as water use, GHG emissions, water pollutants, soil pollutants and solid waste. Beyond IBAT, we incorporated regional context such as Ecoregion Intactness Index and World Resources Institute water risk to help prioritize the proximity-based data.

Most of our sites are proximate to sensitive biodiversity resources based on this screening. However, only two locations scored high in two of the three significance score categories and only five sites scored high in one category and medium in another. As recommended by the Taskforce on Nature-related Financial Disclosures, we prioritized sites that rank high in these biodiversity significance categories. This helped us prioritize the locations for deeper assessment with site-specific data (versus conservative generalized broader industry assumptions). Based on the significance scores and IBAT screening, we elected to start

a biodiversity impact assessment of the top five sites and our largest site. These sites are located in France, UK, Southern California and Michigan.

Early analysis of this ongoing assessment appears to indicate that our highest priority sites are avoiding or minimizing their contributions to the key material drivers of biodiversity loss. These locations are not discharging wastewater to the environment. Additionally, those in proximity to western shores and sensitive marine species are located downwind based on average local prevailing wind data, so we are learning that proximity and industrial category alone are not necessarily indicators of impact to sensitive biodiversity populations. We look forward to completing this assessment and learning, sharing, and acting upon more information in 2025.

# CHEMICAL MANAGEMENT

- **We reduced our use of chlorinated solvents in non-laboratory settings by 69 percent since launching our minimization plan in 2023.**
- **In close coordination with our customers, we continue conducting trials to identify suitable alternatives to chromium trioxide in our chemical coating process.**
- **We have abandoned some uses of sodium dichromate.**

Our chemical management program is focused on three key areas—understanding the impacts of chemical management regulations to our products and processes, reducing the use of hazardous substances and mixtures in our operations, and ensuring compliance with chemical regulations.

Our global chemical compliance team ensures we maximize internal synergies and monitor relevant regulations and market/customer initiatives. Team members also work to provide the information our customers need for their own compliance programs.

While we do not manufacture chemicals, we use them in our production processes either directly or as ingredients in other products that we use. Our chemical compliance team works with each of our businesses to explore alternatives for chemicals that various regulations deem substances of very high concern. This can be challenging, as substitute substances ideally should not impact our process efficiency or product quality and properties. That is why we work closely with our customers to validate a new substance before making a permanent substitution.

We have been successful in finding material substitutions for various applications, but others will require more time and effort. Until targeted chemicals are eliminated from our manufacturing processes, we will continue to enforce our stringent requirements for their safe handling and use.

Key actions undertaken through our chemical management program in 2024 were:

- Working toward our goal to eliminate the use of chlorinated solvents in operations in non-laboratory settings by the end of 2025, where technically and economically feasible. By the end of 2024, we managed to reduce our use of chlorinated solvents by 69 percent;
- Continuing to conduct trials to identify suitable alternatives to using chromium trioxide;
- Abandoning some uses of sodium dichromate in stainless steel passivation; and
- Continuing to review the composition, source and use of per- and polyfluoroalkyl substances (PFAS) to determine next steps.

We are an active member of the [International Aerospace Environmental Group](#) (IAEG). Formed by the major aerospace companies, the group addresses the complexity and variability of global laws and regulations impacting health and the environment, including Europe's Registration, Evaluation, Authorization and Restriction of Chemicals, or REACH, regulations.

By serving on the IAEG board of directors, committees and working groups, our employees are contributing to the development of tools and voluntary consensus standards to address key chemical management and environmental issues.

# HUMAN CAPITAL

- **Our overall turnover rate decreased to 18.2 percent during the year.**
- **We are using technology to extend training access to our hourly employees.**
- **In 2024, women represented 27.3 percent of our global workforce and U.S. racial and ethnic minorities represented 42.5 percent of our workforce.**

## Strategy

We know that our success depends on our ability to create innovative solutions that exceed our customers' goals and expectations. We can achieve this by fostering inclusive work environments that leverage the diversity of backgrounds, experience and thought within our organization.

Creating a culture of belonging is not about reaching a milestone or meeting specific metrics—it requires continuous commitment and action from each of us every day.

A welcoming and inclusive environment is at the heart of our core values because it strengthens both Howmet and every individual, fostering psychological safety and a true sense of connection for our team members. By embracing different perspectives, ideas, and traditions, we enhance our collective experiences. Ensuring fairness allows everyone the opportunity to thrive. When we recognize and appreciate our unique backgrounds, we cultivate an environment that drives innovation, leading to organizational success on a global scale.

Our strategy is a comprehensive approach to creating an inclusive and equitable workplace that acknowledges and embraces the unique attributes of individuals worldwide.

## Employee Resource Groups

Our seven employee resource groups (ERGs) serve as platforms for diverse voices, fostering collaboration and understanding. Membership is open to every employee to ensure our ERGs represent underrepresented communities and build allyship.

ERG sponsorship by seven senior and executive leaders reinforces leadership's active role in championing an inclusive workplace. This visible support from leadership nurtures a culture that reflects our commitment to social responsibility and inclusion as a core Howmet value.

Our ERGs also work in partnership with the Howmet Aerospace Foundation to ensure nonprofits focused on assisting underrepresented groups are supported throughout local communities.

In 2024, Howmet's Employee Resource Groups (ERGs) expanded their reach and impact. The Latin+ Network celebrated a broader range of Latin American cultures with events like Hispanic Heritage Month and Día de los Muertos while funding Latino Community Centers. The European Network became the Eurasian Diversity and Inclusion Network, incorporating disability awareness and expanding globally. A key event, "The Invisible Exhibition" in Hungary, highlighted the experiences of the blind. The NextGen Network rebranded as the InterGen Network to connect employees across generations, leading to a 400 percent membership increase. The Howmet Veterans Network also expanded, naming its first European co-chair.

Howmet has secured a vendor to provide additional training on creating a thriving workplace culture, available to all Howmet employees. Howmet's Learning and Development group sends out a monthly focus with at least one highlighted training opportunity for Howmet team members that is aligned to the calendar.

In addition to our training program efforts and to continue to enhance our culture, we acknowledge, promote and celebrate our differences which make each individual unique. We do this through lunch and learns, information activities, sharing foods and stories from our cultures, which we feel paves the way for making a healthier work environment.

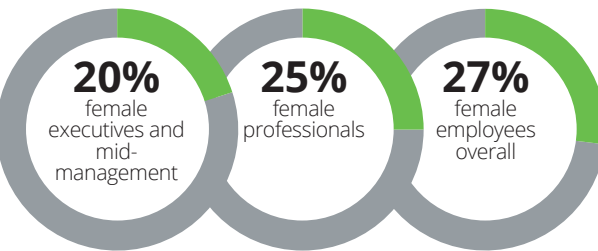
### Performance

Over the past three years, the representation of women globally increased to 27.3 percent in 2024 from 25.2 percent in 2020, while U.S. racial and ethnic minority representation increased to 42.5 percent from 37.7 percent during the same time period.

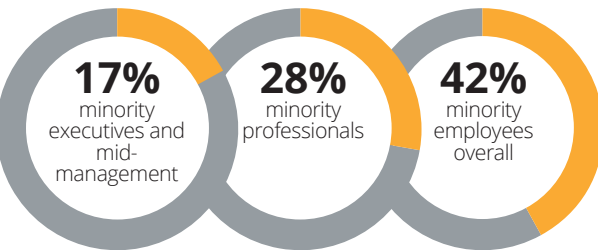
Our veteran representation rate increased slightly in 2024 to 2.8 percent compared to 2.4 percent in 2023.

### 2024 WOMEN AND U.S. MINORITY REPRESENTATION

#### Global Women



#### U.S. Minorities



*Minorities represent employees who identify as Asian, African American, Alaska Native, American Indian, Black, Hispanic, Latino, Native Hawaiian, Pacific Islander, or two or more races.*

### 2024 EMPLOYEE DIVERSITY

	Gender			Age		
	Male	Female	Not Specified	Under 30	30-50	Over 50
Board of Directors	7	3	-	-	1	9
Officers and Assistant Officers	5	4	-	-	2	7
Employees	17,272	6,532	126	4,158	11,553	8,219
Total	17,284	6,539	126	4,158	11,557	8,234

### Employee Well-being

Programs that contribute to a healthier work environment, reduce stress, absenteeism and turnover rates, and ultimately foster a positive corporate culture have always been a focus for our company. In the past few years, the fast-paced and dynamic changes in society and the workplace have made it crucial that we address mental health to ensure we maintain a healthy and engaged workforce.

To support our employees' mental health, we introduced resources that provide therapy sessions and messages through a virtual therapy platform. This enables our employees and their dependents to use an app on their mobile devices that matches them with a licensed therapist or psychiatrist within their benefits program. In addition, our telemedicine vendor has added the ability for employees and their dependents to schedule therapy.

One major benefit of both services is the ability for our employees and their dependents to use these resources in the privacy of their own homes.

Additionally, in 2025, Howmet will be implementing a Parental Leave program that provides expanded time off for new parents in addition to the already available resources.

See the [Health and Safety](#) section for additional information on our efforts around employee health and wellness.

### Training and Development

In today's dynamic and competitive business landscape, the value of a skilled and motivated workforce cannot be overstated.

While our training development programs have traditionally been reserved for salaried employees,

we use technology to extend training access to our hourly employees. These user-friendly and accessible learning platforms ensures our employees can easily engage with the training materials on their mobile devices. We believe this will yield significant benefits for both our people and company.

Providing hourly employees with avenues to new skills enhances their overall contribution to the organization and can lead to greater job satisfaction. This significantly contributes to increased motivation and fosters a sense of loyalty and engagement, resulting in higher employee retention.

In an era of rapid technological advancements, this cultural shift to continuous learning also helps our hourly employees keep their skills relevant, stay abreast of industry changes and be adaptable and better equipped to handle their responsibilities efficiently.

Ensuring our employees are both aware of the many career opportunities and pathways available to them and understand how to take advantage of them is an important element in talent acquisition and retention.

While formal development programs provide new knowledge, we all need support and reinforcement to apply those skills on a day-to-day basis. In 2024, Howmet expanded its formal mentoring program aimed at providing personalized guidance, practical insights and a supportive relationship to foster skill acquisition and professional growth in a real-world context.



### Workplace Culture

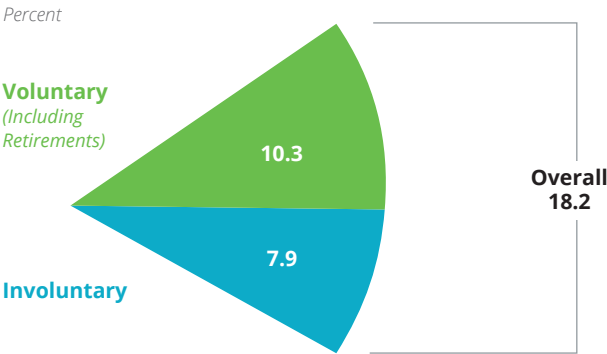
During 2024, we continued to underpin our company values aimed at aligning our teams with a shared vision to guide their decision making, foster a positive workplace culture and adapt to our evolving business needs. We believe these values help create a unified identity and reinforce our organization’s principles. See the [Who We Are](#) section for more information.

### Talent Acquisition and Retention

Several factors made 2024 a challenging year for talent acquisition and retention. Increased competition for skilled individuals, evolving job market dynamics and changing employee expectations all contributed to the need to adapt and refresh our strategies to attract and retain top talent.

New technology that increases the automation of job postings enables a wider dissemination to diverse partners and job boards, increasing the opportunity for applications from underrepresented groups.

#### 2024 TURNOVER RATE



We are committed to not only broadening our reach to all prospective candidates but also ensuring a robust and diverse pipeline of talent for generations to come. We are also focused on offering an application process that is accessible and fast and has improved communication for a better candidate experience.

In 2024, we strengthened our onboarding initiatives, which set the tone for employees’ experiences and influenced their engagement and productivity. For example, we implemented new training centers at several key locations for employees to learn the skill set needed for various tools and equipment, versus a more traditional on-the-job approach spread over a longer period.

Our structured onboarding process combines technology and face-to-face support provided by onboarding coordinators. This process helps new hires acclimate to the company culture, understand their roles and build relationships. All contribute to job satisfaction, reduced turnover and accelerated integration of new employees



into the organization. We continue to enhance our interviewing processes, so employees have increased understanding of the roles for which they are applying.

## Labor Relations

A significant portion of our employees are represented by labor unions in several countries in Europe, North America and South America under various collective bargaining agreements (CBAs), each with differing durations and expiration dates. We believe that we have positive relationships with our employees and their labor union representatives.

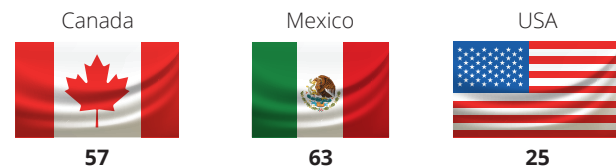
At each location with a CBA, we demonstrate respect for the unions and engage union officials in candid discussions regarding the needs of the business. We strive to balance those needs with the needs of our employees.

Our business and human resources leaders work directly with union representatives to negotiate mutually beneficial CBAs for our company and for union members. Our local leaders' continual collaboration with union officials also has resulted in improved effectiveness of our dispute resolution processes.

In Europe, our business and human resources leaders engage intensively with unions and works councils at local, country and regional levels on employment-related matters. Most of our European locations have a local works council, and we have works councils at the national level in France and Germany. With a presence in the European Union and European Economic Area, we engage periodically with Euroforum, which is the European works council. This engagement focuses on information and consultation processes relating to transnational matters that concern the region's workforce.

## 2024 UNION REPRESENTATION

*Percent of employees*



*No information is collected for other countries due to data privacy considerations.*

Within the U.S., we have eight CBAs with various labor unions that cover approximately 3,400 employees, or 25 percent of the workforce. There are no CBAs in the U.S. that expire in 2025.

# HEALTH & SAFETY

- **Globally, we had zero fatalities or serious injuries in 2024, and we improved our incident rates.**
- **We completed 61 facility fire and risk-reduction projects, which improved our overall loss expectancy.**
- **New-to-the-job safety injuries reduced by 12 percent over 2023.**

Our strong health and safety culture empowers all employees and contractors to take personal responsibility for their actions and the safety of their coworkers. This culture is supported by internal policies, standards, rules and procedures that clearly articulate our stringent requirements for working safely in all of our facilities worldwide. In 2024, adherence to our management system and requirements led to a global decrease in incident rates.

## Occupational Health and Safety Management System

Our [Environment, Health and Safety \(EHS\) Policy](#) sets requirements against which our businesses and locations are measured. Our leaders, from our CEO through line management, are expected to communicate the policy to all employees and third parties, such as contractors, suppliers and visitors. The policy is also signed by each location leader, posted in strategic and visible areas and audited to demonstrate the value we place on health and safety.

Our EHS management system is key to the successful implementation of our EHS Policy. The system aligns with the [ISO 45001:2018](#) (occupational health and safety systems) and [ISO 14001:2015](#) (environmental management systems) standards. The standards' requirements are incorporated into our site-specific EHS management systems, which cover all the production and office sites and apply to all employees, contractors and visitors worldwide.

To help us achieve our ultimate goal of zero incidents, we have annual health and safety goals and objectives for each location. These goals and objectives are built into our annual EHS planning

process and address required improvements based on identified weaknesses against internal and external standards and regulations, as well as audit findings and non-compliances. Each location's EHS plan is linked to our EHS management system and reviewed on a regular basis, including quarterly updates with our Executive Lead Team. Our employees have access to the plans, requirements and results on our internal website to ensure transparency and accountability.

Accountability for deploying our internal EHS policies and procedures is validated through our internal audit process. Using this process, we evaluate a location's inherent and controlled risks and review its implementation of the EHS management system and conformance with regulatory and internal requirements. In 2024, we conducted 11 health and safety and 11 environmental audits that covered a subset of our global locations.

## Risk Assessment and Incident Investigation

We use various risk identification, assessment and control processes to reduce the likelihood of safety and health incidents in the workplace. Core to our effort is the prevention of fatal and serious injuries, as these types of events have the potential for life-threatening and/or life-altering outcomes. Globally, our key risks are mobile equipment and contractor management.

We require each business to identify safety risks, evaluate root causes, verify competent support, address gaps and reduce risk using the hierarchy of controls methodology. Unacceptable or

marginal risks must be eliminated or reduced in a timely manner, with management reviewing metrics that document risk reductions.

Our management of change process ensures that any new or modified processes are evaluated for EHS risks. Prior to the change, we eliminate or reduce risks with the inclusion of control strategies. We also use industrial hygiene (IH) qualitative assessments to assess chemical exposures prior to use, with additional local exhaust ventilation or personal protective equipment considered, as needed, if a less hazardous material cannot be used. Quantitative IH sampling helps ensure that implemented controls prevent exceedances of any internal or governmental occupational exposure limits.

We achieved the following milestones in controlling risk in 2024:

- We continued risk reduction efforts by deploying targeted quarterly Fatality Serious Injury, or FSI, assessments for critical risks in addition to implementing actions to close open

Factory Mutual (FM) fire and loss prevention recommendations.

- As part of an initiative to abandon the use of chlorinated solvents in non-laboratory operations by 2025 (where technically and economically feasible), we reduced the total number of products containing these solvents at our locations by 69 percent.
- Our Global Safety Committee updated our company procedures related to fire prevention with control of ignition sources for titanium grinding, milling and cutting operations. We also completed global workplace violence assessments, generating action plans at each location to further minimize risk.

Our incident reporting and investigation requirements are embedded in our policies and standards and designed to support our principle of relentlessly pursuing and continually improving EHS systems and processes to achieve an incident-free workplace.

The Howmet Engine Systems (HES) Nomi, Japan site recently completed a three-year fire protection project which installed a dedicated water supply, fire pump and sprinklers throughout much of the plant. The full system passed its formal acceptance testing with our property insurer during on-site testing and commissioning in late September.

This project helps protect the location from a catastrophic fire event and helps reduce risk to the plant's customers and supply chain. The project required very close coordination between the business, contractors, vendors and FM to anticipate and mitigate potential obstacles, protect delivery times of critical path equipment and fully install the system while the plant remained in operation.

"It is wonderful to see the completion of this project," said David Lambert, Nomi plant manager. "This extensive and complicated project took great partnership and coordination between the business unit, plant, our fire protection contractor and FM, our property insurer. We started the

project with an on-site workshop three years ago to ensure engineering specifications were clearly and carefully defined. We then completed the project in phases resulting in the full completion and commissioning this past month. I'm grateful for the teamwork by all to complete this investment to protect our plant, customers, and our future."

The project was completed, certified and released for operation on time to the original commitment date.



When an incident occurs, the location must follow a predefined process to ensure root causes are identified and eliminated. Depending on the incident's severity, management awareness and involvement is escalated. Incident learnings are communicated to share systematic improvements across all of our locations to avoid a similar injury from occurring again. Our Executive Lead Team reviews our incident performance each quarter, while our board reviews it once per year.

In addition to protecting the health and safety of our employees, we also focus on the safety of our facilities and operations. Our locations continue to invest in reducing fire, natural disaster and other business operational risks.

We completed 61 facility fire and risk-reduction projects in 2024, improving our overall loss expectancy. Investments to reduce the overall risk of fire and natural disasters will continue to be a major focus.

## Employee Engagement and Empowerment

We support a safety culture in which employees feel comfortable communicating health and safety questions and concerns. Employees are encouraged to express their views and opinions so we can proactively identify and mitigate potential risks.

Health and safety programs can only be truly effective if they include employee input and feedback. Ensuring broad engagement—both formally

A STOP event occurred at our Rancho Cucamonga, California location where forge employee David Zuniga stopped work after noticing the P4000 press ram was drifting a few inches after each forging operation. The maintenance department determined that the drift was caused by debris in the hydraulic lines of the main ram valve.



A STOP event occurred at our Laval, Quebec, Canada location where straightening department employees Dan Suong and Saloeum Say notified their supervisor when they observed that one of the support bars for a hydraulic cylinder on the 1000-ton straightening press was displaced from the normal position, potentially putting the equipment at risk of failure and incident.

Remi Lahaie, EHS manager, and Pierre Loiseau, maintenance team leader, quickly addressed the situation and returned the equipment to normal operating condition

while improving the security of the retaining pins of the support bars.

Dan and Saloeum were congratulated and thanked for their observation and for stopping work and getting help. They were awarded with STOP coins for their efforts to protect their colleagues and the equipment from experiencing an equipment failure or unplanned downtime.



Another example of a recent STOP event occurred at our Rancho Cucamonga, California, location. Grinding employee Felipe Nolasco noticed the crane he was operating was having issues with the braking system. He contacted maintenance and the crane was locked out until repairs to the braking system could be performed.



and informally—is at the center of our program deployment. Formal engagement may occur locally, such as through works councils and employee EHS committees, to receive ideas and feedback for improvement. Locations have a variety of communication and reporting avenues at their disposal to share observations of any ideas for improvement and results of actions to address concerns.

Employees can report any EHS or other concern via our Integrity Line. Our Code of Conduct prohibits retaliation against employees who report a concern in good faith.

All employees have the authority to refuse or stop unsafe work. We expect them to exercise this authority, and we reward them through our STOP for Safety Coin Campaign. Our aim is to motivate employees to be vigilant in their work and always stop and seek help when presented with a potential safety hazard. This philosophy extends to health, environmental and other production observations.

Employees who refuse or stop unsafe work for themselves or their colleagues are awarded an aluminum STOP coin and receive local and, in some cases, global recognition. We have distributed thousands of STOP coins to these safety advocates since the program's launch in 2016.

To further build on empowering our employees to stop unsafe work and proactively identify where error-likely situations may arise from the tasks

being performed, we continued to train human performance coaches in all regions of the world where we operate. The training teaches each coach to assess where error-likely situations may be present based on the task assigned, evaluate risks associated with the task assignment, and identify which error prevention tool can be used to control the identified human-error-likely scenario.

## Employee Health and Safety Training

The education and training of our employees, contractors and visitors about our workplace health and safety requirements and expectations are cornerstones of our EHS management system.

Our training programs are based on a needs assessment that includes input on an individual's exposure, workplace hazards and other requirements. Single points of accountability (SPAs) at the plant, EHS professionals and third-party consultants provide the training to ensure company and regulatory requirements are delivered to those required to receive the training. We review and update our training needs assessments as part of our annual planning process.

Through a combination of toolbox talks, classroom training, hands-on proficiency testing, webinars and e-learning, our locations meet local, company and regulatory training requirements. We provide regulatory-required training materials



*A human performance workshop was conducted in Japan to support Howmet locations across Asia and Australia with their efforts to further mature understanding of human performance for both their EHS and quality systems.*



to affected employees at no cost and make the materials available for reference after the training session through local networks, SharePoint pages or our global EHS management system webpage. Training is provided in the language understood by the employee.

Our global EHS committees continued to conduct skill development training webinars for our EHS professionals in 2024. In addition to EHS compliance, training included ASAT Testing and Special Auditor Training, Non-Compliance Environmental Case Root Cause Analysis Lesson Learned, Titanium Fire Prevention Standard Deployment, Environmental Circular Economy, Ergonomic Risk Assessments, Environmental Metrics, Electrical Arc Flash and External Audit Update, Welding Best Practices and Storm Water Compliance.

In 2024, training for new business leaders was a key focus to help ensure they understand their roles and accountabilities related to EHS management. The training reinforces how their leadership in EHS can help or hurt the EHS culture at their local operation.

Through the training, we introduce our new business leaders to a number of our business unit presidents, who discuss challenges as well as tactics and strategies they have taken to improve EHS performance in their careers. The training also covers leadership EHS expectations, leading a fatal and serious injury prevention team, leading human performance deployment, driving accountability through an effective SPA process, environmental responsibilities, critical skills for emergency response and improving health metrics.

## Occupational Medicine Services

Our employees and select embedded contractors have access to occupational medicine services to optimize their health and well-being both on and off the job. These services include regulatory-required or internal risk-based chemical surveillance evaluations, fitness for-duty assessments, hearing evaluations, lung-function testing, work-related injury and illness evaluation, substance abuse testing and job-related immunizations.

We require that internal and third-party medical providers conform, at a minimum, to our internal standards for defining qualified and responsible occupational healthcare professionals and applicable government requirements. Privacy of medical data is supported by our [Code of Conduct](#) and Personal Data Privacy Policy and is managed in alignment with our internal standards and applicable government requirements. Our [Human Rights Policy](#) prohibits discrimination against any employee disability or medical condition.

## Employee Health Promotion and Benefits

As part of our responsibilities as an employer, we work to ensure our employees and their dependents have access to quality healthcare.

We have a broad range of healthcare coverage arrangements that are subject to location, country and union contract requirements. The following address the majority of our employees:

- Canada, France, Germany, Hungary and the United Kingdom: Employees have state-regulated access to high-quality and accessible health services. Depending on the plan, we may contribute financially to state or private insurance funds as part of the labor premiums. Depending on the country, we provide additional coverage related to health and welfare for some populations.
- Mexico: Employees have required government-provided healthcare, and we also provide additional coverage depending on union or non-union status.
- U.S.: Employees have access to company-sponsored health and welfare plans, including medical, prescription, dental, vision, life and disability coverage. These plans are administered by large and well-known third-party insurance providers.

Individual employee results from any health promotion activity is treated confidentially. We analyze only aggregated and anonymized information to evaluate the efficacy of our activities.

Individual locations further promote healthy lifestyles by holding various health events focused on

topics that include smoking cessation, breast cancer awareness and stress reduction. U.S. employees are also offered access to the LifeBalance Program, which is a discount ticketing platform designed to help promote work/life balance (see the [Human Capital](#) section for additional efforts focused on employee well-being).

Many of our locations and employees marked Breast Cancer Awareness Month in October 2024 by offering talks by breast cancer survivors, sponsoring breast exams, donating to breast cancer nonprofits and encouraging pink clothing. Our Howmet Monterrey (MX) Wheels location conducted a Breast & Cervical Cancer Awareness Campaign on October 22, 2024, offering breast cancer screening and pap smear testing to employees. The location experienced a doubling in breast exams and four times increase in pap smear testing from 2023 to 2024. The Howmet Monterrey site also conducted a Men's Health Campaign on November 14 and 15, 2024, providing prostate screenings for employees.

## Travel and Off-site Employee Safety

We rely on our internal standards to protect the safety and well-being of employees who are required to travel or visit locations that we do not control. These standards cover safe driving, general travel safety guidelines, cell phone restrictions and training. The latter includes defensive driving, medical provisions, hotel safety and other topics that further educate employees on risk identification and reduction. The standards also specify requirements for reporting travel incidents so that we can identify common trends and develop control strategies to reduce the risk of a reoccurrence.

As referenced in our [Code of Conduct](#), all employees share accountability for protecting themselves and their colleagues by performing their job in a safe and responsible manner, regardless of where that work is performed. Just as they are empowered within our own locations, our employees can refuse or stop work at sites that are not under our control if they feel there is an unsafe condition.

## New Hire, Temporary Employee and Contractor Safety

All new hires, temporary employees and contractors are covered under our EHS Management System through orientation, training, policies, procedures, safety planning and observations.

In 2024, we continued to focus on the onboarding and training of new hires and ensuring that contractor safety requirements are being managed.

Continuation of the new-to-the-job program, launched during 2023, resulted in a 12 percent reduction of new employee incidents in 2024. Key program focus points include EHS training, observations, mentor assignment, visual identification of new hires (through hard hat or badge) and increased supervised oversight.

Our contractor EHS standard requires each location to have at least one person assigned as the Howmet responsible person to oversee contractor safety expectations. This responsible person has the authority to choose contractors, define scope of work, validate that safety plans cover the risk of the work performed, ensure the hazards of the work have countermeasures, confirm contractors are trained for the tasks assigned and perform routine audits of the work to validate compliance to location and company rules.

In addition to assigning a Howmet responsible person, our contractor EHS standard requires adherence to the following principles:

- Each contractor or subcontractor is pre-qualified and has a current risk rating.
- A job-specific safety plan is documented and covers hazards and controls for the work being performed and the plan is reviewed each day to include risks and controls for that day's work.
- The Howmet responsible person approves the safety plan for that day's work.
- Frequent field-based audits are conducted to ensure compliance to the safety plan and site rules.

2024 Performance

In 2024, our employees worked more than 51 million hours with zero fatal or serious injuries. We define serious injuries as those that result in life-threatening or life-altering conditions.

Our key employee safety rates improved compared to our 2023 performance and continued to remain significantly below U.S. industry averages.

Compared to the prior year, our 2024 days away, restricted and transfer (DART) rate decreased 23.5 percent, and our total recordable incident rate (TRIR) improved 11.3 percent. Both rates were below our 2024 targets of 0.28 and 0.99, respectively. Our lost workday (LWD) rate, which is a

subset of DART cases, improved 10 percent. A key factor for the rate decreases was an improved new hire injury rate, with our new-to-job injuries decreasing 12 percent from 2023.

At the end of 2024, 72 percent of our locations globally had worked the year without a DART incident, 79 percent without a LWD, and 40 percent without a total recordable incident.

Contractors spent more than 2.4 million hours on our projects during 2024. Our contractor DART rate of 0.25 did not improve compared with 2023; however, the contractor TRIR of 0.51 was an improvement from our 2023 performance. The targets for both were equivalent to our employee targets.

INJURY & ILLNESS INCIDENT RATES – EMPLOYEES AND SUPERVISED WORKERS

	Fatalities	Days Away, Restricted and Transfer		Lost Workday		Total Recordable Incident	
		Count	Rate	Count	Rate	Count	Rate
2020	0	55	0.24	28	0.12	158	0.71
2021	0	45	0.22	31	0.15	148	0.71
2022	1	38	0.15	22	0.09	153	0.66
2023	0	40	0.17	25	0.10	171	0.71
2024	0	34	0.13	23	0.09	160	0.63

Lost workday rate represents the number of injuries and illnesses resulting in one or more days away from work per 100 full-time workers. Days away, restricted and transfer rate includes lost workday cases plus cases that involve days of restricted duty and job transfer per 100 full-time workers. Total recordable incident rate represents the number of injuries and illnesses resulting in days away from work, job transfer or restriction, medical treatment or other recordables per 100 full-time workers.

INCIDENT RATES – CONTRACTORS AND CONTRACTED SERVICES

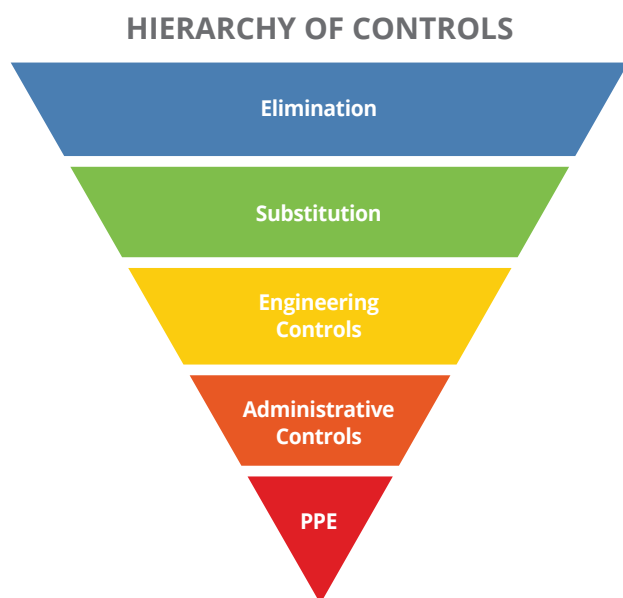
	Fatalities	Days Away, Restricted and Transfer		Lost Workday		Total Recordable Incident	
		Count	Rate	Count	Rate	Count	Rate
2020	0	1	0.11	1	0.11	4	0.50
2021	0	3	0.34	2	0.23	4	0.45
2022	0	3	0.25	2	0.17	9	0.77
2023	0	2	0.19	2	0.19	6	0.56
2024	0	3	0.25	2	0.17	6	0.51

# CASE STUDY

## Eliminating Chlorinated Solvents

In 2023, Howmet began a three-year global initiative to abandon the use of products containing chlorinated solvents and to eliminate the potential health and environmental hazards.

Howmet focused on the most effective control strategies within the Hierarchy of Controls for managing risks—in other words, elimination where possible, followed by substitution.



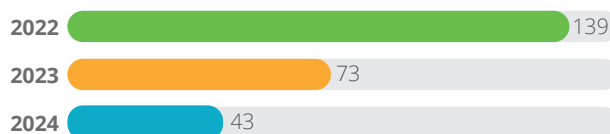
To kick off this initiative, each Howmet business unit incorporated this goal into their annual EHS business plans to help drive accountability at all levels. Howmet's Global Health Committee further supported the goal by:

- Providing on-demand site training on the risks and Howmet's goal for eliminating chlorinated solvents;

- Creating a target report within Howmet's Chemical Management System to easily maintain an active list of products containing chlorinated solvents at the business unit and site level;
- Incorporating chlorinated solvents into Howmet's List of Materials with Higher Potential Health Risk, which would flag any products containing chlorinated solvents during the chemical approval process; and
- Communicating the goal through toolbox talks and EHS meetings for business unit and site personnel.

To date, Howmet has reduced the number of products containing chlorinated solvents by more than 69 percent compared to the number of products used in 2022. "Our Global Health Committee praises the cross-departmental efforts at all our sites to eliminate or replace products containing chlorinated solvents," states Robert Baft, manager of EHS systems and industrial hygiene. "Howmet's vision to target this class of substances will have a long-lasting impact on the safety and well-being of our employees and environment."

### VENDOR PRODUCTS CONTAINING CHLORINATED SOLVENTS



# STAKEHOLDER AND COMMUNITY ENGAGEMENT

- **Howmet Aerospace Foundation disbursed \$5 million in STEM-focused grants in 2024.**
- **Grants for inclusion initiatives for under-represented populations totaled \$742,000.**
- **Community donations included \$200,000 for hurricane relief in the southeastern United States and \$70,000 for earthquake relief in Japan.**

Through open dialogue with a broad range of stakeholders in an atmosphere of respect and trust and with the highest regard for human rights, economic opportunity and the natural environment, we earn our social license to operate.

Our stakeholders include our customers, suppliers and employees; the people who live in the communities where we operate; shareholders and lenders who provide our financial capital; the public agencies that regulate our businesses; government representatives; and the non-governmental organizations that are interested in what we are doing.

Each of our locations defines the stakeholder groups with which to engage and—taking into account the nature of our facilities—identifies tools and approaches to ensure that collaborations with these stakeholders are robust, effective and transparent.

[Howmet Aerospace Foundation](#) is an independently endowed private foundation with assets of approximately \$188 million in 2024. The foundation directs a significant portion of its grantmaking each year to nonprofit organizations in communities around the world to develop partnerships and strategies that address specific community needs.

Through collaboration with nonprofit partners, the foundation's initiatives make quality STEM (science, technology, engineering and mathematics) educational opportunities available to students; support engineering and technical skills training

through community colleges, technical schools and universities around the world; and help create access for underrepresented individuals to the STEM fields.

In 2024, the foundation disbursed \$5 million in STEM-focused grants. These included \$350,000 to the Society for Science for the sponsorship of two categories at the 2025 International Science and Engineering Fair, \$275,000 to Pittsburgh Public Schools for FIRST Robotics programs, \$93,160 to Torquay Girls' Grammar School for their Science Innovation Centre, and \$80,000 to Universidad Tecnológica de Ciudad Acuña for their CNC center.

The foundation disbursed \$742,000 in grants focused on under-represented populations and inclusion. Examples of the grants include \$45,000



*Employee volunteers and their families removed non-native vegetation to protect native wildflowers and other plants in Gochi City Park in Japan.*



to The Pat Tillman Foundation for veteran scholarships, \$30,000 to Latino Health Access for the Activate Your Health program, and \$25,000 to Association Hanvol for employment training for disabled individuals in France.

Other supported initiatives during the year addressed a variety of local needs in the communities where we operate. Grants included:

- \$200,000 to the American Red Cross for hurricane relief in the southeastern United States;
- \$70,000 to the Japanese Red Cross for earthquake relief in Japan;

- \$50,000 to Aktion Lichtblicke, a German organization that has been helping children, youth, and families in North Rhine-Westphalia since 1998; and
- \$40,000 to University Settlement in Cleveland, Ohio, for the AmeriCorps NEO Skill Corp Program.

In addition to grants, our employees volunteer their time, energy and skills to community programs and projects to help local nonprofit organizations.

# CASE STUDY

## Wichita Falls Employees Put Heart into Home Building

Employee volunteers from Howmet Engine Systems in Wichita Falls, Texas, helped build a home for a local family in need.

Coordinated through Habitat for Humanity, the project was one of many lined up by Jackie Jones, manager of information Systems at Howmet and the leader of Howmet's Community Outreach group. About once a month she helps recruit staff into local charitable events supporting food pantries, school children, veterans, animal shelters and more.

Jackie says that the rewards of the volunteer work flow both ways, as employees gain valuable experience from being involved. "We really benefit from working together in a different environment," she says. "In addition to connecting with the community, it's great for team building."

Working with Habitat for Humanity also helps employees gain valuable construction skills.

"You don't have to have experience to join in," says Jason Witte, senior infrastructure engineer at Howmet. "You can start with simpler tasks and get on-the-job training working with seasoned volunteers."



A building hobbyist outside of work, Jason was right at home cutting and hanging sheetrock. He, along with the other volunteers and the homeowners who participated in the work, all agreed that the most fulfilling part of the work is the pride they all feel in creating a home.

"Having a hand in building a home is a special experience," says Jason. "You can see the pride and feel the camaraderie. Even coworkers who couldn't be there joined in by decorating wood studs. Their kind words and well wishes will be uncovered someday when future homeowners make renovations."



*Employee volunteers (from left) Jason Witte, Jose Martinez, Chris Burdette, Deshaun Delgado, Eugene Kruger and Regina Biggers worked the first shift hanging sheetrock.*



*Employee volunteers (from left) Adam Culley, Will Sullivan, Steve Renz, DR Shed, Lukas Knauss, Jahzeel Alcantar-Gallegos, Toby Andrews, Chloe Darst, and Taylor Roberts worked the second shift.*

# PRODUCT SAFETY

- **In 2024, Howmet Aerospace had zero product safety-related recalls.**
- **Our facilities hold more than 300 unique third-party accreditations and approvals.**
- **Howmet's commitment to product safety and integrity is built into everything we do, from supplier risk assessments to employee training, customer contracts and multi-layer inspection and testing programs.**

As a manufacturer of parts and equipment used in the aerospace, defense and commercial trucking industries, we know that a lot is riding on product safety. Many of Howmet's aerospace and defense products are designated as "Flight Safety Critical," meaning that once installed and put into service, failure could cause catastrophic situations. Similarly, commercial trucks and trailers rely on our forged aluminum wheels to safely transport goods on our roadways.

As such, product safety is an integral part of our business model and enterprise risk management processes. Product safety is part of our strategy for growth and value creation. We are committed to offering products that meet or exceed the highest safety standards, applicable regulations, and industry and market requirements throughout their entire life cycle.

We constantly strive to evaluate and improve our products to ensure that they are as safe as possible. Every employee, regardless of job assignment, title, or location, plays an important role in this endeavor.

## Quality Management

The complexity and criticality of the products we produce require equally robust systems to assure all contractual and regulatory requirements are met.

All of our manufacturing facilities hold one or more third-party quality management system accreditations, which include ISO 9000, AS/EN 9100, IATF/TS 16949 and/or ISO 17025. We also have

distribution quality management system approvals at all of our facilities involved in the distribution of aerospace hardware.

Within 2024, we held the following externally granted accreditations and approvals:

- ISO 9000: Quality Management Systems—61 unique approvals;
- AS/EN 9100: Aerospace Quality Management Systems—66 unique approvals;
- IATF/TS 16949: Automotive Quality Management Systems—10 unique approvals;
- ISO 17025: Laboratory Management Systems—10 unique approvals;
- AS9120: Aerospace Distribution Quality Management Systems—6 unique approvals;
- Nadcap: Aerospace Special Process—145 unique accreditations; and
- Federal Aviation Administration (FAA): Organization Designation Authorization—6 unique approvals.

We also hold a significant number of technical standard order approvals and parts manufacturer approvals (PMAs) issued by the FAA. The PMAs that we hold cover both design and production and can be found in the [Dynamic Regulatory System](#). The approvals may be listed under our previous company name (Arconic Inc.) and are in the process of being updated in coordination with the FAA.

In addition to external systems and regulations, our internal quality management system drives an evaluation of all contracts to assure the requested product is within our known capabilities and

capacity. This allows us to focus on manufacturing process controls, which increase our quality yields and reduce lead times. Our drive for continuous improvement is evident in our year-over-year improvement in both metrics.

We perform product-release testing on all manufacturing batches in accordance with customer contractual requirements or internally established standards, assuring product conformity prior to shipment. These tests are designed to ensure anomalies in materials or manufacturing that might affect part quality are identified prior to our release of the product to the customer. We also perform additional testing for investigative purposes to support continuous improvement opportunities and initial qualification of processes and products. All of our critical safety testing equipment used for product release is calibrated and traceable to internationally recognized standards.

We regularly validate our processes that are subject to variables (time, temperature, concentrations, etc.) to ensure their ongoing integrity. These special processes include heat treatment, chemical processing, nondestructive testing, metallurgical testing, mechanical testing, nonconventional machining and welding. All are evaluated to the strictest industry standards, with many also directly evaluated and approved by our external customers. In addition, third-party accreditations, typically through the National Aerospace and Defense Contractors Accreditation Program (Nadcap), are required for the aerospace sector.

### Suppliers

We evaluate our suppliers for risk to product integrity and determine approval based on that risk. In cases where we deem the risk as significant, we perform on-site evaluations on a periodic basis. We also evaluate suppliers that are performing special processes to the strictest of industry standards, and some of these supplier processes are evaluated and approved by our customers. Our suppliers in the aerospace sector also must have third-party accreditations.

We periodically conduct training with specific suppliers on root cause analysis, continuous im-

provement, blueprint reading, quality assurance, inspection techniques and process management. This training is intended to improve our overall operations, product flow time and product quality.

We periodically check products received from suppliers for conformance to contract requirements, with the level of scrutiny based on the risk of the process and supplier performance. Communication with suppliers is continuous, and we provide periodic scorecards to our key suppliers.

### Product Safety Management

Our Product Safety Management System (PSMS) and policy provide the foundation of product safety and quality. This systematic approach guides our planning, implementation and control of the processes needed to ensure product safety during all stages of the manufacturing process.

Our PSMS is supported by ongoing training for employees that is necessary for them to perform their functions. There is a special emphasis on new hire orientation, an employee's role relative to product integrity, our [Code of Conduct](#) and quality management systems.

#### PRODUCT SAFETY-RELATED RECALLS

	Voluntary	Involuntary
2020	0	0
2021	1	0
2022	0	0
2023	0	0
2024	0	0

*Consistent with the definition in the U.S. Consumer Product Safety Commission's Recall Handbook, a recall is any repair, replacement, refund or notice/warning program intended to protect consumers from products that present a safety risk.*

Many of our employees belong to or participate in industry associations, including the American Society for Quality, ASM International, Society of Automotive Engineers and Nadcap.

Using our PSMS, we identify and minimize risks related to, or in direct support of, product manufacturing throughout the product life cycle. We continuously improve and mitigate product risk through risk identification, data collection and analysis, and continuous risk assessment associated with product recalls, counterfeit parts, number

of airworthiness directives and monetary losses. Our senior management regularly reviews these metrics.

To systematically identify risks, our PSMS uses tools that include a political, economic, social, technological, environmental and legal (PESTEL) analysis; a strengths, weaknesses, opportunities and threats (SWOT) analysis; and a failure mode effects analysis (FEMA). These tools are used in a “plug-and-play” approach, providing flexibility to the teams responsible for identification and mitigation of the risks. The teams select these tools based on the system, process or product risk upon which they are focused.

Identified risks are addressed through the implementation of risk mitigation action plans that can be owned by the process owner, process manager, site leadership or others. We believe that implementation plans must include, or be driven by, the individuals that are actively performing the process, ensuring active engagement from all employees in identifying and mitigating risk. We also communicate risks associated with manufacturing incidents to affected stakeholders for mitigation and resolution.

Where appropriate, we have worked in conjunction with, and received product qualifications from, our customers to provide multiple site capabilities to support customer demand in the most severe of circumstances.

We conduct internal audits on a risk-based frequency to assure adherence to quality management system expectations, with the internal audits supported by third-party audits and certifications. Independent audits are conducted to further ensure compliance with our product integrity expectations. These audits and associated actions continue to minimize product integrity risk.

Our enterprise risk management process consists of monitoring and reviewing the risk levels of identified enterprise risks, such as product quality and safety, and identifying any new enterprise risks we may have. All identified key risks have a mitigating action plan to manage the risk, and we present the status of key enterprise risks to our Board of Directors annually.

We had zero product safety-related recalls in 2024.



# SUPPLY CHAIN

- **We continue to participate in the International Aerospace Environmental Group's ESG supplier assessment initiative.**
- **As part of our industry-specific initiatives, we are working with our suppliers of aluminum, titanium alloys and titanium sponge to understand their carbon footprints.**
- **Our Global Supplier Sustainability Program has been strengthened and aligned with an aerospace industry voluntary standard.**

Our vision is to have a solid, reliable, responsible and resilient supply chain that positively impacts society and the environment and guarantees security of supply at a competitive price.

As a global company, we conduct business with nearly 15,000 suppliers around the world. Our annual spend exceeded \$4 billion in 2024. Additional details on the number of suppliers by major categories and spend by region can be found in the [ESG Performance Metrics](#) section.

The operations in our supply chain have impacts on the environment and society. We can influence and support our suppliers to improve their ESG performance by setting requirements that they must meet and are accountable for throughout their own supply chains in order to do business with us. These requirements are outlined in our [Supplier Code of Conduct](#), which aligns with the model supplier code of the [International Forum on Business Ethical Conduct](#), and our corporate [Code of Conduct](#). The requirements cover compliance with laws, integrity and business ethics, product safety, information protection, human rights, employment practices, environment, health, safety and global trade.

Our interactions with suppliers are also based on the highest standards of integrity and compliance with all relevant laws and regulations. (See the [Ethics and Compliance section](#) of our website for additional information.)

Before considering any major new supplier, we perform due diligence to ensure the supplier

is not in the consolidated database of the U.S. Department of Commerce International Trade Commission's denied and restricted parties and/or in the Uyghur Forced Labour Prevention Act Entity List. We do not partner with any suppliers who appear on these lists.

To manage risks associated with suppliers that provide critical materials and services, we are leveraging master agreements with our preferred vendors where possible to secure pricing and negotiated terms and conditions. When needed, we engage with these vendors on potential supply chain disruptions and what actions can be taken to mitigate that risk.

## Global Supplier Sustainability Program

We are committed to the responsible sourcing of materials and components necessary to manufacture our products and to the wider objective of strengthening the sustainability of the aerospace and defense sector's supply chain.

For many years, we have acted upon this commitment through our Global Supplier Sustainability Program and its four components:

- **Communicate expectations:** Our [Supplier Code of Conduct](#) outlines our expectations regarding supplier sustainability.
- **Assess suppliers:** We conduct assessments of the key suppliers to evaluate the maturity of their sustainability programs and determine where improvement may be advisable.

- **Develop and educate:** We may share our perspective of a supplier's sustainability questionnaire results with the supplier and discuss opportunities for improvement.
- **Monitor:** We periodically reassess our suppliers to evaluate if any changes have occurred that would influence a supplier's maturity level rating. It is our expectation that supplier sustainability should improve over time.

We are a member of the International Aerospace Environmental Group, or IAEG, an association of 56 leading aerospace and defense companies that represent more than 70 percent of the industry globally. In 2023, IAEG selected a third-party to conduct ESG performance assessments of the aerospace and defense supply chain against a common standard shared by major market players.

We participated in the development of this initiative, which aims to improve ESG performance in the industry and its supply chain. Other participants included Airbus, ATR, Boeing, CAE, Leonardo, Raytheon Technologies, Lockheed Martin, Rolls-Royce Thales, Safran, and Gulfstream.

Through the initiative, suppliers complete one ESG assessment to share with their customers instead of undergoing multiple assessments. This provides suppliers with an efficient and cost-effective way to assess their ESG performance. The initiative also drives continuous improvement of the industry's ESG performance through awareness campaigns and on-demand supplier access to training materials focused on improving ESG acumen.

The assessment model is set to globally recognized standards, such as the Global Reporting Initiative (GRI), the United Nations Global Compact and ISO 26000. The model assesses four areas (environment, labor and human rights, ethics and sustainable procurement) through 21 indicators and provides participants with a comprehensive scorecard.

In 2024, we agreed on minimum requirements for our suppliers and modified our internal procedures to manage the Supplier Sustainability Program. We also launched a supplier engagement campaign to bring third party ESG assess-

ment tools to our suppliers who were not already using these tools for their ESG assessments. We continued to target key suppliers, which are metal suppliers, companies that receive more than US\$1 million of our annual spend, and suppliers based in countries identified by the US Department of Labor as at risk for Forced and Child labor, as well as suppliers in relation to German LkSG Compliance.

Sustainability Maturity Rating	Points	Percent of Key Suppliers
Outstanding	≥85	0.8%
Advanced	65 to 84	32.2%
Good	45 to 64	48.8%
Partial	25 to 44	18.2%
Insufficient	≤ 24	0%

We initiated training for Strategic Category Management and Procurement Buyers covering our new sustainability work with the assessment tool vendor. These discussions included working with our supplier base to complete and utilize shared supplier assessments, which has provided a more complete understanding of the ESG-related needs and initiatives of the global aerospace and defense industry.

## Supplier Engagement Initiatives

In addition to our Global Supplier Sustainability Program, we have several supplier-specific initiatives.

We engage yearly with our suppliers of conflict minerals. Additional information is available in our most current [Specialized Disclosure Report on Conflict Minerals](#) and Conflict Minerals Policy Statement.

To strengthen our Scope 3 emission calculations in 2024, we requested suppliers of aluminum, titanium alloys and titanium sponge to provide their carbon footprint as measured by carbon dioxide equivalents per ton of products sold to us. We also engaged with our suppliers of the aluminum and steel that we use to manufacture products affected by the European Carbon Border Adjustment Mechanism to gather required data.

# HUMAN RIGHTS

- **Howmet is committed to promoting human rights and complying with all applicable human rights laws and regulations.**
- **Since 2023, we have included human rights in our supplier due diligence program.**
- **All individuals, including our internal stakeholders and employees, may utilize Howmet's Integrity Line to report concerns or suspected violations of law.**

As a responsible business, we are committed to promoting human rights in the communities in which we operate and complying with all applicable human rights laws and regulations. We also require that our employees and suppliers do the same.

Our respect for human rights is expressed in our [Human Rights Policy](#), [Code of Conduct](#), [Supplier Code of Conduct](#) and other policies related to our global business activities. These policies communicate our expectations for human rights, including workers' rights and health and safety. In 2024, we developed and published a complementary Human Rights Disclosure, pursuant to Canada's Fighting Against Forced Labour and Child Labour in Supply Chains Act, California's Transparency in Supply Chains Act and Section 54 of the United Kingdom's Modern Slavery Act 2015. This disclosure is updated and published on an annual basis.

## ***Human Rights Due Diligence***

We are conscious of our responsibility as a company with global operations and aim to carry out due diligence with regard to human rights. Since 2023, we have included human rights in our supplier due diligence program. More information about our commitments can be found in the [Supply Chain](#) section.

## ***Supplier Code of Conduct***

Howmet Aerospace's Supplier Code of Conduct formalizes our expectations of and requirements for our suppliers. Howmet is committed to ensuring

that the actions of our suppliers are consistent with our commitments and values. The Supplier Code of Conduct requires, among other things, that suppliers:

- Fully comply with all applicable laws and regulations;
- Ensure that their employees, representatives, consultants, agents, sub-suppliers, contractors and subcontractors do the same;
- Conduct their business and operations in a way that respects human rights by treating their own workers, as well as people working for their suppliers, with dignity and promoting fair employment practices;
- Identify risks and adverse impacts on human rights related to their activities and business relationships and take appropriate steps to reduce such risks and to remedy any adverse impacts; and
- Ensure that illegal child labor is not used in the performance of work and prevent any involvement in all forms of modern slavery, including human trafficking and forced, bonded or indentured labor.
- In addition, the Supplier Code of Conduct includes requirements related to remuneration of our suppliers' workforces.

## ***Children and Young Workers***

As a fundamental principle, we do not employ children or support the use of child labor. We do encourage the creation of educational, training or apprenticeship programs tied to formal education for young people.

### ***Freedom of Engagement and Forced Labor***

We believe that people should work because they want or need to, not because they are forced to do so. We prohibit the use of prison labor, forcibly indentured labor, bonded labor, slavery or servitude.

### ***Equality of Opportunity***

We are an equal opportunity employer that supports diversity and inclusion. We provide equal employment opportunities for all employees and applicants for employment and prohibit discrimination and harassment of any type without regard to race, color, religion, age, sex (including pregnancy), national origin, disability, genetics, protected veteran status, sexual orientation, gender identity or expression, or any other characteristics protected by law.

### ***Compensation***

We ensure that compensation meets or exceeds the legal minimums and is competitive with industry standards. Our compensation philosophy is clearly communicated to employees and is in full compliance with all applicable laws.

We are committed to ensuring equal pay for equal work, without regard to gender or any other prohibited basis. Our compensation structures, which include base pay ranges and incentive opportunities, are gender neutral. Our compensation philosophy is based on pay for performance, with the same opportunities for all employees with the same job responsibilities. We report annually on the U.K. Equality Act 2010, and our annual ESG Report includes the ratio of basic salary and remuneration of women to men.

We believe that all employees deserve a living wage. Our wage practices meet all applicable legal requirements, and our pay levels exceed minimum wage in each market that we operate.

### ***Working Hours***

We provide employees with regulated hours of work, including vacation time, holidays and any periods of paid time off that are required by applicable law. Rules are in place to approve overtime and reduce safety risks, including limiting extended work hours for our facilities.

### ***Freedom of Association***

We recognize and respect the freedom of individual employees to join, or refrain from joining, legally authorized associations or organizations.

### ***Integrity Line***

We strive to create an environment that empowers employees and stakeholders to ask questions and raise concerns relating to our policies, procedures and compliance with applicable laws. Employees, stakeholders and any individuals may use Howmet Aerospace's Integrity Line to confidentially report any suspected violations of our policies, including, but not limited to, Howmet's Human Rights Policy or Howmet's Code of Conduct. The Integrity Line is available 24 hours per day, seven days a week, to our employees and external stakeholders to seek advice or raise a concern. The free, multilingual hotline is managed by an independent third party. All allegations of any violation of Howmet's policies or procedures or applicable laws or regulations are promptly reviewed and investigated. If we learn of any allegations of slavery, child labor, forced labor and human trafficking through our hotline or any other means, we will promptly investigate and act to remediate the situation. Any form of retaliation against employees who raise concerns is strictly prohibited.

# ETHICS ANTI-CORRUPTION AND COMPLIANCE

- In 2024, we fielded 560 new concerns, questions and comments through our 24/7 Integrity Line.
- We had zero monetary losses as a result of legal proceedings associated with incidents of corruption, bribery or illicit international trade.
- We had no increase in agency-identified environmental issues and zero new environmental compliance cases of higher risk.

In every part of the world, we are committed to conducting business ethically and in compliance with all applicable laws.

Howmet maintains a formal Ethics and Compliance (E&C) Program overseen by our Board of Directors and senior management. The E&C Program is guided by our values, [Code of Conduct](#) and key corporate policies, including our [Anti-Corruption](#), [Human Rights](#), Anti-Harassment, Anti-Retaliation, and [Environment, Health and Safety](#) policies. Our program is global, sustainable and continuously improving to identify and address our existing and emerging ethical, legal and regulatory risks. Key objectives of the E&C Program are:

- Foster an organizational culture of integrity, ethical decision-making and compliance with our values;
- Assure that our directors, officers and employees conduct business with the highest standards of ethics and integrity and in compliance with all applicable laws and regulations; and
- Prevent and detect unlawful or unethical conduct through risk assessments and due diligence.

Embedded in our E&C Program is our grievance mechanism. We operate an [Integrity Line](#) that is available 24/7 via phone, email and our website for all employees and external stakeholders who wish to seek advice or raise a concern. In 2024, we received 560 new reports, questions and comments through this hotline and ensured that each was investigated appropriately and addressed. As a result of issues raised, we implemented more

than 79 corrective actions during the year that included discipline, training, coaching and process improvements.

Other initiatives undertaken as part of our E&C Program are:

- Training employees on various topics covered in our [Code of Conduct](#), including conflicts of interest, anti-harassment, reporting concerns and anti-corruption. We track all training, with the goal of 100 percent completion. Each employee also certifies adherence to our [Code of Conduct](#) and anti-corruption policies after completing the annual training;
- Partnering with our global learning management team to improve training administration and completion reporting;
- Maintaining a third-party solution that provides oversight of third-party intermediary relationships, including risk-based reviews, due diligence, annual certification tracking and ongoing monitoring;
- Reviewing and assessing the need for active intermediaries with business partners on a continuous basis;
- Receiving certification from all employees that any conflicts of interests will be reported; and
- Continually assessing the program through our bi-annual Enterprise Risk Management process.

We had zero monetary losses as a result of legal proceedings associated with incidents of corruption, bribery or illicit international trade in 2024.

Additional information on our E&C Program initiatives can be found on [our website](#).



## Environmental Compliance

Environmental compliance is fundamental to our success and to that of our stakeholders. We recognize that by maintaining compliance, we improve operating efficiency, reduce costs and lower environmental impacts.

We hold ourselves to the highest standards, and our internal controls for managing environmental compliance are expansive and overlapping. These include:

- Corporate EHS management system;
- Monthly mandatory, topic-specific self-assessments for each location;
- Maintenance of up-to-date regulatory registers;
- Internal EHS audits of our global manufacturing location;
- Formal Enterprise Risk Management process;
- Global compliance task management system;
- Site compliance reviews;
- Project EHS review process; and
- Formal environmental compliance case management process to prevent recurrence.

Our newly upgraded environmental compliance case management process enables improved organizational learning that effectively reduces our risks and negative impacts going forward. Our process is more stringent than merely addressing agency enforcement cases, as we constantly seek to find and manage potential precursor, non-conformity and non-compliance situations.

With each case, closure requires that we investigate root causes, plan and execute corrective actions to prevent recurrence and work to share lessons learned with other locations. This year we closed nearly every case that we opened.

## ENVIRONMENTAL NON-COMPLIANCE PERFORMANCE

	Significant Fines (US\$)	Number of Significant Non-Monetary Sanctions	Number of Dispute Resolutions
2020	0	0	1
2021	46,083	0	0
2022	27,900	1	0
2023	45,000	0	0
2024	0	0	0

*Significant instances include those that result in fines in excess of US\$25,000. Non-monetary sanctions include actions that we are ordered to take to ensure our operations return to, or remain in, compliance. Significant refers to sanctions that we consider high risk based on the costs required to address the issue. Dispute resolutions refer to environmental cases brought through dispute resolution mechanisms. The 2022 fine included US\$10,900 that was paid as remittance to a supplemental environmental program in lieu of penalty.*

In 2024, we scheduled more audits and consequently found more issues to improve upon (a 41-percent increase in self-identified issues), but there was very little change in the number of agency-identified issues. We had zero new cases of non-compliance that we consider representing higher risk. We received no significant fines or penalties for environmental issues during the year. We also continued to develop and deploy environmental compliance related trainings to our staff in 2024.

# PRIVACY

- **We protect personally identifiable information through a company-wide privacy program.**
- **Our benchmark for privacy law is the European Union's General Data Protection Regulation.**
- **Our Privacy Office collaborates with relevant departments to ensure we comply with all applicable privacy laws.**

We have a company-wide data privacy program to protect personally identifiable information (PII). This program is supported by privacy enhancing technologies (PET) covering training, data event management, cookie management, data subject right management and privacy assessments to enable management of risks to both the individuals and Howmet.

The program is designed to comply with applicable privacy laws around the world, including:

- The European Union General Data Protection Regulation (GDPR);
- The UK General Data Protection Regulation (UK GDPR);
- Brazil's Lei Geral de Proteção de Dados (LGPD);
- Personal Information Protection Law of China (PIPL);
- The California Consumer Privacy Act (CCPA/CPRA);
- Personal Information Protection and Electronic Documents Act of Canada (PIPEDA); and
- Act on the Protection of Personal Information of Japan (APPI).

Our Privacy Office ensures we comply with these laws by using GDPR as the benchmark, analyzing the different laws, evaluating the impact on our company and implementing any required changes. Under the leadership of our data protection officer, who reports directly to our chief information officer, the Privacy Office is responsible for:

- Advising on data privacy and how to reduce risk;
- Assisting in deploying privacy standards;

- Serving as the liaison with data protection authorities;
- Deploying annual privacy training globally;
- Maintaining a register of processing activities in which we process PII;
- Ensuring we have the appropriate safeguards in place for our internal and external international data transfers;
- Processing data subject (person to whom the PII relates) requests;
- Handling data events that involve PII in conjunction with the corporate information security team;
- Collaborating with the corporate information security team to ensure compliance with European Network and Information Systems Directive 2 (NIS2) and global AI legislations; and
- Analyzing high-risk processing activities.

The type of PII processed by our company is typically employment data, customer contact data and vendor contact data. When we trust our PII to other parties, we ensure that data processing or data sharing agreements have been established. These agreements require that the processors protect our PII to the same standards we use internally and that they only use our PII to service our company. We do not allow processors to use our PII for any commercial activities.

Our privacy notice, containing further information about how we protect the data privacy related rights and freedoms of the individuals, can be found on [our website](#).

# AWARDS AND RECOGNITION

In 2024, Howmet Aerospace received several prestigious recognitions for its excellence and dedication across various aspects. The company was ranked in TIME's "World's Best Companies 2024" for its employee satisfaction, revenue growth, and ESG efforts. Forbes acknowledged Howmet in multiple categories, including, "America's Best Large Employers," "World's Top Companies for Women," and the "Global 2000," based on surveys and financial metrics. Newsweek also highly rated Howmet, giving it five stars in "America's Greatest Workplaces," and ranking it on the "Most Responsible Companies" list. Additionally, Howmet was recognized as a VETS Index Recognized Employer 2024 for its commitment to veterans and the military community. These accolades underscore Howmet's strong performance in employee satisfaction, workplace culture, and corporate responsibility.

## Whitehall Achieves MVPP STAR Status

Our location in Whitehall, Michigan achieved its seventh STAR rating in the Michigan Voluntary Protection Program (MVPP). This prestigious designation represents the state's highest recognition for workplace safety and health, awarded by the Michigan Occupational Safety and Health Administration (MIOSHA).

MIOSHA established the MVPP program in 1996 to recognize employers actively working toward achieving excellence in workplace safety and health. Our Whitehall location received its first star in 2004 and was recertified in 2007, 2010, 2014, 2017, 2020 and now 2024.



# ESG PERFORMANCE METRICS

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*Data changes from prior reporting are due to minor conversion adjustments and estimated data being updated with actual data and data corrections.*

## 1. GENERAL DISCLOSURES

SIGNIFICANT INSTANCES* OF NON-COMPLIANCE		UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Significant instances of non-compliance with laws and regulations	Environmental	Count	0	1	1	1	0		2-27-a
	Social	Count	1	0	0	0	0		
Total monetary value of fines for significant instances of non-compliance with laws and regulations that occurred in the reporting period that were paid during the reporting period.	Environmental	US \$	0	46,083	27,900	45,000	0		2-27-b-i 2-27-b-ii
	Social	US \$	61,477	0	0	0	0		

\*Significant instances include those that result in fines in excess of US\$25,000.

## 2. ENVIRONMENTAL MANAGEMENT SYSTEM

KEY METRIC	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Sites ISO 14001 Certified	Count	21	31	33	33	33		
Sites ISO 14001 Certified	% of Total	34%	53%	57%	57%	57%		
Sites ISO 14001 Implemented but Not Certified	Count	40	27	25	25	25		
Sites ISO 14001 Implemented but Not Certified	% of Total	66%	47%	43%	43%	43%		
Sites ISO 14001 Implemented	% of Total	100%	100%	100%	100%	100%		
Operational sites Covered by an Environmental Risk Assessment	% of Total	100%	100%	100%	100%	100%		

## 3. ENERGY

ENERGY CONSUMPTION WITHIN THE ORGANIZATION - GLOBAL HOWMET	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Diesel	Millions of gigajoules	0.16	0.15	0.13	0.16	0.18		302-1-a
LNG	Millions of gigajoules	0.01	0.00	0.00	0.00	0.02		302-1-a
LPG	Millions of gigajoules	0.04	0.03	0.02	0.02	0.03		302-1-a
Natural Gas	Millions of gigajoules	6.99	6.89	6.99	7.21	7.18		302-1-a
Propane	Millions of gigajoules	0.01	0.01	0.02	0.01	0.01		302-1-a
Kerosene	Millions of gigajoules	0.00	0.00	0.03	0.03	0.03		302-1-a
Retail Electricity	Millions of gigajoules	3.98	3.91	4.03	4.11	4.19		302-1-c-i
Howmet renewable energy generated on site as a percent of total electricity used	%					0.07%		
Howmet renewable energy consumed including renewable energy credits, on site renewable generation, and renewable energy contracts as a % of total electricity used	%					10.6%		
Consumption of fuel (excluding feedstock) Millions of gigajoules from non-renewable sources	Millions of gigajoules	7.21	7.08	7.19	7.44	7.46		302-1-a
Total Energy Consumption Millions of gigajoules from renewable sources	Millions of gigajoules	0.70	0.76	0.79	0.86	0.90		302-1-b
Total Energy Consumption Millions of gigajoules from non-renewable sources	Millions of gigajoules	10.5	10.2	10.4	10.7	10.7		302-1-a
Total Energy Consumption Total (renewable and non-renewable Millions of gigajoules)	Millions of gigajoules	11.2	11.0	11.2	11.5	11.7		302-1-e
ENERGY INTENSITY	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Energy intensity ratio : Total (direct + indirect) / Third Party Revenue \$	Millions of GJ / Billion Dollars Revenue	2.13	2.21	1.98	1.74	1.57		302-3-a, 302-3-b
REDUCTION OF ENERGY CONSUMPTION	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives implemented in the year	Millions of MJ	11	7	300	400	333		302-4-a



## 4. WATER AND EFFLUENTS

<b>WATER WITHDRAWAL</b>	<b>AREA TYPE</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Withdrawn Groundwater	All Areas	Megaliters of water	39.5	36.2	30.2	8.82	97.7		303-3-a-ii
Withdrawn Groundwater - Fresh Water	All Areas	Megaliters of water	39.5	36.2	30.2	8.82	97.7		303-3-c-i
Withdrawn Third-Party Water	All Areas	Megaliters of water	4,107	3,664	3,951	4,080	4,230		303-3-a-v
Withdrawn Third-Party Water - Fresh Water	All Areas	Megaliters of water			3,951	4,080	4,230		303-3-c-i
Total Water Withdrawal	Areas With Water Stress	Megaliters of water	1,735	1,582	438	409	430		303-3-b
Withdrawn Groundwater	Areas With Water Stress	Megaliters of water	39.5	36.2	0	0	0		303-3-b-ii
Withdrawn Groundwater - Fresh Water	Areas With Water Stress	Megaliters of water	39.5	36.2	0	0	0		303-3-c-i
Withdrawn Third-Party Water	Areas With Water Stress	Megaliters of water	1,696	1,546	438	409	430		303-3-b-v
Withdrawn Third-Party Water - Fresh Water	Areas With Water Stress	Megaliters of water			438	409	430		303-3-c-i
<b>TOTAL WATER DISCHARGE</b>	<b>AREA TYPE</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Total Water Discharge	All Areas	Megaliters of water			3,041	2,959	3,357		303-4-a
Discharge to Surface Water	All Areas	Megaliters of water			529	543	843		303-4-a-i
Discharge to Third-Party Water	All Areas	Megaliters of water			2,512	2,416	2,514		303-4-a-v
Total Water Discharge	Areas With Water Stress	Megaliters of water			242	187	203		303-4-c

## 5. EMISSIONS

<b>GREENHOUSE GAS EMISSIONS</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Scope 1 (direct)	Million MT CO2e	0.38	0.37	0.38	0.39	0.39		305-1-a
Scope 2 (indirect location based)	Million MT CO2e	0.43	0.39	0.42	0.42	0.39		305-2-a
Scope 2 (indirect market based)	Million MT CO2e				0.46	0.40		
Scope 3 - Total	Million MT CO2e	1.18	1.94	1.95	2.24	1.78		
<b>GHG EMISSIONS INTENSITY</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
GHG Intensity	Millions of MT / Billion Dollars 3rd Party Revenue	0.15	0.15	0.14	0.12	0.11		305-4-a

REDUCTION OF GHG EMISSIONS	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Scope 1 GHG emissions reduced as a direct result of reduction initiatives implemented in the year, in metric tons of CO2 equivalent	MT CO2e	276	423	12,000	10,000	12,000		305-5-a
Scope 2 GHG emissions reduced as a direct result of reduction initiatives implemented in the year, in metric tons of CO2 equivalent	MT CO2e	1,823	396	5,000	15,000	10,000		305-5-a
Combined total of CO2e reductions implemented since 2019					70,000	90,000		

## 6. SUPPLY CHAIN METRICS

SUPPLIERS BY MAJOR CATEGORY	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Operational/Capital Expenditures	Count	2,708	2,425	2,301	2,509	2,617		
Information Technology and Services	Count	3,399	2,382	2,565	3,488	3,412		
Metals	Count	452	368	309	417	410		
Production Materials	Count	7,601	6,987	6,551	7,855	8,405		
Total	Count	14,160	12,162	11,726	14,269	14,844		
SPEND BY REGION	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Asia and Australia	% of Total	3%	5%	3%	5%	5%		
Europe	% of Total	20%	32%	26%	24%	21%		
North America	% of Total	78%	64%	71%	72%	74%		

## 7. EMPLOYMENT

TOTAL EMPLOYEES (PERMANENT + TEMPORARY) BY REGION	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Asia- Total	Count	783	803	839	848	850		
Australia- Total	Count	78	73	80	85	85		
Europe- Total	Count	5,692	5,186	5,484	5,820	5,894		
Middle East and Africa- Total	Count		110	106	110	151		
North America- Total	Count	12,893	13,731	14,837	16,341	16,933		
South America- Total	Count	17	16	19	19	17		
PERMANENT EMPLOYEES	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Male- Permanent Contract	Count	13,747	13,813	14,637	15,808	16,942		
Female- Permanent Contract	Count	4,629	5,059	5,490	5,942	6,446		
Not Specified- Permanent Contract	Count		7	57	160	118		
Total- Permanent Contract	Count	18,376	18,879	20,184	21,910	23,506	RT-AE-000.B	

<b>PERMANENT EMPLOYEES BY REGION</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Asia- Permanent Contract	Count	734	740	771	783	796		2-7-b-i
Australia- Permanent Contract	Count	78	73	80	85	85		2-7-b-i
Europe- Permanent Contract	Count	5,604	5,089	5,398	5,709	5,578		2-7-b-i
Middle East and Africa- Permanent Contract	Count		105	105	109	123		2-7-b-i
North America- Permanent Contract	Count	12,885	13,701	14,817	16,321	16,907		2-7-b-i
South America- Permanent Contract	Count	17	16	19	19	17		2-7-b-i
<b>TEMPORARY EMPLOYEES</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Male- Temporary Contract	Count	92	119	123	141	330		2-7-b-ii
Female- Temporary Contract	Count	39	55	46	43	86		2-7-b-ii
Not Specified- Temporary Contract	Count		0	6	13	8		2-7-b-ii
Total- Temporary Contract	Count	131	174	175	197	424		2-7-b-ii
<b>TEMPORARY EMPLOYEES BY REGION</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Asia- Temporary Contract	Count	49	63	68	65	54		2-7-b-ii
Australia- Temporary Contract	Count	0	0	0	0	0		2-7-b-ii
Europe- Temporary Contract	Count	88	97	86	111	316		2-7-b-ii
Middle East and Africa- Temporary Contract	Count		5	1	1	28		2-7-b-ii
North America- Temporary Contract	Count	8	30	20	20	26		2-7-b-ii
South America- Temporary Contract	Count	0	0	0	0	0		2-7-b-ii
<b>FULL-TIME AND PART-TIME EMPLOYEES BY GENDER</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Male- Full-time	Count	13,697	13,882	14,702	15,872	17,171		2-7-iv
Female- Full-time	Count	4,569	5,030	5,444	5,886	6,392		2-7-iv
Not Specified- Full-time	Count		7	62	173	125		2-7-iv
Total- Full-time	Count	18,266	18,919	20,208	21,931	23,688		2-7-iv
Male- Part-time	Count	142	50	58	77	101		2-7-v
Female- Part-time	Count	99	84	92	99	140		2-7-v
Not Specified- Part-time	Count		0	1	0	1		2-7-v
Total- Part-time	Count	241	134	151	176	242		2-7-v
<b>NEW EMPLOYEE HIRES BY AGE</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Age Under 30- Total	Count	621	1,655	2,350	2,379	1,870		401-1-a
Age 30 - 50- Total	Count	877	1,664	2,413	2,774	2,329		401-1-a
Age Over 50- Total	Count	254	453	795	919	686		401-1-a
Age Under 30- Male	Count	438	1,109	1,638	1,669	1,381		401-1-a

<b>NEW EMPLOYEE HIRES BY AGE</b> <i>(continued)</i>	<b>AREA TYPE</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Age 30 - 50- Male		Count	638	1,094	1,613	1,895	1,612		401-1-a
Age Over 50- Male		Count	183	306	530	590	478		401-1-a
Age Under 30- Female		Count	182	541	688	608	472		401-1-a
Age 30 - 50- Female		Count	238	567	772	785	686		401-1-a
Age Over 50- Female		Count	71	146	260	317	206		401-1-a
Age Under 30- Not Specified		Count	1	5	24	102	17		401-1-a
Age 30 - 50- Not Specified		Count	1	3	28	94	31		401-1-a
Age Over 50- Not Specified		Count	0	1	5	12	2		401-1-a
<b>NEW EMPLOYEE HIRES BY REGION</b>		<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Asia- Total		Count	55	95	124	90	63		401-1-a
Australia- Total		Count	0	6	15	14	3		401-1-a
Europe- Total		Count	517	545	767	1,094	717		401-1-a
Middle East and Africa- Total		Count		8	15	19	50		401-1-a
North America- Total		Count	1,171	3,116	4,633	4,855	4,051		401-1-a
South America- Total		Count	15	3	4	0	1		401-1-a
Asia- Male		Count	34	85	101	44	51		401-1-a
Australia- Male		Count	0	3	7	6	2		401-1-a
Europe- Male		Count	409	435	566	794	571		401-1-a
Middle East and Africa- Male		Count		5	12	10	46		401-1-a
North America- Male		Count	805	1,980	3,092	3,300	2,800		401-1-a
South America- Male		Count	13	1	3	0	1		401-1-a
Asia- Female		Count	21	9	12	13	7		401-1-a
Australia- Female		Count	0	3	3	7	1		401-1-a
Europe- Female		Count	107	107	183	279	143		401-1-a
Middle East and Africa- Female		Count		3	1	4	3		401-1-a
North America- Female		Count	365	1,131	1,521	1,407	1,210		401-1-a
South America- Female		Count	2	2	0	0	0		401-1-a
Asia- Not Specified		Count	0	1	11	33	5		401-1-a
Australia- Not Specified		Count	0	0	5	1	0		401-1-a
Europe- Not Specified		Count	1	3	18	21	3		401-1-a
Middle East and Africa- Not Specified		Count		0	2	5	1		401-1-a
North America- Not Specified		Count	1	5	20	148	41		401-1-a
South America- Not Specified		Count	0	0	1	0	0		401-1-a

<b>EMPLOYEE TURNOVER BY AGE</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Age Under 30- Total	Count	1,741	1,193	1,347	1,419	1,209		401-1-b
Age 30 - 50- Total	Count	3,149	1,881	1,788	1,741	1,979		401-1-b
Age Over 50- Total	Count	2,053	1,232	1,264	944	1,130		401-1-b
Age Under 30- Male	Count	1,264	815	927	1,005	877		401-1-b
Age 30 - 50- Male	Count	2,281	1,334	1,255	1,203	1,417		401-1-b
Age Over 50- Male	Count	1,477	870	878	644	836		401-1-b
Age Under 30- Female	Count	477	376	416	380	309		401-1-b
Age 30 - 50- Female	Count	868	547	526	506	523		401-1-b
Age Over 50- Female	Count	576	361	386	291	291		401-1-b
Age Under 30- Not Specified	Count		2	4	34	23		401-1-b
Age 30 - 50- Not Specified	Count		0	7	32	39		401-1-b
Age Over 50- Not Specified	Count		1	0	9	3		401-1-b
<b>EMPLOYEE TURNOVER BY REGION</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Asia- Total	Count	242	76	88	82	59		401-1-b
Australia- Total	Count	11	10	10	9	4		401-1-b
Europe- Total	Count	946	778	660	607	749		401-1-b
Middle East and Africa- Total	Count		15	16	17	26		401-1-b
North America- Total	Count	5,747	3,425	3,624	3,389	3,477		401-1-b
South America- Total	Count	10	2	1	0	3		401-1-b
Asia- Male	Count	204	55	75	56	46		401-1-b
Australia- Male	Count	5	4	4	5	2		401-1-b
Europe- Male	Count	756	596	524	462	604		401-1-b
Middle East and Africa- Male	Count		10	10	12	20		401-1-b
North America- Male	Count	4,062	2,352	2,446	2,317	2,456		401-1-b
South America- Male	Count	8	2	1	0	2		401-1-b
Asia- Female	Count	38	21	9	13	9		401-1-b
Australia- Female	Count	6	6	6	3	2		401-1-b
Europe- Female	Count	190	180	135	131	141		401-1-b
Middle East and Africa- Female	Count		5	6	5	4		401-1-b
North America- Female	Count	1,685	1,072	1,172	1,025	966		401-1-b
South America- Female	Count	2	0	0	0	1		401-1-b
Asia- Not Specified	Count		0	4	13	4		401-1-b
Australia- Not Specified	Count		0	0	1	0		401-1-b
Europe- Not Specified	Count		2	1	14	4		401-1-b
Middle East and Africa- Not Specified	Count		0	0	0	2		401-1-b
North America- Not Specified	Count		1	6	47	55		401-1-b
South America- Not Specified	Count		0	0	0	0		401-1-b



ADDITIONAL LABOR INDICATORS	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Locations with leave of absence provisions in place beyond standard vacations.	% of Total	100%	100%	100%	100%	100%		
Locations with health care coverage arrangements for employees.	% of Total	100%	100%	100%	100%	100%		
Employees covered by collective bargaining agreements	% of Total			41%	41%	40%		2-30-a
Employees covered by formally elected employee representatives	% of Total			49%	50%	52%		
Employees represented in formal joint management-worker health & safety committees	% of Total			47%	47%	49%		

## 8. OCCUPATIONAL SAFETY AND HEALTH

H&S MANAGEMENT SYSTEM	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Sites ISO 45001 Certified	Count	4	6	6	6	6		
Sites ISO 45001 Certified	% of Total	7%	10%	10%	10%	10%		
Sites ISO 45001 Implemented but Not Certified	Count	57	52	52	52	52		
Sites ISO 45001 Implemented but Not Certified	% of Total	93%	90%	90%	90%	90%		
Sites ISO 45001 Implemented	% of Total	100%	100%	100%	100%	100%		
Operational sites Covered by a Health and Safety Risk Assessment	% of Total	100%	100%	100%	100%	100%		
Locations with Implemented processes for safe handling of chemicals	% of Total	100%	100%	100%	100%	100%		
Employees enrolled in Occupational Health Programs	% of Total	100%	100%	100%	100%	100%		
Contractors and subcontractors trained on H&S risks before working on the premises.	% of Total	100%	100%	100%	100%	100%		
INCIDENT RATES - All Employees and Supervised Workers	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Fatalities	Count	0	0	1	0	0		403-9-a-i
Recordable Incidents	Ratio*	0.71	0.71	0.66	0.71	0.63		403-9-a-iii
Days Away, Restricted and Transfer	Ratio*	0.24	0.22	0.15	0.17	0.13		
Lost Workday	Ratio*	0.12	0.15	0.09	0.1	0.09		
INCIDENT RATES - Contractors and Contracted Services	UNIT	2020	2021	2022	2023	2024	SASB Standard	GRI Standard
Fatalities	Number	0	0	0	0	0		
Total Recordable Incident	Ratio*	0.5	0.45	0.77	0.56	0.51		
Total Recordable Incident Benchmark- Aerospace and Defense Sector Average**	Ratio*	1.7	1.8	1.9	1.6	NOT AVAILABLE		
Days Away, Restricted and Transfer	Ratio*	0.11	0.34	0.25	0.19	0.25		
Days Away, Restricted and Transfer Benchmark- Aerospace and Defense Sector Average**	Ratio*	1.1	1.1	1.2	1.0	NOT AVAILABLE		
Lost Workday	Ratio*	0.11	0.23	0.17	0.19	0.17		
Lost Workday Benchmark- Aerospace and Defense Sector Average**	Ratio*	0.5	0.6	0.7	0.5	NOT AVAILABLE		

<b>OCCUPATIONAL HEALTH RATES- All Employees and Supervised Workers</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Occupational Disease Recordable Rates ***	Ratio*	0.03	0.08	0.04	0.05	0.04		
Musculoskeletal Disorder Recordable Rate ***	Ratio*	0.17	0.1	0.09	0.09	0.05		
Occupational Disease DART Rate ***	Ratio*	0.01	0	0	0	0.01		
Musculoskeletal Disorder DART Rate ***	Ratio*	0.09	0.05	0.03	0.04	0.01		

\*Lost workday rate represents the number of injuries and illnesses resulting in one or more days away from work per 100 full-time workers. Days away, restricted and transfer rate includes lost workday cases plus cases that involve days of restricted duty and job transfer per 100 full-time workers. Total recordable incident rate represents the number of injuries and illnesses resulting in days away from work, job transfer or restriction, medical treatment or other recordables per 100 full-time workers.

\*\*source: <https://www.bls.gov/web/osh/table-1-industry-rates-national.htm> NAICS code 3364

\*\*\* Some country medical providers access to occupational classifications, which may affect the occupational disease recordable and DART rates. Ratios based on 100 full-time workers.

## 9. TRAINING AND EDUCATION

<b>TRAINING</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Employee Environmental Training	% of Total	100%	100%	100%	100%	100%		
Employee Health and Safety Training	% of Total	100%	100%	100%	100%	100%		
Contractors and subcontractors trained on H&S risks before working on the premises.	% of Total	100%	100%	100%	100%	100%		
Employees and supervised contractors receiving personal protective equipment (e.g. shoes, helmet, gloves, respiratory protection) including training on hazards and use	% of Total	>99%	>99%	>99%	>99%	>99%		
Employees and supervised contractors receiving health and safety training, instructions, safety data sheets (SDS) in local language	% of Total	>99%	>99%	>99%	>99%	>99%		
Employees and supervised contractors receiving training on safety and health hazards including e.g. machine safety, mobile equipment safety, workplace violence, safely working with hazardous substances, and ergonomics.	% of Total	>99%	>99%	>99%	>99%	>99%		
Employees and supervised contractors receiving training on risk assessment, STOP (unsafe situations) and Human Performance.	% of Total	>99%	>99%	>99%	>99%	>99%		
Employees receiving Training on Howmet´s Code of Conduct, including business ethics, preventing discrimination and human rights violations.	% of Total	100%	100%	100%	100%	100%		
Cybersecurity training - Cybersecurity Awareness	% of Computer users			>95%	>95%	>95%		
Cybersecurity training - Data Privacy Awareness (salaried employees and hourly supervisors)	% of Computer users			>95%	>98%	>98%		
<b>LEADERSHIP DEVELOPMENT PROGRAMS</b>	<b>BREAKDOWN</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	
Organizational Development - Develops Organizational Leaders = Senior and Executive	Total Participants	Count	18	24	24	22	15	
Organizational Development - Develops Organizational Leaders = Senior and Executive	Diverse	% of Total	11%	4%	4%	23%	33%	
Organizational Development - Develops Organizational Leaders = Senior and Executive	Women	% of Total	22%	24%	17%	32%	20%	

<b>LEADERSHIP DEVELOPMENT PROGRAMS</b> <i>(continued)</i>	<b>BREAKDOWN</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>		
Management Essentials - Develops People Leaders	Total Participants	Count	40	80	34	54	84		
Management Essentials - Develops People Leaders	Diverse	% of Total	47%	28%	18%	30%	18%		
Management Essentials - Develops People Leaders	Women	% of Total	36%	36%	41%	26%	20%		
Business Essentials - Targets Emerging Leaders	Total Participants	Count	30	60	137	56	50		
Business Essentials - Targets Emerging Leaders	Diverse	% of Total	36%	27%	19%	13%	14%		
Business Essentials - Targets Emerging Leaders	Women	% of Total	30%	44%	36%	34%	36%		
Howmet Leading with Impact - Develops Managers of Managers	Total Participants	Count					27		
Howmet Leading with Impact - Develops Managers of Managers	Diverse	% of Total					15%		
Howmet Leading with Impact - Develops Managers of Managers	Women	% of Total					15%		
Howmet Build Your Brand - Targets Top Talent	Total Participants	Count					21		
Howmet Build Your Brand - Targets Top Talent	Diverse	% of Total					20%		
Howmet Build Your Brand - Targets Top Talent	Women	% of Total					38%		
Total Program Attendance - All Levels		Count	88	164	195	132	197		
<b>EMPLOYEE PERFORMANCE REVIEWS</b>	<b>UNIT</b>		<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Performance Plans	Count				4,840	5,240	5,328		
Performance Goals	Count				23,536	24,568	24,657		
Development Goals	Count				2,251	2,330	3,682		
<b>TALENT DEVELOPMENT*</b>	<b>UNIT</b>		<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Leadership Career Mobility	% of Total			10%	31%	24%	19%		
Employee Career Mobility	Count			7453	6,488	6,812	6,372		
Employee Talent Profiles	Count				1,425	3,675	4,736		
Employee Succession Plans	Count			255	421	702	904		

\*Leadership career mobility represents our leaders at director level and above. Career mobility refers to a transfer or promotion during the specified time period. We did not track employee talent profiles in 2021.

## 10. GENDER PAY GAP

<b>RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN AND MEN</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Total	Count*			4,372	4,605	5,240		
Canada- Mid-Level Management	% female salary to male			91%	100%	95%		405-2-a
China- Mid-Level Management	% female salary to male			80%	75%	75%		405-2-a
France- Mid-Level Management	% female salary to male			106%	110%	112%		405-2-a

<b>RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN AND MEN</b> <i>(continued)</i>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Hungary- Mid-Level Management	% female salary to male			106%	103%	101%		405-2-a
Japan- Mid-Level Management	% female salary to male				n/a	111%		405-2-a
Mexico- Mid-Level Management	% female salary to male			144%	112%	105%		405-2-a
United Kingdom- Mid-Level Management	% female salary to male			94%	107%	108%		405-2-a
United States- Mid-Level Management	% female salary to male			97%	97%	96%		405-2-a
Total- Mid-Level Management	% female salary to male			97%	97%	96%		405-2-a
Canada- Professional	% female salary to male			86%	82%	90%		405-2-a
China- Professional	% female salary to male			107%	101%	103%		405-2-a
France- Professional	% female salary to male			93%	94%	90%		405-2-a
Hungary- Professional	% female salary to male			91%	94%	92%		405-2-a
Japan- Professional	% female salary to male			97%	96%	90%		405-2-a
Mexico- Professional	% female salary to male			111%	101%	103%		405-2-a
United Kingdom- Professional	% female salary to male			89%	91%	89%		405-2-a
United States- Professional	% female salary to male			98%	97%	98%		405-2-a
Total- Professional	% female salary to male			96%	96%	96%		405-2-a

## 11. ETHICS

<b>ETHICS</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Corrective Action Implemented in the Year	Count	38	75	40	85	79		
Certification to disclose any conflict of interest by Salaried Employees globally (instead of Survey)	% Total				100%	100%		
Completion of Annual Conflicts of Interest Survey by Salaried Employees globally	% of Total	100%	100%	100%	N/A	N/A		
Revenue from Countries ranked in the "E" or "F" Band on Transparency International's Government Defense Anti-Corruption Index.	US \$ million	94	95	140	135	153	RT-AE-510a.2	

## 12. CUSTOMER HEALTH & SAFETY AND PRODUCT SAFETY

<b>DETECTED OR SUSPECTED COUNTERFEIT PARTS IN OPERATIONS</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Actual	Count	0	0	0	0	0	RT-AE-250a.2	
Suspected	Count	0	0	0	0	0		

<b>AIRWORTHINESS DIRECTIVES</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Airworthiness Directives issued by Federal Aviation Administration	Count	0	0	0	0	0	RT-AE-250a.3	
<b>PRODUCT SAFETY MONETARY LOSSES</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Losses from legal proceedings associated with product safety.	U.S. Dollars	0	0	0	0	0	RT-AE-250a.4	
<b>CERTIFICATIONS</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Locations with one or more quality certifications including Quality Management Systems (QMS).	% of Total	100%	100%	100%	100%	100%		

### 13. CYBERSECURITY

<b>CYBER SECURITY</b>	<b>UNIT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>SASB Standard</b>	<b>GRI Standard</b>
Data Breaches	Count	6	5	2	3	3	RT-AE-230a.1	
Involving Confidential Data	Count	0	0	2	3	3	RT-AE-230a.1	
Net Expenses Incurred from Security Breaches (US\$)	Count	Immaterial	Immaterial	Immaterial	Immaterial	Immaterial		



# GRI CONTENT INDEX

Howmet Aerospace has reported in accordance with the [GRI Standards](#) for the period Jan. 1, 2024, through Dec. 31, 2024.

This index helps readers compare the information from our ESG report, annual report and website with the GRI Standards.

## GENERAL DISCLOSURES 2021

DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
ORGANIZATION AND REPORTING PRACTICES				
2-1: Organizational details	Headquartered in Pittsburgh, Pennsylvania, Howmet Aerospace Inc. is a publicly traded company listed on the New York Stock Exchange (NYSE: HWM). <a href="#">Countries of operation</a>			
2-2: Entities included in the organization's sustainability reporting	<a href="#">Form 10-K</a> (Item 1: Business)			
2-3: Reporting period, frequency and contact point	2024 Annual Marcel van der Velden Vice President, Environment, Health and Safety and Sustainability			
2-4: Restatements of information	Found throughout this report.			
2-5: External assurance	Reporting, Significant Topics and Assurance			
ACTIVITIES AND WORKERS				
2-6: Activities, value chain and other business relationships	<a href="#">About Us</a> <a href="#">Markets and Product Lines</a> Supply Chain			
2-7: Employees	Human Capital			
2-8: Workers who are not employees	Human Capital			
GOVERNANCE				
2-9: Governance structure and composition	<a href="#">Corporate Governance</a> <a href="#">Form 10-K</a> (Item 10: Directors, Executive Officers and Corporate Governance) <a href="#">Proxy Statement</a> (The Structure and Role of the Board of Directors; Committees of the Board)			

DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
GOVERNANCE (continued)				
2-10: Nomination and selection of the highest governance body	<a href="#">Proxy Statement</a> (Item 1: Election of Directors; Voting for Directors) <a href="#">Certificate of Incorporation</a> <a href="#">Bylaws</a> <a href="#">Corporate Governance Guidelines</a> <a href="#">Governance and Nominating Committee Charter</a>			
2-11: Chair of the highest governance body	<a href="#">Form 10-K</a> (Item 10: Directors, Executive Officers and Corporate Governance) <a href="#">Proxy Statement</a> (Corporate Governance – Board Leadership Structure) <a href="#">Bylaws</a>			
2-12: Role of the highest governance body in overseeing the management of impacts	<a href="#">Proxy Statement</a> (The Structure and Role of the Board of Directors) <a href="#">Audit Committee Charter</a> <a href="#">Finance Committee Charter</a> <a href="#">Corporate Governance Guidelines</a> (The Role of the Board of Directors)			
2-13: Delegation of responsibility for managing impacts	<a href="#">Proxy Statement</a> (The Board's Role in Risk Oversight—describes the role of management in risk management.)			
2-14: Role of the highest governance body in sustainability reporting	<a href="#">Corporate Governance Guidelines</a> (The Role of the Board of Directors) <a href="#">Proxy Statement</a> (Environmental and Social Responsibility; Corporate Governance)			
2-15: Conflicts of interest	<a href="#">Form 10-K</a> (Item 13: Certain Relationships and Related Transactions, and Director Independence) <a href="#">Proxy Statement</a> (Director Independence; Related Person Transactions) <a href="#">Code of Conduct</a> <a href="#">Governance and Nominating Committee Charter</a>			
2-16: Communication of critical concerns	<a href="#">Form 10-K</a> (Item 1A: Risk Factors; Item 1B: Unresolved Staff Comments; Item 1C: Cybersecurity) <a href="#">Proxy Statement</a> (Shareholder Engagement; Communications with Directors; Shareholder Feedback) <a href="#">Corporate Governance Guidelines</a> (Shareholder Engagement and Communications with Third Parties)			

DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
Governance (continued)				
2-17: Collective knowledge of the highest governance body	<a href="#">Proxy Statement</a> (Summary of Director Qualifications and Attributes; Director Nominees)			
2-18: Evaluation of the performance of the highest governance body	<a href="#">Proxy Statement</a> (Board Meetings and Attendance; Board, Committee and Director Evaluations) <a href="#">Corporate Governance Guidelines</a> (Annual Performance Evaluation of the Board) <a href="#">Governance and Nominating Committee Charter</a>			
2-19: Remuneration policies	<a href="#">Form 10-K</a> (Item 11: Executive Compensation) <a href="#">Proxy Statement</a> Executive Compensation; Recovery of Incentive Compensation) <a href="#">Corporate Governance Guidelines Compensation and Benefits Committee Charter</a>			
2-20: Process to determine remuneration	<a href="#">Form 10-K</a> (Item 11: Executive Compensation) <a href="#">Proxy Statement</a> (Compensation Philosophy and Design) <a href="#">Corporate Governance Guidelines Compensation and Benefits Committee Charter</a>			
2-21: Annual total compensation ratio	<a href="#">Form 10-K</a> (Item 11: Executive Compensation) <a href="#">Proxy Statement</a> (Executive Compensation; CEO Pay Ratio)			
STRATEGY, POLICIES AND PRACTICES				
2-22: Statement on sustainable development strategy	ESG Approach			
2-23: Policy commitments	<a href="#">Howmet Policies</a> <a href="#">Human Rights Policy</a>			
2-24: Embedding policy commitments	Ethics, Anti-corruption and Compliance Human Rights Supply Chain			
2-25: Processes to remediate negative impacts	<a href="#">Ethics and Compliance</a> Waste and Spills			
2-26: Mechanisms for seeking advice and raising concerns	<a href="#">Integrity Line</a>			
2-27: Compliance with laws and regulations	Ethics, Anti-corruption and Compliance			
2-28: Membership associations	<a href="#">International Titanium Association</a> <a href="#">International Aerospace Environmental Group</a> <a href="#">Aerospace Industries Association</a> <a href="#">U.S. Chamber of Commerce, Europe Program</a>			

Disclosure	Location	Omission		
		Requirement(s) Omitted	Reason	Explanation
STAKEHOLDER ENGAGEMENT				
2-29: Approach to stakeholder engagement	Stakeholder Engagement			
2-30: Collective bargaining agreements	Human Capital			
GRI 3: MATERIAL TOPICS 2021				
3-1: Process to determine material topics	Reporting, Materiality and Assurance			
3-2: List of material topics	Reporting, Materiality and Assurance			
3-3: Management of material topic	Each section of this report covering a material topic.	Limited disclosure on human rights impact	Limited data	Incomplete assessment on human rights impacts for some material topics
GRI 201: ECONOMIC PERFORMANCE 2016				
201-1: Direct economic value generated and distributed	<a href="#">Form 10-K</a>			
201-2: Financial implications and other risks and opportunities due to climate change	Climate Change			
201-3: Defined benefit plan obligations and other retirement plans	<a href="#">Form 10-K</a> (Item 8: Financial Statements and Supplementary Data, Note G: Pension and Other Postretirement Benefits)			
201-4: Financial assistance received from government	<a href="#">Form 10-K</a> (Item 8: Financial Statements and Supplementary Data, Note H: Income Taxes)			
GRI 205: ANTI-CORRUPTION 2016				
3-3: Management of material topic	Ethics, Anti-corruption and Compliance			
205-1: Operations assessed for risks related to corruption	Ethics, Anti-corruption and Compliance			
205-2: Communication and training about anti-corruption policies and procedures	Ethics, Anti-corruption and Compliance			
205-3: Confirmed incidents of corruption and actions taken	Ethics, Anti-corruption and Compliance			
GRI 302: ENERGY 2016				
3-3: Management of material topic	Energy			
302-1: Energy consumption within the organization	Energy			
302-2: Energy consumption outside of the organization	Energy			
302-3: Energy intensity	Energy			
302-4: Reduction of energy consumption	Energy			
302-5: Reductions in energy requirements of products and services	Products			

DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
GRI 303: WATER AND EFFLUENTS 2018				
3-3: Management of material topic	Water			
303-1: Interactions with water as a shared resource	Water			
303-2: Management of water discharge-related impacts	Water			
303-3: Water withdrawal	Water			
303-4: Water discharge	ESG Performance Metrics			
303-5: Water consumption	Water			
GRI 304: BIODIVERSITY 2016				
3-3: Management of material topic	Biodiversity			
304-1: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity	a	Limited data	Partially completed, topic requires additional assessment.
304-2: Significant impacts of activities, products and services on biodiversity	Biodiversity	a, b	Limited data	Topic requires additional assessment.
304-3: Habitats protected or restored	Biodiversity	a-d	Not Applicable	
304-4: IUCN Red List species and national conservation list species with habitats in areas affected by operations	Biodiversity	a	Limited data	Topic requires additional assessment.
GRI 305: EMISSIONS 2016				
3-3: Management of material topic	Climate Change			
305-1: Direct (Scope 1) GHG emissions	Climate Change			
305-2: Energy indirect (Scope 2) GHG emissions	Climate Change			
305-3: Other indirect (Scope 3) GHG emissions	Climate Change			
305-4: GHG emissions intensity	Climate Change			
305-5: Reduction of GHG emissions	Climate Change			
305-6: Emissions of ozone-depleting substances (ODS)	CDP			
305-7: Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	Air Emissions			



DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
GRI 306: WASTE 2020				
3-3: Management of material topic	Circular Economy and Waste			
306-1: Waste generation and significant waste-related impacts	Circular Economy and Waste			
306-2: Management of significant waste-related impacts	Circular Economy and Waste			
306-3: Waste generated	Circular Economy and Waste			
306-4: Waste diverted from disposal	Circular Economy and Waste			
306-5: Waste directed to disposal	Circular Economy and Waste			
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016				
308-1: New suppliers that were screened using environmental criteria	Supply Chain			
308-2: Negative environmental impacts in the supply chain and actions taken	Supply Chain	b-e	Limited data	Due diligence process changed in 2023.
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2018				
3-3: Management of material topic	Health and Safety			
403-1: Occupational health and safety management system	Health and Safety			
403-2: Hazard identification, risk assessment, and incident investigation	Health and Safety			
403-3: Occupational health services	Health and Safety			
403-4: Worker participation, consultation, and communication on occupational health and safety	Health and Safety			
403-5: Worker training on occupational health and safety	Health and Safety			
403-6: Promotion of worker health	Health and Safety			
403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Health and Safety			
403-8: Workers covered by an occupational health and safety management system	Health and Safety			
403-9: Work-related injuries	Health and Safety			
403-10: Work-related ill health	ESG Performance Metrics			

DISCLOSURE	LOCATION	OMISSION		
		Requirement(s) Omitted	Reason	Explanation
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016				
3-3: Management of material topic	Human Capital			
405-1: Diversity of governance bodies and employees	Leadership Human Capital			
405-2: Ratio of basic salary and remuneration of women to men	ESG Performance Metrics			
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016				
414-1: New suppliers that were screened using social criteria	Supply Chain			
414-2 Negative social impacts in the supply chain and actions taken	Supply Chain	b-e	Limited data	Due diligence process changed in 2023.
GRI 416: CUSTOMER HEALTH AND SAFETY 2016				
3-3: Management of material topic	Product Safety Chemical Management			
416-1: Assessment of the health and safety impacts of product and service categories	Product Safety Chemical Management			
416-2: Incidents of non-compliance concerning the health and safety impacts of products and services	Product Safety			
GRI 418: CUSTOMER PRIVACY 2016				
3-3: Management of material topic	Privacy			
418-1: Substantiated complaints concerning breaches of customer privacy and losses of customer data	Privacy ESG Performance Metrics			

# SUSTAINABILITY ACCOUNTING STANDARDS BOARD INDEX

**Howmet Aerospace is committed to reporting against the aerospace and defense sustainability accounting standard from SASB. This index provides a guide to our reporting against the RT-AE Version 2023-12 of this standard.**

## SUSTAINABILITY DISCLOSURE TOPICS & METRICS

Topic	Metric	Category	Code	Report Location
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	RT-AE-130a.1	Energy, Climate
Hazardous Waste Management	Amount of hazardous waste generated, percentage recycled	Quantitative	RT-AE-150a.1	Waste and Circularity
	Number and aggregate quantity of reportable spills, quantity recovered	Quantitative	RT-AE-150a.2	Waste and Circularity
Data Security	(1) Number of data breaches, (2) percentage involving confidential information	Quantitative	RT-AE-230a.1	ESG Performance Metrics
	Description of approach to identifying and addressing data security risks in (1) entity operations and (2) products	Discussion and Analysis	RT-AE-230a.2	<a href="#">Form 10K</a> (Item 1C: Cybersecurity)
Product Safety	Number of recalls issued, total units recalled	Quantitative	RT-AE-250a.1	Product Safety
	Number of counterfeit parts detected, percentage avoided	Quantitative	RT-AE-250a.2	ESG Performance Metrics
	Number of Airworthiness Directives received, total units affected	Quantitative	RT-AE-250a.3	ESG Performance Metrics
	Total amount of monetary losses as a result of legal proceedings associated with product safety	Quantitative	RT-AE-250a.4	ESG Performance Metrics
Fuel Economy & Emissions in Use Phase	Revenue from alternative energy-related products	Quantitative	RT-AE-410a.1	Not reported
	Description of approach and discussion of strategy to address fuel economy and greenhouse gas (GHG) emissions of products	Discussion and Analysis	RT-AE-410a.2	Products
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	RT-AE-440a.1	Supply Chain

Topic	Metric	Category	Code	Report Location
Business Ethics	Total amount of monetary losses as a result of legal proceedings associated with incidents of corruption, bribery, and/or illicit international trade	Quantitative	RT-AE-510a.1	Ethics, Anti-corruption and Compliance
	Revenue from countries ranked in the "E" or "F" Band of Transparency International's Government Defence Anti-Corruption Index	Quantitative	RT-AE-510a.2	ESG Performance Metrics
	Discussion of processes to manage business ethics risks throughout the value chain	Discussion and Analysis	RT-AE-510a.3	Ethics, Anti-corruption and Compliance Human Rights Supply Chain

## ACTIVITY METRICS

Metric	Category	Code	Report Location
Production by reportable segment	Quantitative	RT-AE-000.A	Not reported
Number of employees	Quantitative	RT-AE-000.B	Human Capital