



ARCONIC



2020 Sustainability and ESG Report

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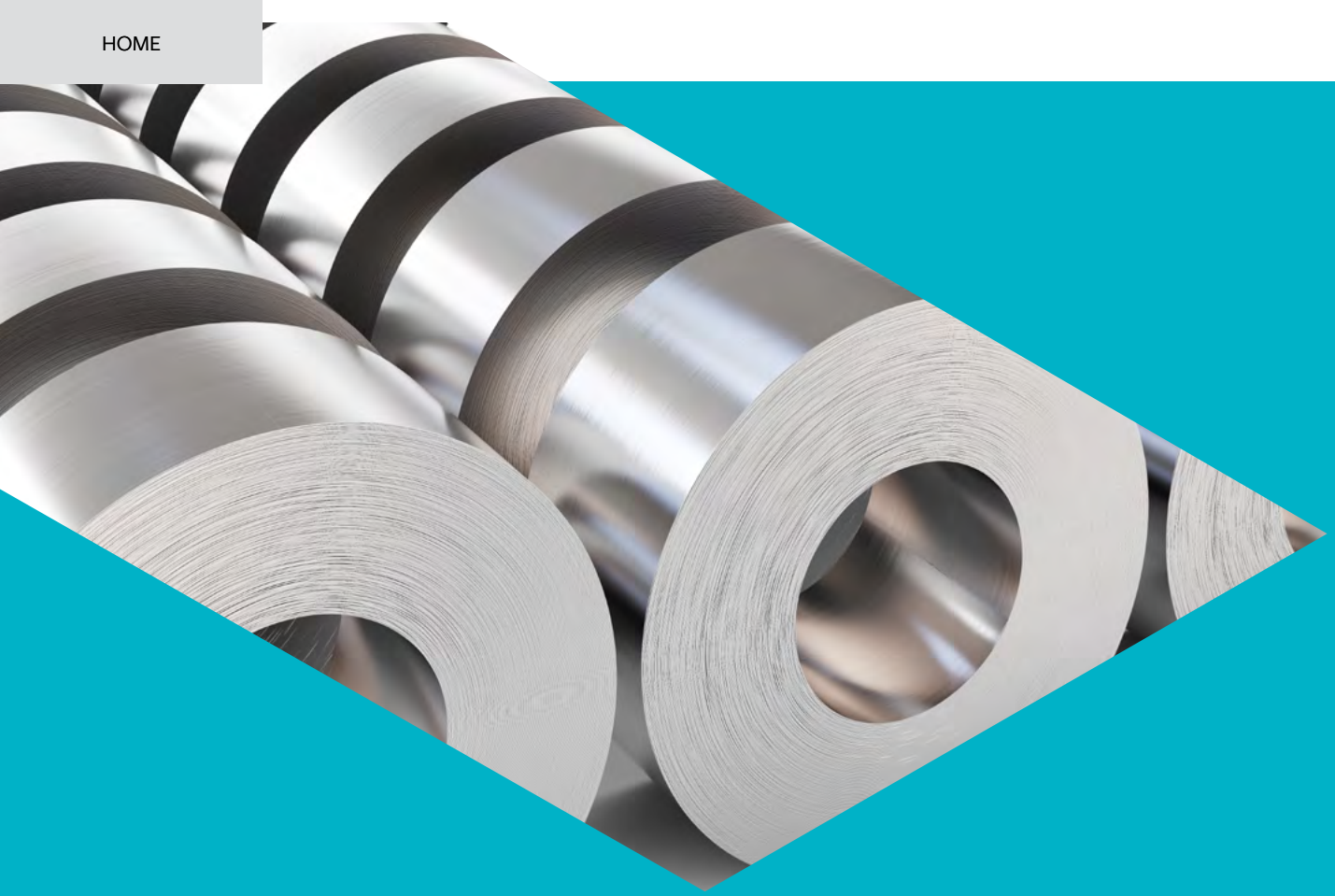
On April 1, 2020, Arconic Inc. separated into two independent, publicly traded companies – Arconic Corporation and Howmet Aerospace Inc. (the new name for Arconic Inc.). Information and data presented in this report for periods prior to April 1, 2020, were derived from Arconic Inc.’s historical records related to the underlying operations that now comprise Arconic Corporation. Any use of “Arconic” in this report refers to Arconic Corporation.

Materiality: The inclusion of information in this report should not be construed as a characterization regarding the materiality or financial impact of that information. Please see our Annual Report on Form 10-K for the year ended December 31, 2020, and other [publicly filed documents](#), which are available at www.arconic.com.

Forward-Looking Statements: This report contains certain statements that relate to future events and expectations and, as such, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as “anticipates,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “outlook,” “plans,” “projects,” “seeks,” “sees,” “should,” “targets,” “will,” “would” or other words of similar meaning. All statements that reflect Arconic’s expectations, assumptions or projections about the future, other than statements of historical fact, are forward-looking statements. Forward-looking statements by Arconic are not guarantees of future performance and are subject to known and unknown risks, uncertainties and changes in circumstances that are difficult to predict. Although Arconic believes that expectations reflected in any forward-looking statements are based on reasonable assumptions, it can give no assurance that these expectations will be attained, and it is possible that actual results may differ materially from those indicated by these forward-looking statements due to a variety of risks and uncertainties. For a discussion of some of the specific factors that may cause Arconic’s actual results to differ materially from those projected in any forward-looking statements, see the risk factors described in Part I Item 1A of the Arconic Corporation Annual Report on Form 10-K for the fiscal year ended December 31, 2020, filed with the Securities and Exchange Commission on February 23, 2021. Arconic disclaims any obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

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Introduction

Arconic is committed to being a good corporate citizen and living our Values to minimize our environmental footprint and maximize the value we bring to our key stakeholders, including our shareholders, employees, customers, suppliers and communities in which we operate.

- **CEO Statement**
- **Corporate Highlights**
- **Sustainability and ESG at Arconic**
- **Reporting and Materiality**

CEO STATEMENT

Our first year as a standalone company – 2020 – was one of significant change, flexibility, resilience and growth. We launched Arconic Corporation on April 1, at the beginning of a pandemic, and the strength of our people and our Values not only guided us through challenging times, they positioned us for growth as the economy started to recover. I'm proud of the way our employees stepped up to support each other and maintain our commitment to safety, which has always been our number one priority and consistently delivers industry-leading performance metrics year after year.

In addition to our focus on safety, we've always been committed to building upon our legacy of being a good corporate citizen and living our [Values](#) to achieve environmental, social and governance excellence. We have a robust sustainability program that emphasizes proactive identification of opportunities to reduce our environmental impact, prompt implementation of effective management controls and best-practice sharing. In 2020, we reduced our environmental footprint in the areas of greenhouse gas emissions, energy consumption, freshwater withdrawal and landfilled waste. We are in the process of setting long-term, global targets for environmental sustainability, and we recently became a member of the United Nations Global Compact in support of the 10 universal principles that contribute to a more sustainable and inclusive global economy.

Each day, our products and innovations help advance our customers' sustainability efforts with materials that are lighter weight, durable, strong and recyclable. We've not only increased performance and safety ratings of our customers' products, our material has reduced fuel consumption and greenhouse gas emissions. Buildings using our advanced materials are more energy efficient and better protected from the elements. Our suppliers are also key partners in our sustainability journey, helping us meet our goals and those of our customers. We expect each to act ethically, respect human rights and further embed sustainability into their operations. Of our key suppliers, we are pleased to share that a vast majority had sustainability programs considered leading or active based on our 2020 assessment.

It was especially important to me in our first year that we prioritized social responsibility into the fabric of our integrity culture. We created an integrated Arconic Inclusion and Diversity Council to build and maintain an environment where everyone feels valued, and our Grow Together Inclusion and Diversity campaign was launched in August to encourage employees to take action to advance inclusion, diversity and social equity. By December, employees recorded more than 2,000 actions in support of these efforts, and Arconic Foundation granted a total of US\$360,000 to six organizations selected in coordination with our employee resource groups. The level of commitment and energy demonstrated by our employees to advance this initiative reinforced what I already knew about our Values and how strongly rooted they are in our culture. In addition to our employees taking these actions in 2020, which included learnings, volunteer efforts or monetary donations, Arconic Foundation contributed 149 grants for a total of approximately US\$7.1 million to support nonprofit and community organizations aligned with our ESG priorities.

Another critical area where we built upon our legacy was establishing corporate governance practices based on transparency, integrity and compliance. As a global company with operations in diverse cultural, political and economic environments, Arconic has always been committed to conducting business ethically and in compliance with all applicable laws. As highlighted in this report, we reconfirmed our Values in 2020. These guide us in delivering sustainable value to our customers, employees, communities and shareholders, and serve as the basis of our Code of Conduct and how we conduct business.

As you read through our 2020 Sustainability and ESG Report, you will recognize that wherever we operate, advancing the health and safety of our employees, the environment and communities we serve are critical priorities of Arconic. And, as we conduct all aspects of our business ethically and with integrity and partner with our customers to produce lightweight, durable and recyclable products, we also proactively engage with all of our key stakeholders so we can continue to grow and deliver sustainable value that ultimately benefits everyone.

Sincerely,



Tim Myers
Chief Executive Officer
Arconic Corporation



CORPORATE HIGHLIGHTS

Our Mission, Values and Business Focus

Arconic is committed to building upon our legacy of being a good corporate citizen and living our Values to achieve environmental, social and governance excellence. We are creating a culture that embraces inclusion, diversity and social equity and is defined by integrity. Wherever we operate, advancing the health and safety of our employees, the environment and communities we serve is an essential priority. And, as we partner with our customers to produce light weight, durable and recyclable products, we also proactively engage with all of our stakeholders to assure that we conduct all aspects of our business ethically and transparently, so that we can continue to grow and deliver sustainable value.

Our Mission

To live our core values and deliver sustainable value to our customers, our employees, our communities and our shareholders.

Our Values



ACT WITH INTEGRITY.

We lead with respect, honesty, transparency and accountability.



SAFEGUARD OUR FUTURE.

We protect and improve the health and safety of our employees, communities and environment.



GROW STRONGER TOGETHER.

We cultivate an inclusive and diverse culture that advocates for equity.



EARN CUSTOMER LOYALTY.

We build customer partnerships through best-in-class products and service.



DRIVE OPERATIONAL EXCELLENCE.

We pursue continuous improvement through innovation, agility, people development and collaboration.



CREATE VALUE.

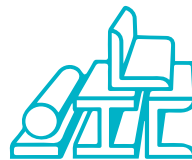
We achieve success by generating and growing value for our shareholders.

Our Business Focus



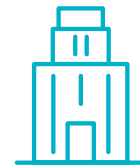
ROLLED PRODUCTS:

- Aluminum sheet for closures and structural reinforcements in ground transportation vehicles
- Highly differentiated sheet and plate for airframes
- Multilayer brazing sheet for heat exchanger products
- Sheet and plate for industrial and consumer applications
- Plates for mold and semiconductor equipment
- Can sheet for food and beverage packaging



EXTRUSIONS:

- High strength extruded tubes for automotive driveshafts
- Aluminum frame rails for commercial transportation vehicles
- Complete range of extruded products for commercial aerospace and defense applications
- Rods and bars for architectural systems and industrial purposes



BUILDING AND CONSTRUCTION SYSTEMS:

- Engineered façade systems and architectural products
- Entrances, framing systems, curtain walls and windows for commercial construction
- Composite material, pre-painted heavy-gauge sheet and bonded sheet for architectural application

SUSTAINABILITY AND ESG AT ARCONIC

We're committed to being a good corporate citizen and living our [Values](#) to minimize our environmental footprint and maximize the value we bring to our key stakeholders, including our employees, customers, suppliers, stockholders and communities in which we operate.

With a culture that embraces inclusion, diversity and social equity and is defined by integrity, we strongly support efforts that improve the health and safety of our employees, the environment and the communities that we serve. We also value and proactively engage with our stakeholders to ensure that all aspects of our business are conducted ethically and consistently with our Values. Accordingly, we endeavor to continuously improve our sustainability and ESG measures and disclosures.

In 2020, we partnered with our customers, suppliers and other stakeholders around the world to create transformational products with exceptional properties of strength, lightweight, durability and recyclability. During the pandemic, our business models, products and value chain called upon inherent legacy values, such as trust and reliability.

In April 2020, Arconic Corporation was launched as an independent, publicly traded company following separation from Arconic Inc. Our leadership team and Board of Directors agreed unequivocally that sustainability and ESG would be priorities for our operations and business models.

Our long-term approach to sustainability and ESG will further take into consideration rising global challenges, such as climate change, supply chain sustainability, human capital and corporate governance best practices. The following three key components will continue to help shape our roadmap:

- **Environment:** Reducing our environmental footprint through continuous improvement in our operations, while providing innovative solutions to our customers and driving sustainability within our supply chain.
- **Social Responsibility:** Keeping our people safe, empowered and engaged, while cultivating an inclusive and diverse culture that advocates for social equity.

- **Corporate Governance:** Driving business conduct guided by the highest standards of personal and professional integrity, transparency and accountability through regularly reviewed policies that comply with all applicable laws and our [Code of Conduct](#).

We'll build upon the following 2020 sustainability and ESG highlights by reexamining materiality in 2021 and setting long-term targets.

Environment

In the area of environmental sustainability, we continued our certification journey through the [Aluminium Stewardship Initiative \(ASI\)](#), which is a certification program focused on responsible production, sourcing and stewardship of aluminum. ASI has influenced our sustainability approach significantly.

Our location in Samara, Russia, and our Corporate Center in Pittsburgh, Pennsylvania, U.S., were certified to the ASI performance standards in 2019. Our locations in Kőfém, Hungary, and Bohai, China, received their certifications in 2020. We plan to achieve ASI Chain of Custody Standard certification at Samara in 2021.

We are refocusing our environmental sustainability approach and programs to align with the opportunities and risks specific to our new company profile during 2021. As part of this work, we are evaluating recommendations from the [Task Force on Climate-related Financial Disclosures](#) and the [Sustainability Accounting Standards Board \(SASB\)](#).

To advance the management of our environmental, health and safety (EHS) functions, our EHS management system is aligned with ISO 14001 environmental management standard and ISO 45001 occupational health and safety standard. Each of our operating locations meets these internationally recognized standards.

Social Responsibility

We grow stronger together as a company and create a better society for everyone as we work safely and cultivate an inclusive and diverse culture that advocates for social equity.

We have six employee resource groups (ERGs) with top company leadership serving as a sponsor of each. Our Inclusion and Diversity Council includes our executive leadership team, the chairs and co-chairs of each ERG, the Vice President and Treasurer of [Arconic Foundation](#), and our Vice President of Inclusion and Diversity. In addition, Arconic Foundation's funding priorities have been expanded beyond education to include environmental sustainability and advancing social equity, allocating more than US\$7 million in 2020 toward those efforts.

We enhanced our [Human Rights Policy](#) to align with international human rights principles, and we have completed a "living wages" review of our entire employee population. This resulted in confirmation that we meet and, in most instances, exceed local living wages in all countries in which we operate.

Corporate Governance

As a global company with operations in diverse cultural, political and economic environments, we are committed to conducting business ethically and in compliance with all applicable laws.

Our Values guide our behavior at every level and apply across the company on a global basis. We expect all directors, officers and employees to conduct business consistent with our Values and in compliance with our Code of Conduct. We have a comprehensive compliance training program and employees annually certify compliance with our Code of Conduct.

Following the launch of our company in April 2020, our Board and its committees undertook a comprehensive review of our governance policies and practices to ensure that our governance program is in compliance with applicable rules and regulations, aligns with our management of the company and reflects best practices.




2020 Sustainability Highlights

Safety

↓ 23%
total recordable incident rate

0 fatalities since 2016	↓ 3.5% days away, restricted and transfer rate
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Environmental

↓ 13.8% direct and indirect greenhouse gas emissions	↓ 11.8% value chain greenhouse gas emissions
↓ 11.9% energy consumption	↓ 8.0% freshwater withdrawal
↓ 6.5% landfilled waste	 Köfém (Hungary), and Bohai (China) operations



Inclusion and Diversity

EMPLOYEE DIVERSITY

38% female executives (vice president or higher)	20% executives identify as members of minority groups
21% female employees	21% U.S. employees identify as members of minority groups

GROW TOGETHER INITIATIVE

2,000+
employee actions to advance inclusion, diversity and social equity

HUMAN RIGHTS CAMPAIGN FOUNDATION

100
Corporate Equality Index
(Best Places to Work)

Community Engagement

US \$7.1 million

149 grants to nonprofit and community organizations in eight countries through Arconic Foundation

REPORTING AND MATERIALITY

Arconic Corporation became an independent, publicly traded company on April 1, 2020, after separating from Arconic Inc., which is now Howmet Aerospace Inc.

In June 2020, we released our first Sustainability Report, which provided detailed information on the 2019 sustainability performance of the businesses that comprise Arconic Corporation – Rolled Products, Building and Construction Systems, and Extrusions.

For our 2020 report, we are underscoring our commitment to industry-leading environmental, social and governance performance by calling it our Sustainability and ESG Report. We continue to advance our sustainability and ESG goals by living our [Values](#) to minimize our environmental footprint while maximizing the value we bring to our customers, employees, communities and stockholders.

We developed this report in accordance with the core option of the [Global Reporting Initiative \(GRI\) Standards](#) and the Sustainability Accounting Standards Board (SASB) [Metals & Mining Standard](#). The report was also informed by the [ASI Standards](#). GRI and SASB content indexes that list our disclosures can be found at the end of this report.



Materiality

In developing this report's content and identifying our material sustainability and ESG topics, we evaluated both direct and indirect input and guidance from sources that included:

- Global and local stakeholders;
- Investors;
- Customers;
- Communities where we operate;
- Industry associations;
- Sector standards, such as GRI, SASB and ASI;
- Sustainability surveys from ratings organizations;
- Our leadership;
- Our employees and their representatives; and
- Media coverage.

2020 Material Topics

Our 2020 material topics, all of which have a boundary of our global operations, are:

- Energy;
- Water;
- Emissions;
- Waste and spills;
- Environmental compliance;
- Safety and health; and
- Diversity and equal opportunity.

Reporting Scope

Unless otherwise noted, the information contained in this report covers all global operations where we have financial and/or operational control.

During 2020, we divested or closed our operations in Itapissuma, Brazil; Changwon, South Korea; and Halethorpe, Maryland, U.S. Environmental data from these locations is excluded from this report. We also have excluded environmental data from the Texarkana, Texas, U.S., location, which we divested in 2018 but leased back the casthouse through April 2020.

Assurance

The accuracy and completeness of the information contained in our 2020 Sustainability and ESG Report is verified by our internal experts and processes.

As part of our journey to incorporate third-party data assurance into our reporting process, we engaged [DNV](#) to perform assurance readiness of our key environmental performance indicators and provide recommendations on how to improve each. This work began in late 2020 and was completed in early 2021.

After implementing actions to address the recommendations, we intend to obtain assurance of our Scope 1, Scope 2 and Scope 3 greenhouse gas (GHG) emissions data in 2022. We also will obtain assurance on the accuracy of the energy consumption data that was used as the basis for calculating our Scope 1 and Scope 2 emissions.

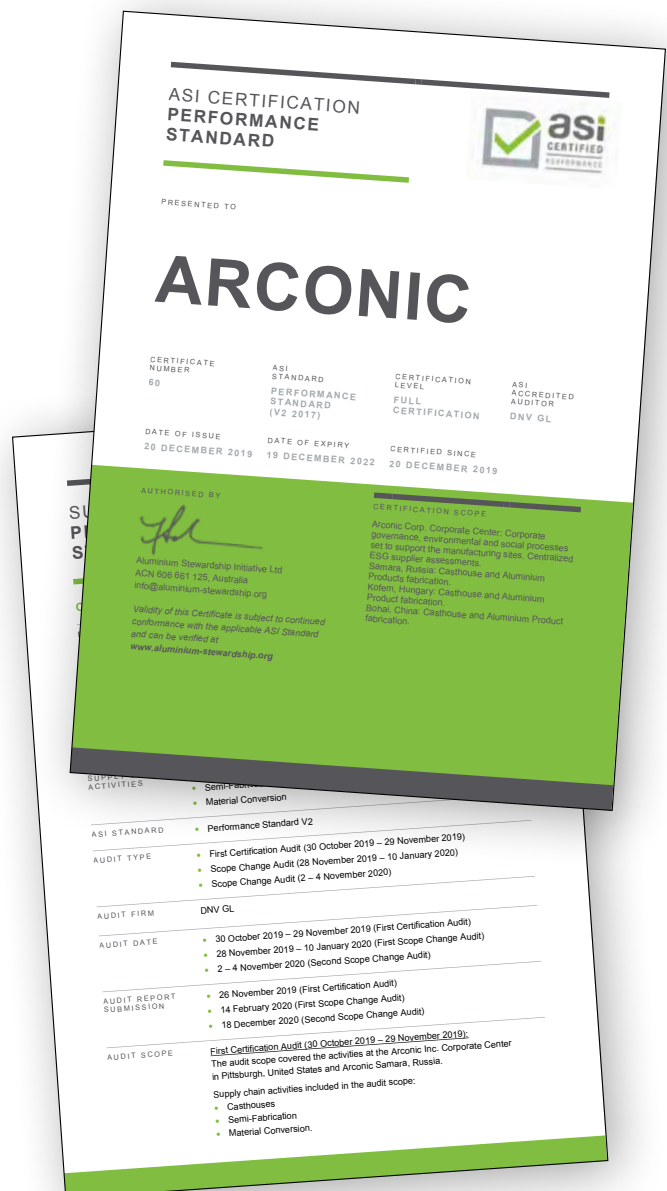
Our plan is to expand this assurance to our other environmental performance indicators over time.

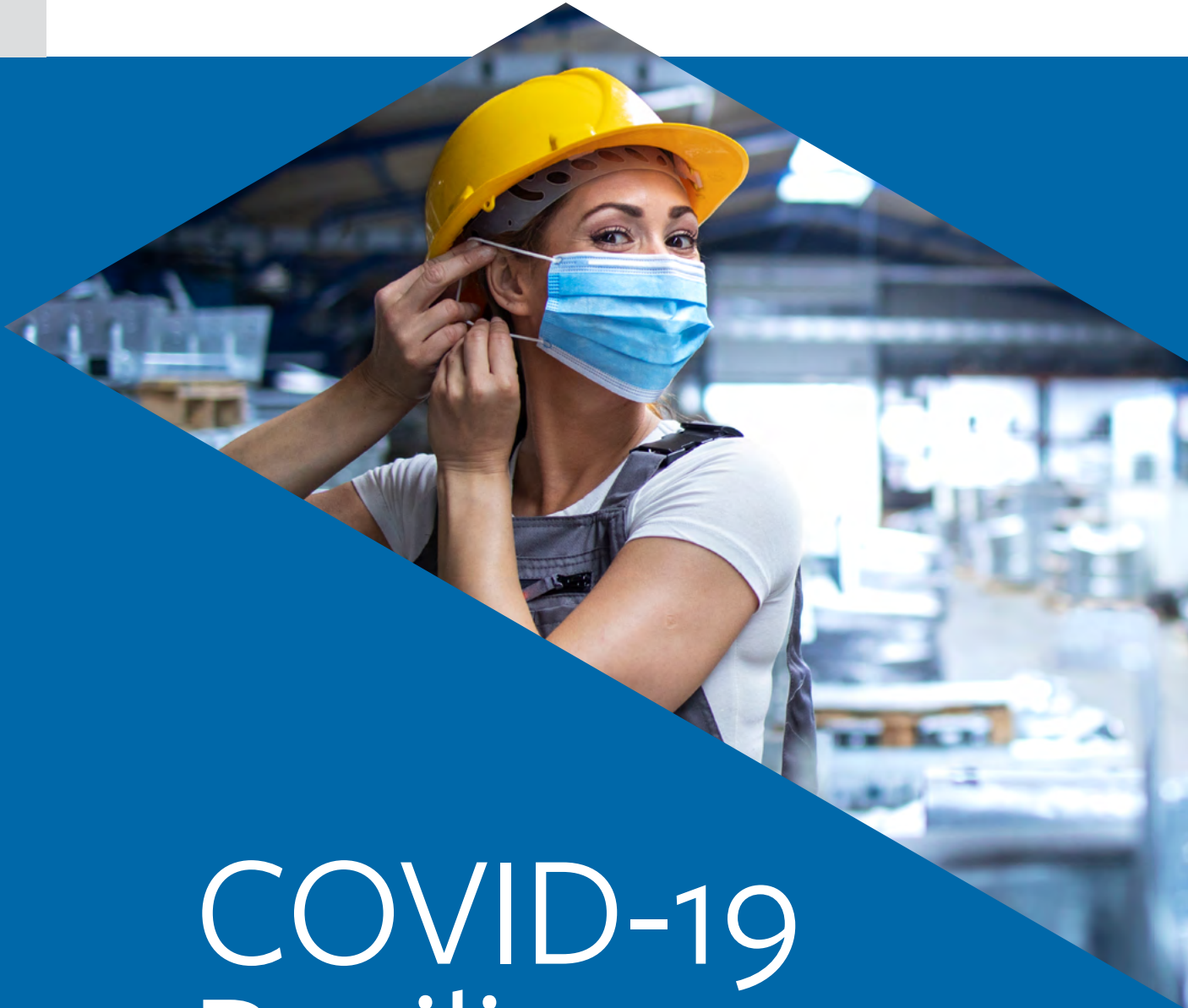
Aluminium Stewardship Initiative

We've been an active member of ASI since 2016 (through our former parent company prior to April 1, 2020) and are a member of the organization's Standards Committee. ASI is focused on responsible production, responsible sourcing and material stewardship of the aluminum value chain.

At the end of 2020, four of our locations were certified to ASI's Performance Standard – three of our non-U.S. operating locations and our corporate office in Pittsburgh, Pennsylvania, U.S. ([View the certifications.](#))

These certifications demonstrate our commitment to maintaining robust ESG values. We are working toward achieving these important certifications in our other operations around the world.





COVID-19 Resilience

In 2020, our employees, customers, suppliers and local communities came together to confront the biggest health challenge the world has faced in recent history.

COVID-19 RESILIENCE

In 2020, our employees, customers, suppliers and local communities came together to confront the biggest health challenge the world has faced in recent history.

In response to the COVID-19 pandemic, we implemented significant changes that we determined were in the best interests of our employees, as well as the communities in which we operate. We established strict requirements for onsite work that we continually assessed against Centers for Disease Control and Prevention (CDC) protocols and other expert guidance to assure that we were providing a safe work environment.

As COVID-19 cases began to spread across China, we promptly established a cross-functional global pandemic response team of internal medical, health and safety, legal, human resources, commercial and communications experts. This Global Pandemic Team convened in January 2020 and developed comprehensive guidance for our company worldwide to address COVID-19 issues and reduce the virus' spread within our operations. We also developed and followed a process for leadership review and approval for COVID-19-related countermeasures.

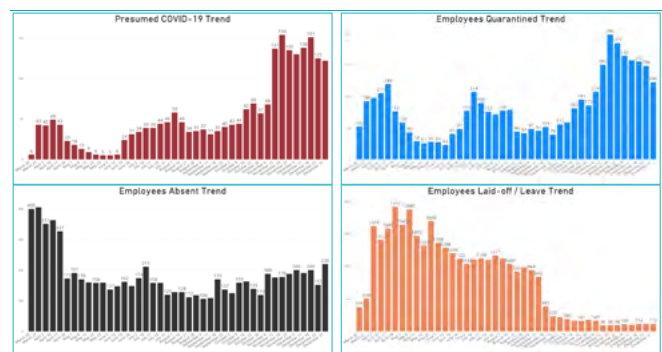
We established communication channels, including a pandemic preparedness intranet site and resource library. In addition, we held weekly COVID-19 communication meetings for business unit, resource unit and plant leaders; pandemic coordinators; and human resources and environmental, health and safety professionals. Our leadership team conducted dedicated COVID-19 management meetings daily during the pandemic's initial peak period and at least weekly thereafter.

In March 2020, our first employee cases of COVID-19 in Europe and the United States were experienced. As the pandemic gained momentum, our initial preparedness enabled us to act quickly, resulting in the following early actions:

- Implemented international and domestic travel restrictions;
- Established protocols for hygiene and cleaning, passive screening, and alternative work schedules;
- Developed and implemented work-from-home protocols and encouraged the use of technology to support our collaborative work environment for all positions that were not required to be on-site; and

- Launched active tracking of presumed positive cases, employees quarantined, absenteeism and leaves of absence. Globally, our locations logged this data daily, with continuous tracking and evaluation plans through 2021.

The following sample trend chart shows the rolling seven-day average, which was recorded every Friday.



As the pandemic advanced, our Global Pandemic Team expeditiously prepared our locations with a comprehensive risk-based toolbox and structured programs around active entry screening, self assessment for symptoms, hygiene and mask use, social distancing, cleaning and disinfecting, and robust tracing and quarantine protocols.

Each location completed an initial readiness assessment and took measures to comply with our internal protocols. For example, our Global Pandemic Team developed an internal social-distancing assessment tool that was used at every location to identify tasks where employees worked within 6 feet (2 meters) of each other. Where necessary and possible, locations made physical changes to the work environment to ensure that social distancing protocols could be maintained. If social distancing was not feasible, the locations were challenged to establish other means of performing a work task or using additional layers of exposure protection.

Our COVID-19 safety protocols required every operating location to conduct observations and audits for compliance with our internal safety measures. The completion and outcomes of the audits were reviewed weekly by our Global Pandemic Team and shared with our leadership.

Rethinking our workplace models with a work-from-home action plan was another essential part of protecting our employees. Our Global Pandemic Team provided resources, equipment, tips for effectively working from home and training on topics like effectively leading a virtual team. We also implemented policies for leave and alternative schedules to provide flexibility for individuals caring for others or arranging for the care of school-aged children. These policies also encouraged employees to stay at home when sick. At the height of the pandemic, approximately 25 percent of our employees were routinely working remotely.

Supporting the health of our employees and their families during the pandemic was also a critical part of our COVID-19 response efforts. Recognizing that community transmission posed the greatest risk for spreading the virus, we provided ongoing communications to our employees about steps they could take to protect themselves and their families outside of work.

Throughout the pandemic, we maintained restrictions on business travel and provided leisure travel guidelines for employees and their families. We adjusted restrictions and guidance as conditions warranted with clear information on our company intranet.

Arconic Travel Status

Basic Local Travel	Expanded Local Travel	Domestic Air & Rail Travel	International Travel
Travel by personal vehicle (including company vehicles), without air travel or lodging	Travel using rental car or rideshare and/or with lodging	Travel by air or passenger rail	Travel outside of home country

- Travel prohibited
- Approved travel only (follow BU guidelines to submit within BU for approval by CEO)
- Approved travel only (following BU guidelines)
- No travel restrictions

As of December 31, 2020, we experienced 1,137 positive cases among our 13,400 employees globally. It is with deep regret that we report two employees passed away from the virus due to non-work-related exposures as determined by contact tracing.

Positive COVID-19 Cases

Through December 31, 2020

Business	Canada	Europe	Russia	United States	Total
Rolled Products	Not applicable	106	154	573	833
Building and Construction Systems	4	17	Not applicable	158	179
Extrusions	Not applicable	3	Not applicable	122	125
Total	4	126	154	853	1,137

Business Continuity

In response to market conditions, we implemented a series of proactive actions starting in April 2020 to mitigate the impacts of the COVID-19 pandemic on our business. These included:

- Deferring the initiation of a dividend on common stock;
- Reducing our CEO's salary and the Board of Directors' cash compensation by 30 percent;
- Reducing salaries for senior-level management by 20 percent and for all other salaried employees by 10 percent;
- Restructuring the salaried workforce, targeting a 10 percent reduction;
- Idling various production facilities based on market conditions within the regions where we operate;

- Decreasing production and operating with a reduced labor force through shortened work weeks, shift reductions, layoffs and the elimination of temporary workers and contractors at our U.S.-based rolling and extrusion facilities;
- Securing personal protective equipment (PPE) for all facilities;
- Implementing a combination of modified schedules, adjusted work hours, lower costs and/or delayed raises at all rolling mill facilities in Europe, China and Russia;
- Suspending the 401K match program for U.S. salaried employees; and
- Reducing capital expenditures by approximately US\$50 million, or about 30 percent.

Effective September 1, 2020, we restored the salaries of all salaried employees and the 401K match of all salaried U.S. employees, including executive officers. We also restored the annual cash retainers payable to the non-employee members of our Board of Directors.

As customer demand returned, we reverted to full work weeks and recalled workers from layoff in the majority of our facilities.

Product Support

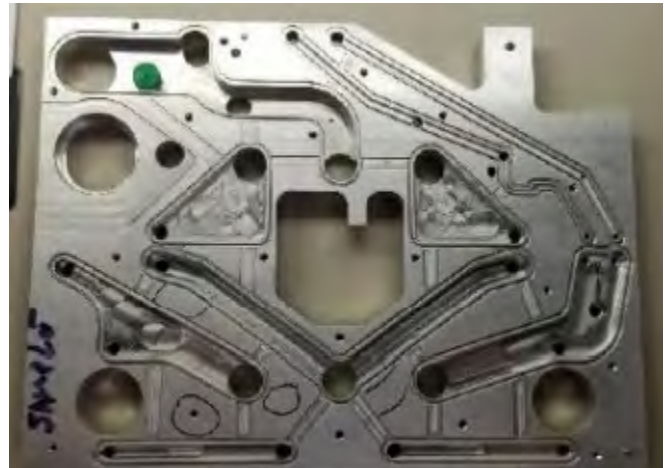
Our locations in Samara, Russia, and Lancaster, Pennsylvania, U.S., quickly mobilized to support essential product manufacturing in the fight against COVID-19.

Our Samara location responded to increased demand from pharmaceutical companies for aluminum coil. The coil is used for aluminum vial caps on Sputnik V, the first Russian-registered COVID-19 vaccine, as well as antiviral drugs. An aluminum cap covers the vial's rubber stopper and ensures a critical airtight, leak-proof and corrosion-resistant seal. The coil product was successfully produced and shipped in 2020 and will continue as supplies are needed throughout 2021.



Sputnik V vial

Starting in March 2020, our Lancaster location responded to an emergency demand for aluminum sheet used on ventilator machines. The location also ramped up production of a product that is used as a nose clip for respirators.



Aluminum ventilator component

Arconic Foundation Investments

Arconic Foundation's COVID-19 response included new investments geared specifically toward community needs arising from the pandemic. These included grants to community food banks and crisis and emergency funds.

Specific examples include:

- A US\$200,000 contribution to **Share Our Strength**, an organization dedicated to ending childhood hunger. The funding supported up to 2 million meals for children in need through the **No Kid Hungry** program.
- Grants to the **United Way** in various U.S. communities to use for COVID relief, including food, housing and other critical needs.
- Funding to the **Saint George Teaching Hospital of Fejér County** in Székesfehérvár, Hungary, for testing and PPE for employees and patients.
- A grant to **SME Education Foundation** to provide access to online learning for thousands of career and technical education students across the U.S.

Recognizing the challenges of operating and executing programs during the pandemic, Arconic Foundation also worked closely with existing grantees to offer increased flexibility regarding project timing, spending and deliverables.



Environmental

We are engaged in an ongoing dialogue to ensure our commitment to environmental stewardship is a focus throughout the company. In addition to the way we operate, our innovative products and solutions enable our customers to make the world more sustainable – in the sky and on the road with lighter, lower-emission aircraft and vehicles, and in our cities with smart, energy-saving buildings.

- **Products**
- **Emissions**
- **Energy**
- **Water**
- **Waste and Spills**
- **Environmental Compliance**

PRODUCTS

We partner with our customers to earn their loyalty through best-in-class products and service. We're not only developing applications that solve their complex engineering challenges, we're also helping them achieve their own sustainability goals. With advanced process technologies and highly recyclable aluminum products, we're able to reduce our customers' environmental footprint while minimizing our own.

Products made from our advanced materials and technologies are light, strong, efficient, durable and recyclable. Ultimately, our innovative products and technologies are advancing sustainability, performance and safety throughout our global value chain while improving the way we drive, fly and build.

Automotive

Automakers continue to focus on lightweighting to improve fuel economy and meet more stringent government regulations. Under the Biden administration in the U.S., the need for more efficient vehicles is expected to increase, with a record number of electric vehicles reaching American consumers in 2021.

Ford innovates, environment wins

When Ford Motor Company introduced an all-aluminum body for its highly popular F-150 truck for the 2015 model year, it was a big risk the automaker took to advance the industry. Years later, it's clear that the decision paid off for Ford. The biggest winner, however, was the environment.

Switching from steel to a high-strength, military-grade aluminum body shed approximately a third of a metric ton (700 pounds) from the most popular pickup truck in the U.S. for more than 40 years in a row. Ford used the weight reduction to downsize the F-150's engine size across all models without sacrificing acceleration, cargo capacity and towing capability. Smaller engine = better fuel economy = reduced carbon dioxide (CO₂) emissions.

Between 2015 and 2019, we estimate that lightweighting the entire F-150 fleet with aluminum saved 1.4 billion liters (378 million gallons) of fuel and eliminated 3.4 million metric tons (7.5 billion pounds) of associated CO₂ emissions – equal to the annual emissions of 730,733 passenger vehicles.

In addition to providing aluminum for the F-150, we also help keep it together with our Arconic 951™ bonding technology. This organic, environmentally friendly solution produces adhesive joints that have far greater strength, durability and consistency than those made using traditional conversion coatings. The role Arconic 951 plays in enabling aluminum-intensive vehicles like the F-150 is so groundbreaking, R&D® Magazine named it an R&D 100 award winner in 2016.

What's the next industry-changing advance for the F-150? An all-electric version for the 2023 model year.



2021 Ford F-150, courtesy of Ford Motor Company

Weight Reduction

According to [The Aluminum Association's Aluminum Transportation Group \(ATG\)](#), a 5 to 7 percent fuel savings can be realized for every 10 percent in vehicle weight reduction when steel is replaced with lightweight aluminum.

For electric or hybrid vehicle designs, aluminum is favored for achieving weight savings, improving performance and meeting safety targets. A 2020 study commissioned by ATG revealed that aluminum is the material of choice in meeting mandatory and critical requirements, such as crashworthiness and design efficiency. In the rapidly growing electric vehicle market, aluminum plays a key role in carmaker weight reduction and emissions targets. ([DuckerFrontier North American Light Vehicle Aluminum Content and Outlook \(August 2020\) | Drive Aluminum](#))

Numerous industry studies calculate the weight savings realized by switching from steel to aluminum for specific vehicle components. For example, a study from the Center for Automotive Research (CAR) indicated an all-aluminum door using advanced material solutions and manufacturing technologies reduced the weight of a baseline door by 46 percent. ([cargroup.org](#))

We also have partnered with the industry leader in aluminum drive shafts, which transfer power from the motor to the rear axle, to develop a single-piece aluminum shaft that weighs up to 50 percent less than a conventional two-piece steel shaft.

The management of heat generated by an electric vehicle's battery system is another area where aluminum can increase performance efficiency. We're working with our heat exchanger customers on new brazing products that promote cleaner brazing processes. The enhanced control of the heat exchanger quality also enables increased battery life.

Our C6A1 alloy allows automakers to create high-form lightweight design solutions for applications that require strength and durability. This alloy helped shed approximately 34 kilograms (75 pounds) from the 2018 Jeep® Wrangler model and has been specified on other programs to reduce weight and enhance vehicle performance. [Learn more.](#)

Our award-winning Arconic 951® pretreatment technology enables the formation of a molecular link between the aluminum surface and the structural adhesive for a bond that's nine times stronger than its titanium zirconium competitor.

Waste Minimization and Recyclability

Our C4A8 alloy reduces original equipment manufacturer (OEM) material waste. This heat-treatable alloy with enhanced properties displays improved hemming performance and a longer shelf life that enables better stamping properties even after extended natural aging.

Sustainability in Motion

Whenever you see a new 2021 Nissan Rogue®, you're looking at a stylish sport utility vehicle that also epitomizes sustainability in motion.

The Rogue is Nissan's first global model built using a closed-loop recycling system for aluminum parts. As aluminum hoods and doors are stamped into shape, scrap material is shredded and extracted, with aluminum grades kept separate. This separation ensures that Nissan can return high-quality aluminum to collaborators like Arconic, which turn the separated and reprocessed material into aluminum alloy sheets that are reused in the production of automotive applications.

The closed-loop system helps reduce CO₂ emissions compared to using parts made with primary alloys from raw materials. It promotes the use of materials that don't rely on newly mined resources, and it also reduces waste from factories.

The Rogue's sustainability benefits extend to its operation, as aluminum alloys reduce vehicle weight and help improve fuel efficiency and power performance.

Under the Nissan Green Program 2022, Nissan aims to replace 30 percent of the raw materials used in cars built in 2022 with materials that don't rely on newly mined resources, and recycled aluminum is helping the automaker do just that.



2021 Nissan Rogue, courtesy of Nissan Motor Corporation

Another key sustainability advantage of aluminum's use in automobiles is its recyclability. Many customers take advantage of closed-loop recycling, which uses the scrap produced in the stamping process to minimize material waste. We are also working with several of our global customers to develop alloys that can tolerate higher percentages of both internal and external aluminum scrap.

In addition to taking advantage of aluminum's recyclability during the manufacturing process, more than 90 percent of aluminum parts are recycled at a vehicle's end of life, according to the Center for Resource Recovery and Recycling (CR3).

Learn more. → [go](#)

Commercial Transportation

As with automobiles, regulations on fuel efficiency and emissions for commercial vehicles continue to tighten around the world.

Technology to make trucks more fuel-efficient tends to add weight, which impacts the amount of payload the truck can carry. Aluminum helps the industry offset the added weight, thereby increasing fuel efficiency and reducing emissions.

According to the 2021 Lightweighting Confidence Report from the North American Council for Freight Efficiency, the following weight savings can be achieved using aluminum:

- Battery box: 19.1 kilograms (42.0 pounds) compared to steel;
- Battery top plate: 45.4 kilograms (100.0 pounds);
- Frame crossmembers: 38.6 kilograms (85.0 pounds) compared to steel; and
- One-piece bumper: 14.1 kilograms (31.0 pounds) compared to an aero bumper.

Our innovations to capture these benefits include a lightweight, all-aluminum frame for Class 8 trucks that will reduce truck frame weight by more than 40 percent compared to a steel frame.

Aluminum's benefits extend beyond trucks to other forms of commercial transportation, such as railcars and buses. The use of aluminum in electric buses, for example, extends the range or reduces the size and weight of the battery required. Using electric buses instead of diesel buses for city use significantly reduces particulate emissions in urban centers.

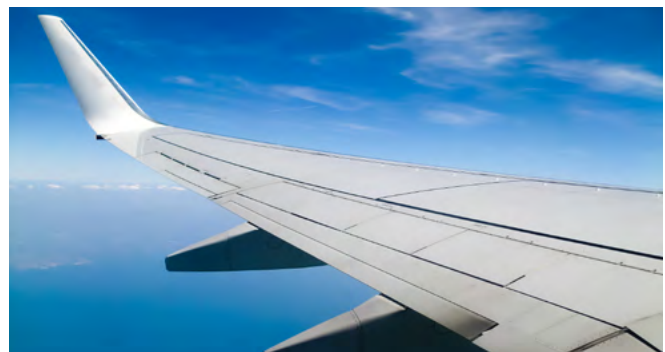
Learn more. → [go](#)

Aerospace

Airlines and aircraft manufacturers have a clear need – lighter aircraft that deliver fuel efficiency and reduce emissions. Both will be essential for the industry to meet its goal of stabilizing emissions at 2020 levels, which was set in the historic Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Through our product and process innovations, we are supporting the efforts of our aerospace customers.

Lighter aircraft use less fuel, and our latest generation of aluminum-lithium alloys enables lighter, stronger, tougher and larger airframe components. We are the only company capable of producing single-piece aluminum-lithium wing skins for the largest commercial aircraft. Single-piece parts minimize the number of complex joints, making structures stronger, lighter and less expensive.



Another emerging trend in the aerospace industry is increased vertical integration. In the past, a part would move from company to company for specific manufacturing steps. Today, we handle many of the manufacturing steps in-house, delivering a product that is more finished while also reducing transportation-related costs, fuel consumption and emissions.

In 2020, we engaged with airframers in support of zero/reduced emissions aircraft. The design and structure of these revolutionary airplanes will require our technologies and capabilities. While these planes are targeted for entry into service post-2030, the development of test plane designs and material selection must take place now.

Learn more. → [go](#)

Building and Construction

The building and construction industry is increasingly focused on products that enhance building energy performance and sustainability. The industry is also demanding increased transparency into the environmental and health impacts of products used in buildings.

Our wide range of products for the building and construction industry deliver on several sustainable criteria, including recyclability, lightweighting, thermal efficiency and durability. As we look to continually increase the sustainability of our new and existing products, we have trained our product design engineers on sustainable design methodologies and the avoidance of materials included in the International Living Future Institute's (ILFI's) [Red List](#) and the [Cradle to Cradle Certified™ Banned List of Chemicals](#).

Our [Insulpour® Thermal Entrance](#), for example, offers enhanced energy efficiency and superior structural performance. Throughout the development of the door, the design team worked with suppliers to evaluate and select components that would allow the product to qualify for the ILFI [Declare label](#). These labels indicate where a product was produced, its composition, its end-of-life recyclable and/or disposal options, and its declaration status with the Red List. We have ILFI [Declare labels](#) on many of our Kawneer products.

The thermal entrance assemblies are covered under an existing [environmental product declaration](#) (EPD). Our EPDs, which convey the environmental impact of a product for a variety of categories, have been independently validated and certified by UL Environment. We offer EPDs for our commercial storefront, curtain wall and window systems to provide increased transparency for our products.

We have created a material transparency summary (MTS) for many of our Kawneer building and construction products. Similar to EPDs, an MTS details the material ingredients in a product, helping us and our customers better understand and evaluate human health impacts.

We also demonstrate our commitment to sustainability throughout the lifecycle of our products by maintaining Cradle to Cradle certification on key product categories.

Our Kawneer 1600 Wall System®1 Curtain Wall, Kawneer 1600 Wall System®2 Curtain Wall, Versoleil® SunShade Outrigger Systems and Versoleil® Single Blade Systems are Cradle to Cradle Certified Bronze. These same products also have earned a [Silver-Level Material Health Certificate](#) from the Cradle to Cradle Products Innovation Institute.



The Pearl multi-family community in Silver Spring, Maryland, comprises three buildings and features Kawneer 1600 Wall System1 and System2 Curtain Walls. The complex is LEED Gold® certified. Photo credit: Perzel Photography Group

Our AA 100 HI + Aluminum Curtain Wall is Cradle to Cradle Certified Silver, and the AA 100 Aluminum Curtain Wall is Cradle to Cradle Certified Bronze. Our RT 72 Reflex, RT 72 HI+ and RT 82 HI+ window and door systems are also Cradle to Cradle Certified Silver, including their hardware and surface treatment.

In 2016, we were the first aluminum company in the world to achieve successful certification of the BES 6001 Framework Standard for Responsible Sourcing. The successful audit by BSI provides our U.K. customers enhanced confidence with the aluminum products sourced from Kawneer U.K. BES 6001 is recognized as the leading sustainability rating scheme for buildings (BREEAM) and Infrastructure (CEEQUAL), giving architects and designers increased motivation to specify Kawneer products.

[Learn more.](#) → [go](#)

Industrial Solutions

With their light weight, corrosion resistance, conductivity and formability, our industrial solutions increase sustainability in a wide range of applications.

Higher productivity and decreased lead times in the injection molding industry have created the need for molds that offer longer lifespans, higher corrosion resistance and faster speeds. Our QC10® aluminum mold plate machines eight to 10 times faster than steel. This reduces finishing costs and lead times by 20 to 30 percent while also reducing the energy required to manufacture the same amount of product. Our Alumec® aluminum mold plate brings similar benefits to prototyping, extrusion and blow molding.

For the tooling and fixtures market, we produce our Mic6™ Precision Machined cast aluminum plate with up to 100 percent recycled aluminum. We check this recycled aluminum chemistry throughout the manufacturing process to confirm composition requirements, yielding the most desirable and reliable properties.

Our ability to produce large aluminum 6061 plates is enabling semiconductor manufacturers to use larger production chambers to make more products in less time. Speed in manufacturing is especially important due to the rapid increase in semiconductor demand as the world shifted toward virtual learning, healthcare and working – along with the automotive industry turning to semiconductors to produce smarter, safer and more efficient vehicles.

In the recreational vehicle market, we've been supplying aluminum sheet to Airstream manufacturer Thor Industries for more than 50 years. Our engineers also developed a product for automotive trim parts that could be adapted to meet Airstream's needs for appearance, durability, and environmental compliance. In addition, we engineered an environmentally friendly clear polymer coating to protect the travel trailers against damaging ultraviolet light and reduce the volatile organic compound (VOC) emissions associated with painting them. Because it's made with lightweight aluminum, an Airstream has increased fuel efficiency and a lower carbon footprint.

Our wide-mill capabilities enable us to be a preferred supplier to the marine industry, with our aluminum products used to construct personal watercraft, commercial vessels and military ships. Aluminum's use in the marine industry has grown over the years due primarily to its corrosion resistance. The metal's lightweighting qualities are also advantageous for the industry, as it reduces construction costs and allows a vessel to use less power.

For appliances, our Sureform™ brushed aluminum with clearcoat is a sustainable substitute for stainless steel. Its lighter weight translates into reduced transportation-related costs, fuel consumption and emissions.

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 heavier 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've been listening and innovating. Our solution systems are lighter, stronger, faster and sustainable across the air, land, sea and space domains.

Our lightweight armor materials can replace heavier traditional systems, improving mobility and responsiveness while also extending the range of the combat vehicles. For the U.S. Navy's latest ships – Littoral Combat Ship, Ship to Shore Connector and Expeditionary Fast Transport – our corrosion-resistant materials reduce life cycle costs and the need for ozone-depleting coatings.

Learn more. → [go](#)

Packaging

Aluminum has been the packaging material of choice for many consumer brands for decades. It is strong, lightweight and ideal for protecting foods and beverages. In recent years, the demand for infinitely recyclable aluminum packaging has surged due to a shift in consumer preference for sustainable products.

The average beverage can is made with about 70 percent recycled content and further reduces GHG emissions with ideal shipping properties. As a result, Harbor Aluminum forecasts North American can sheet demand to grow at a 5 percent compound annual growth rate through at least 2025. In 2020, our facilities in Russia and China operated high utilizations to satisfy strong global demand.

Following the expiration of a non-compete agreement in late 2020, we initiated re-entry into the packaging market in North America and have engaged in qualification runs in 2021 with the expectation for full production to begin in 2022. Our incoming North American can sheet capacity has been fully committed across six top-tier customers.

As can sheet makes up a greater portion of our total production volumes going forward, we expect company-wide recycling rates to increase in conjunction. We are also an active participant in global efforts to improve closed-loop recycling programs.

Learn more. → [go](#)



EMISSIONS

We specialize in lightweight metals engineering and breakthrough product manufacturing that help reduce GHGs in some of the world's highest-emitting sectors, including transportation and buildings. We recognize that the more we do to reduce our climate impact, the more our customers and consumers will be able to do the same.

In 2020, we focused our efforts on identifying and understanding the business impacts of reducing our future GHG emissions to achieve long-term global warming targets. In 2021, our focus is reviewing the results of those efforts with a goal of developing our GHG reduction targets and a strategy to achieve them.

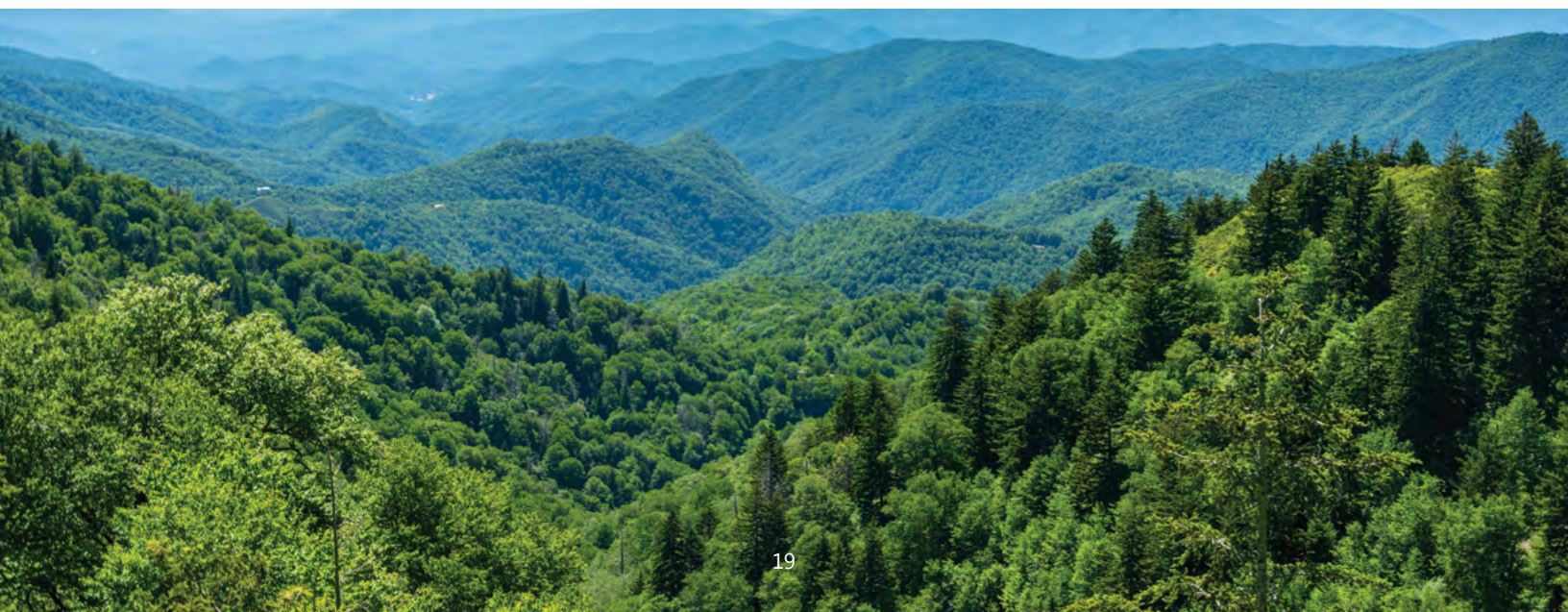
We are working with the [Aluminium Stewardship Initiative](#), regional associations and the [International Aluminium Institute](#) on a pathway for our industry to contribute to limiting global warming to below a 2°C threshold by 2050. We are focusing our efforts on establishing interim GHG-reduction targets and associated action plans as a bridge until a final roadmap is established.

Products that our customers manufacture from our advanced materials and technologies use less energy and emit fewer GHGs than those produced from heavier and less recyclable materials. GHG emissions avoided by using and recycling aluminum-based alloys are substantial relative to the emissions generated in the manufacturing phase because of the materials' light weight, infinite recyclability and other emissions-reducing benefits. (See the [Products](#) section.)

Our Scope 1 (direct) and Scope 2 (indirect) GHG emissions equaled 1.6 million metric tons in 2020 – a 13.8 percent decrease from 2019. While lower production levels due to the pandemic and the greening of the electrical grid are the primary contributors to the overall reduction, our ongoing energy-efficiency efforts at the plant level also contributed to the 2020 reduction.

Our Scope 1 and Scope 2 GHG emissions intensity declined 1.8 percent over the prior year due to asset utilization changes caused by the pandemic, greener grid electricity and ongoing energy-reduction projects. These trends are driven by our Rolled Products business, which is the most significant GHG emitter of our three businesses.

Approximately 10 percent of our total Scope 1 emissions are subject to emissions-limiting regulations, with the impacted facilities located in the European Union. This percentage has fluctuated based on plant asset utilization.



Our estimated Scope 3 (value chain) GHG emissions of 9.7 million metric tons represented an 11.8 percent decrease over 2019 and accounted for 85.6 percent of our total emissions for the year. The decline in 2020 was due primarily to reduced production volumes and a targeted effort to use more secondary aluminum in the form of scrap as opposed to primary aluminum within the bounds of product quality requirements.

Our estimated 2020 Scope 3 emissions intensity was 6.7 metric tons of carbon dioxide equivalents per metric ton of production, which equaled a 0.6 percent increase over the prior year. We attribute the small rise to asset utilization changes, the differing country/region smelter emission levels and decreased production levels.

The majority of our estimated Scope 3 emissions are from our use of primary metal in making our products. It takes 92 percent less energy to produce secondary aluminum versus primary aluminum, and the associated GHG emissions are more than 95 percent less. This makes the use of secondary aluminum instead of primary aluminum a significant lever for reducing our Scope 3 emissions.

Our efforts in 2020 to maximize the use of secondary aluminum increased the level of external aluminum scrap in our raw material feedstock, which in turn contributed to the decrease in our 2020 Scope 3 emissions and helped minimize the increase in intensity. Our ability to increase the usage of secondary metal is contingent on metal availability and product quality specifications.

Closer examination of the data used to calculate our Scope 3 emissions and the identification of additional opportunities to further reduce these emissions will be key factors in our establishing GHG-reduction targets.

We updated our historical emissions data to remove divested locations. (See the [Reporting and Materiality](#) section.) We also have further refined and revised our Scope 3 emission estimates to reflect the best available data. Gases included in all GHG calculations are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O).

Scope 1 and 2 Greenhouse Gas Emissions

Million metric tons of carbon dioxide equivalents

	Scope 1 (indirect)	Scope 2 (direct)	Total
2016	1.07	1.10	2.17
2017	1.10	1.09	2.19
2018	1.10	1.01	2.11
2019	0.99	0.90	1.89
2020	0.86	0.77	1.63

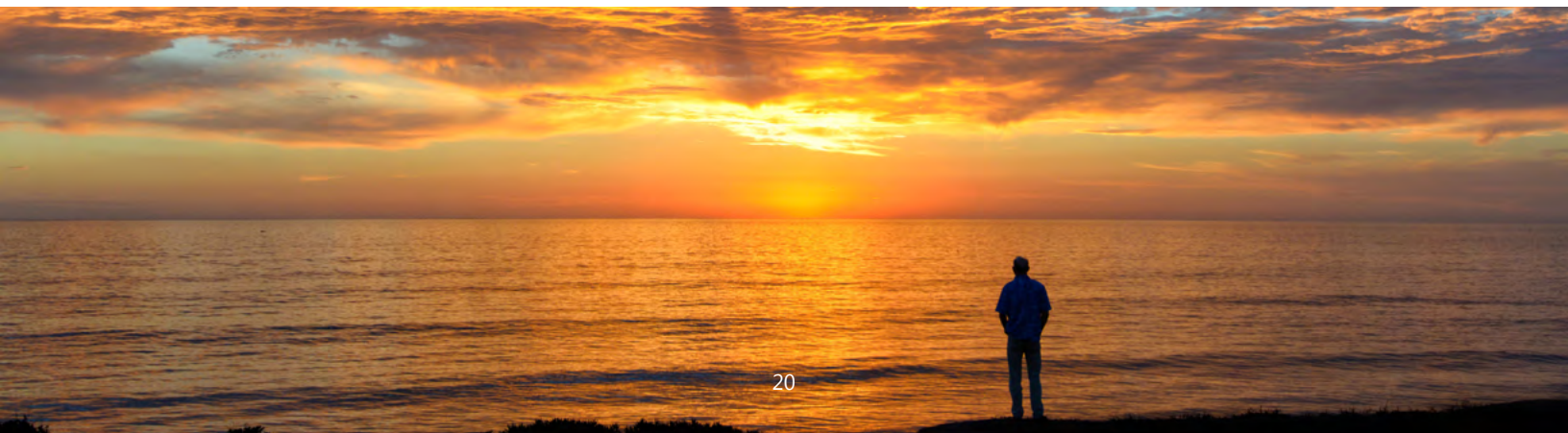
The source of all GHG emissions is energy consumption. We had zero biogenic emissions – those associated with the combustion of biomass or plant materials. Our calculations are based on the World Resources Institute (WRI) GHG protocol methodology based on operational control; regional or country Scope 1 and 2 emission factors; and 4th IPCC Assessment global warming potential (GWP) factors. The following emissions and sources are immaterial as they represent well less than 5% of our total GHG emissions and are excluded from calculations: Hydrofluorocarbons primarily used in refrigeration systems, CO₂, CH₄ and N₂O emissions from fuels used primarily for mobile equipment or maintenance activities, SF₆ used in high voltage dielectrics, all GHG emissions from office buildings and sites with no industrial activities, and perfluorocarbons, which have no identified uses.

Scope 3 Greenhouse Gas Emissions

Million metric tons of carbon dioxide equivalents



These values are based on WRI Scope 3 methodology for purchased goods, fuel and energy-related activities, upstream and downstream transportation, and end-of-life treatment of sold products.



Scope 1 and 2 Greenhouse Gas Emissions by Business

Million metric tons of carbon dioxide equivalents

	Rolled Products	Building and Construction Systems	Extrusions
2016	1.89	0.09	0.19
2017	1.91	0.09	0.19
2018	1.86	0.08	0.17
2019	1.65	0.08	0.16
2020	1.44	0.07	0.12

Greenhouse Gas Emissions Intensity

Metric tons of carbon dioxide equivalents per metric ton of production

	Scope 1	Scope 2	Scope 3	Total
2016	0.60	0.62	4.79	6.01
2017	0.62	0.61	5.90	7.13
2018	0.62	0.57	6.23	7.42
2019	0.60	0.54	6.62	7.76
2020	0.59	0.53	6.66	7.78

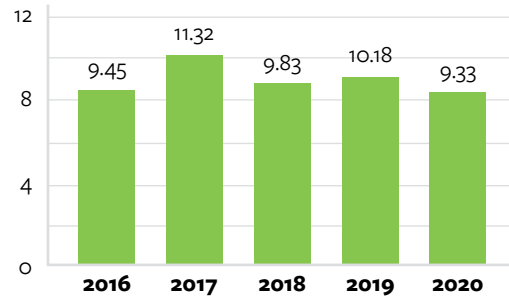
Scope 1 and 2 Greenhouse Gas Emissions Intensity by Business

Metric tons of carbon dioxide equivalents per metric ton of production

	Rolled Products	Building and Construction Systems	Extrusions
2016	1.16	0.84	3.58
2017	1.18	0.82	3.56
2018	1.16	0.74	3.14
2019	1.10	0.73	2.83
2020	1.09	0.78	3.13

Scope 1 Greenhouse Gas Emissions Covered under Emission-limiting regulations

Percent



The data represents the percentage of the gross global Scope 1 GHG emissions that are covered under an emissions-limiting regulation or program that is intended to directly limit or reduce emissions, such as cap-and-trade schemes, carbon tax/fee systems and other emissions control (e.g., command-and-control approach) and permit-based mechanisms. The data excludes emissions covered under voluntary emissions-limiting regulations (e.g., voluntary trading systems), as well as report-only based regulations.

Air Emissions

In addition to GHGs, reducing emissions of other pollutants plays a vital role in achieving cleaner air and a more sustainable future. These pollutants, which include volatile organic compounds, nitrogen oxides, particulate matter and hazardous air pollutants, are often regulated in the regions and localities in which we operate.

Our approach to controlling and minimizing these emissions is not only driven by the applicable regulatory requirements, but also by our own internal air management standards. Even where we may not be compelled to do so, we will install controls to minimize emissions of these pollutants if they otherwise could have a negative impact on human health or the environment.

We have expanded our reporting on air emissions, which previously only covered our Rolled Products business, to include our global operations, a breakout by business, carbon monoxide and a more granular view of the hazardous air pollutants that are material to our emissions tracking and reporting efforts.

Reductions in air emissions from 2019 to 2020 are primarily due to lower production levels.

Air Emissions

Metric tons

	Volatile Organic Compounds	Nitrogen Oxides	Carbon Monoxide	Particulate Matter	Hazardous Air Pollutants	Sulfur Oxides
2016	1,284.74	1,058.24	1,112.27	452.79	241.78	40.88
2017	1,271.61	1,147.41	989.48	415.05	219.50	41.75
2018	1,326.12	1,102.00	1,009.39	402.81	200.29	29.21
2019	1,248.75	1,101.68	953.16	391.96	158.99	30.57
2020	1,204.70	999.01	944.74	340.85	137.98	25.82

Reported emissions only include those locations for which the emissions are both regulated and material. Nitrogen oxides include NO and NO₂ but exclude N₂O. Sulfur oxides include SO₂ and SO₃. Total particulate matter provides a conservative estimate of PM₁₀ emissions, which are unavailable for most emission sources. Volatile organic compounds include those organic compounds that are regulated or reported at a location level and typically only include those chemicals that are photochemically reactive. Hazardous air pollutants are as defined by the U.S. Environmental Protection Agency.

Air Emissions – Rolled Products

Metric tons

	Volatile Organic Compounds	Nitrogen Oxides	Carbon Monoxide	Particulate Matter	Hazardous Air Pollutants	Sulfur Oxides
2016	1,101.28	982.88	1,049.25	428.87	172.25	40.32
2017	1,086.05	1,068.37	925.00	392.37	147.90	41.21
2018	1,144.99	1,023.98	942.45	376.65	140.94	28.63
2019	1,070.23	1,025.96	886.75	368.97	108.39	30.01
2020	1,041.09	935.13	891.11	324.12	95.69	25.32

Air Emissions – Building and Construction Systems

Metric tons

	Volatile Organic Compounds	Nitrogen Oxides	Carbon Monoxide	Particulate Matter	Hazardous Air Pollutants	Sulfur Oxides
2016	133.24	33.86	27.64	3.78	56.01	0.25
2017	156.04	35.74	27.74	3.95	57.96	0.26
2018	134.15	32.03	28.81	4.03	45.75	0.28
2019	109.69	32.73	28.66	4.02	39.47	0.28
2020	104.28	29.54	24.59	3.71	33.45	0.28

Air Emissions – Extrusions

Metric tons

	Volatile Organic Compounds	Nitrogen Oxides	Carbon Monoxide	Particulate Matter	Hazardous Air Pollutants	Sulfur Oxides
2016	50.22	41.50	35.38	20.14	13.52	0.31
2017	29.52	43.30	36.74	18.73	13.64	0.28
2018	46.98	45.99	38.13	22.13	13.60	0.30
2019	68.83	42.99	37.75	18.97	11.13	0.28
2020	59.33	34.34	29.04	13.02	8.84	0.22

Hazardous Air Pollutant Emissions

Metric tons

	Hydrogen Chloride	Toluene	Xylenes	Chlorine	Hydrogen Fluoride	Other
2016	101.53	31.58	28.61	9.56	12.18	58.32
2017	101.81	27.73	29.77	9.86	11.16	39.17
2018	95.32	21.60	27.53	9.91	9.46	36.47
2019	70.31	20.81	15.56	9.54	9.06	33.71
2020	59.90	18.65	13.56	8.48	7.85	29.54

Other emissions primarily consist of organic solvents emitted at levels less than 5 metric tons each. Lead and mercury emissions are not material to our operations, as they are emitted at very low levels (less than 50 kilograms/year each) and are primarily from the combustion of fuels. Dioxins and furans are also emitted at low levels from our aluminum casthouses, and the worldwide annual total is less than 25 grams.

ENERGY

As a manufacturer of essential products, we minimize our carbon footprint by, among other things, actively managing our energy efficiency.

To reduce our energy consumption, we're investing in energy-efficient equipment and processes at our locations around the world. Details of our energy conservation efforts and programs are found in our most recent [CDP climate change disclosure](#).

We're also developing compatible energy policies regionally and establishing energy goals as part of our overall alignment with our product and process portfolio and related GHG emissions.

We hold five certifications for ISO 50001 energy management standard. These certifications provide independent assurance on our ongoing energy-efficiency improvements at our operations and underpin our commitment to reduce our Scope 1 and Scope 2 GHG emissions.

Our overall energy consumption was 23.6 million gigajoules in 2020, which was an 11.9 percent decrease from the prior year. This decrease was primarily due to reduced production levels caused by the pandemic as well as our ongoing energy-reduction projects and activities.

For all operations globally, our 2020 energy intensity increased by 0.6 percent compared to 2019. This increase was primarily due to reduced production levels from the pandemic and the baseline energy load required to maintain the buildings and equipment regardless of the production levels. We partially offset this increase through our ongoing energy-reduction efforts.

The energy we purchase includes electricity from renewable resources. All electricity that we consume comes from the grid except for small, on-site solar panels at some of our locations. In 2020, 19.0 percent of our purchased grid electricity was generated from renewable resources. The sources of renewable electricity for our U.S. locations, which are our largest consumers of electrical power, are primarily from wind and hydro.

Electricity comprised 27.1 percent of the energy that we consumed in 2020. Natural gas and, to a much lesser extent, steam accounted for the balance of our energy consumption. We do use fossil fuels in our on-site mobile equipment, maintenance operations and other non-production-related needs, but those uses are insignificant to our overall energy needs.

We updated our historical energy data to remove divested locations. (See the [Reporting and Materiality](#) section.)

Energy Consumption

Millions of gigajoules

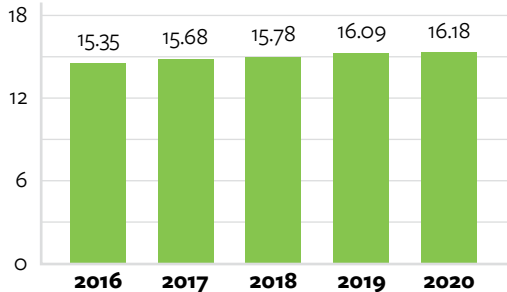
	Direct	Indirect	Total
2016	19.64	7.78	27.42
2017	20.03	7.93	27.96
2018	20.03	7.79	27.82
2019	19.39	7.34	26.73
2020	16.79	6.77	23.56

Direct is energy from the combustion of natural gas. Indirect is purchased electricity and steam. Other energy sources are immaterial and have been excluded. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are also immaterial and have been excluded.



Energy Intensity

Gigajoules per metric ton of production



Data represents our consumption of natural gas, electricity and steam. Other energy sources are immaterial and have been excluded. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are also immaterial and have been excluded.

Energy Consumption by Business

Millions of gigajoules

	Rolled Products	Building and Construction Systems	Extrusions
2016	23.58	1.14	2.70
2017	24.27	1.13	2.56
2018	24.49	1.15	2.18
2019	23.39	1.15	2.19
2020	20.72	1.06	1.78

Data represents our consumption of natural gas, electricity and steam. Other energy sources are immaterial and have been excluded. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are also immaterial and have been excluded.

2020 Electrical Grid Energy Consumption by Source

Source	Millions of Gigajoules
Renewable	1.21
Non-Renewable	5.17
Total	6.38

Renewable refers to wind, hydro, biomass, solar and geothermal energy sources. All renewables that we consume are from grid-supplied electricity and are based on data available from those grids that supply our locations. Non-renewable is natural gas, coal, diesel, propane, nuclear, distillates and purchased electricity using those energy sources. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and have been excluded.

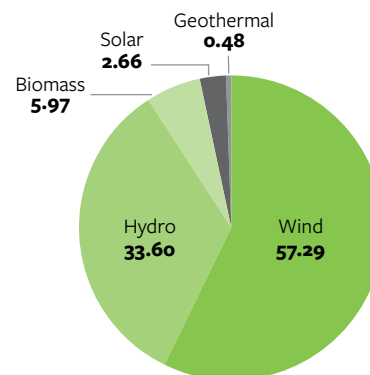
2020 Electrical Grid Source by Business

Percent of electrical energy purchased

	Renewable	Non-Renewable
Rolled Products	19.10	80.90
Building and Construction Systems	19.40	80.60
Extrusions	17.34	82.66

Renewable refers to wind, hydro, biomass, solar and geothermal energy sources. All renewables that we consume are from grid-supplied electricity and are based on data available from those grids that supply our locations. Non-renewable is natural gas, coal, diesel, propane, nuclear, distillates and purchased electricity using those energy sources. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and have been excluded.

2020 Sources of Renewable Energy from U.S. Electrical Grid



All renewables that we consume are from grid-supplied electricity and are based on data available from those grids that supply our locations. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and have been excluded.

Energy Consumption by Commodity

Percent of total consumption

	Natural Gas	Grid Electricity	Steam
2016	71.64	27.93	0.43
2017	71.63	27.25	1.12
2018	71.99	26.82	1.19
2019	72.54	26.12	1.34
2020	71.28	27.10	1.62

Other energy sources are immaterial and have been excluded. Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and also have been excluded.

Electrical Usage by Business

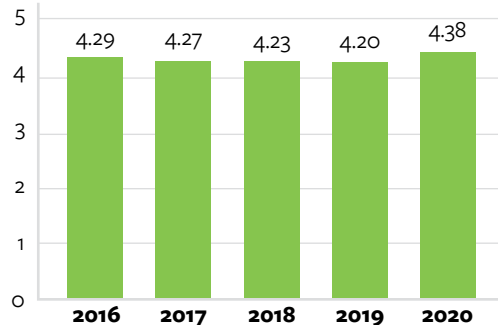
Millions of gigajoules

	Rolled Products	Building and Construction Systems	Extrusions
2016	6.37	0.36	0.93
2017	6.39	0.37	0.86
2018	6.40	0.37	0.69
2019	6.02	0.36	0.60
2020	5.46	0.38	0.54

Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and have been excluded.

Electrical Energy Intensity

Gigajoules per metric ton of production



Corporate offices, service centers and other locations primarily involved in assembly within our Building and Construction Systems business are immaterial and have been excluded.

Power Player

Tapping into its manufacturing expertise and increased visibility into its energy usage, our location in Kunshan, China, reduced its monthly electricity consumption by 4.3 percent and saved US\$140,000 in electricity costs in 2020.

The facility enhanced its metered energy management system by implementing manufacturing intelligence (MI) software in 2019 for improved collection, integration and analysis of operational data. Since electricity accounts for 74 percent of its total annual energy costs, the location was particularly interested in using the MI system to identify power-saving opportunities.

One focus area was real-time monitoring of equipment to intervene before equipment failure and to reduce idle running hours. The location's cold mill downtime, for example, decreased by 24.7 percent, while the idle running hours of two cold mill pump stations were reduced by 70 percent.

Heating the furnace is the location's largest source of electricity consumption, making up 42 percent of total electricity costs in 2019. Through testing different processes, the Kunshan team was able to maximize heating during off-peak hours, when electricity costs are three times lower than peak hours. The change has saved approximately 24 percent in annual electricity costs.



Kunshan energy-saving team

WATER

Clean, safe water is not only fundamental to the communities in which we operate, it is also an important resource for our production facilities. In every region, we endeavor to preserve local water supplies through minimal consumption and discharge, as well as optimal recycling and reuse.

Our casthouses represent our largest consumers of water, followed by our rolling mills. Most of our operations are in industrialized areas, with the majority using municipal water, surface water or a combination of both. All water used by our operations comes from freshwater sources.

We do not operate in water-stressed areas based on our 2015 assessment using the World Business Council for Sustainable Development (WBCSD) [Global Water Tool](#). We plan to update this assessment in the near future.

At all locations, we operate under stringent wastewater discharge requirements set forth in regulations, permits from governmental agencies, and our own internal policies and procedures. Our wastewater discharges, whether to local treatment plants or directly to surface waters in the case of our larger facilities, are also scrutinized by various stakeholders. These include regulators, community groups and non-governmental organizations that monitor our compliance and participate in the permitting processes.

While our operations are designed to minimize water consumption, employees charged with environmental responsibilities at each of our locations administer water management plans and pursue internal targets to further reduce our water footprint. Water balance modeling is used to map and track water intake, use and discharge, as well as to identify opportunities to optimize water management for planned equipment or process changes.

We withdrew 7.84 million cubic meters (2.07 billion gallons) of fresh water in 2020, which was an 8.0 percent decrease over our withdrawals in 2019. This reduction was primarily due to lower production levels in 2020 because of the pandemic. A breakdown of water withdrawal by business shows a year-over-year decrease in water withdrawals from our businesses with the largest withdrawal volumes, which are Rolled Products and Extrusions.



We discharged 6.06 million cubic meters (1.60 billion gallons) and consumed 1.78 million cubic meters (0.47 billion gallons) of fresh water in 2020. In general, the reductions from 2019 to 2020 also reflect lower production levels.

We continued our development and construction of a Natural Engineered Wastewater Treatment (NEWT™) system at our Lafayette, Indiana, location in the U.S., which is the location's second such system. This new system, which uses a natural, green design for wastewater treatment, is expected to begin operating in 2022.

In 2020, we completed our first [CDP water disclosure](#) as Arconic Corporation for the locations that comprise our Rolled Products and Extrusions businesses, which account for more than 90 percent of water withdrawal for the company. Our score of B represents an environmental stewardship level of "Management." This disclosure was filed in the prior two years when our operations were part of what is now Howmet Aerospace Inc., which was known then as Arconic Inc. We plan to continue reporting against this water disclosure, as well as look for ways to increase our environmental stewardship.

Our stewardship record includes compliance with our permitted wastewater discharge limits. As with all actual or potential non-compliance matters within the company, we thoroughly investigate these incidents, determine root cause and implement corrective actions to prevent recurrence. We had one formal enforcement action regarding wastewater discharge compliance between 2016 and 2020.

We updated our historical water data to remove divested locations. (See the [Reporting and Materiality](#) section.)

Water Withdrawal, Discharge and Consumption

Million cubic meters

	Withdrawal	Discharge	Consumption
2016	8.87	5.51	3.36
2017	8.36	5.99	2.37
2018	8.41	5.74	2.67
2019	8.52	5.81	2.71
2020	7.84	6.06	1.78

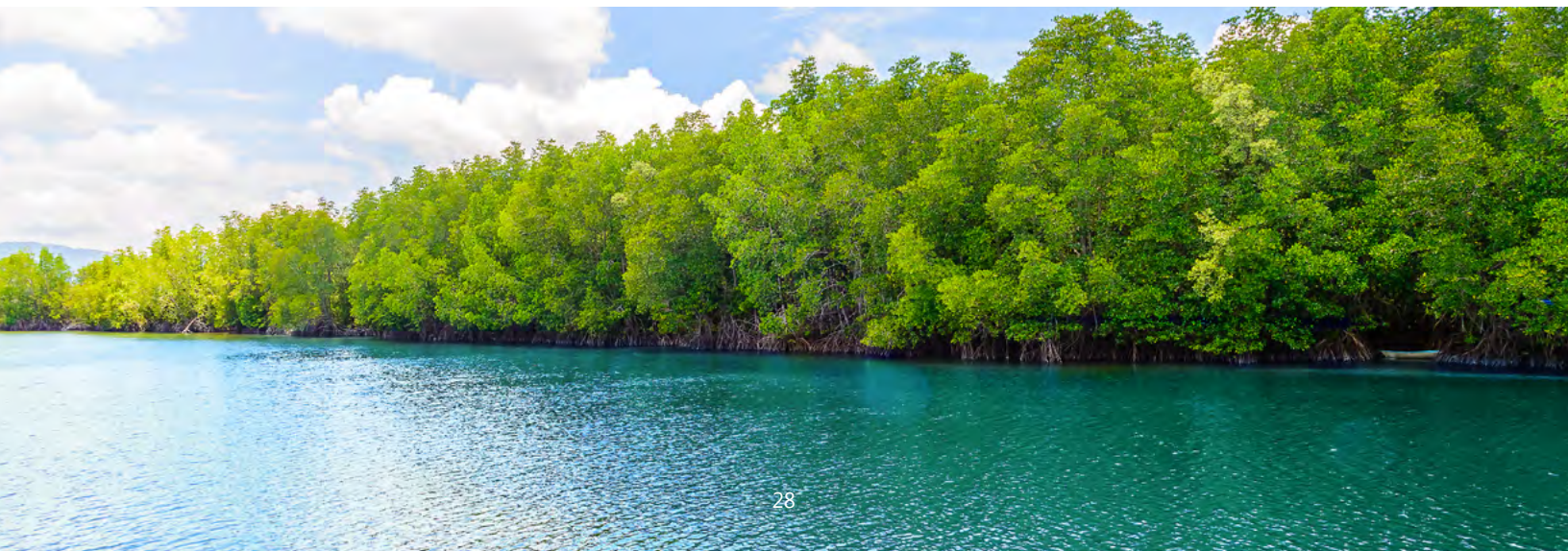
Consumption equals withdrawal minus discharge. Rainwater not used in our manufacturing processes is excluded from withdrawal and discharge data where these volumes can be determined. Waters used for irrigation and sanitary purposes are included in this data. All water withdrawals, as well as water bodies to which we discharge, are fresh water, which is defined as having a dissolved solids concentration that is less than or equal to 1,000 milligrams per liter. We define priority substances through permitting and follow agency issued limits on our discharges.

Water Withdrawal by Business

Million cubic meters

	Rolled Products	Building and Construction Systems	Extrusions
2016	7.45	0.47	0.95
2017	6.95	0.49	0.92
2018	6.92	0.51	0.98
2019	7.06	0.52	0.94
2020	6.60	0.53	0.71

Rainwater not used in our manufacturing processes is excluded from withdrawal data where these volumes can be determined. Waters used for irrigation and sanitary purposes are included in this data. All water withdrawal is fresh water, which is defined as having a dissolved solids concentration that is less than or equal to 1,000 milligrams per liter.



Water Withdrawal by Source

Million cubic meters

	Municipal/ External Supply	Surface Water	Groundwater	Total
2016	6.62	1.34	0.91	8.87
2017	5.99	1.40	0.97	8.36
2018	6.44	0.99	0.98	8.41
2019	6.74	0.77	1.01	8.52
2020	6.16	0.75	0.93	7.84

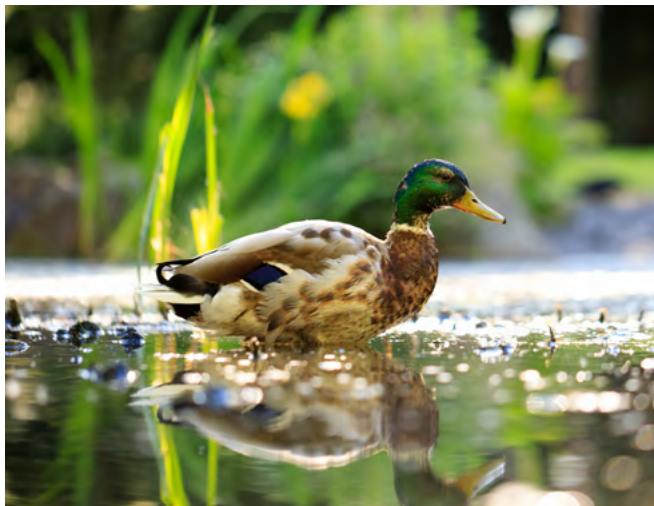
Rainwater not used in manufacturing processes is excluded from withdrawal totals, while rainwater used in the manufacturing process is included in the surface water totals. Waters used for irrigation and sanitary purposes are included in this data. All water withdrawal is fresh water, which is defined as having a dissolved solids concentration that is less than or equal to 1,000 milligrams per liter.

Water Discharge by Source

Million cubic meters

	Surface Water	Municipal/ External Treatment	Total
2016	2.23	3.28	5.51
2017	2.54	3.45	5.99
2018	2.26	3.48	5.74
2019	2.07	3.74	5.81
2020	2.07	3.99	6.06

Rainwater not used in our manufacturing processes is excluded from the discharge data where these volumes can be determined. Water used for irrigation and sanitary purposes are included in this data. All waters receiving our discharges are fresh water, which as defined as having a dissolved solids concentration that is less than or equal to 1,000 milligrams per liter. We define priority substances through permitting and follow agency-issued limits.



Water Discharge – Destination, Quality and Treatment

Million cubic meters

	Surface Water	Municipal/External Treatment	
	Category 1	Category 2	Category 3
2016	2.23	1.24	2.04
2017	2.54	1.32	2.13
2018	2.26	1.34	2.14
2019	2.07	1.59	2.15
2020	2.07	2.09	1.90

Water is either discharged directly from the location to a surface water receiving body, or it is discharged from the location to a third-party offsite treatment works who first treats the water and then discharges it to a surface water receiving body. No water is transferred for reuse by another organization.

Category 1: Water is of a high quality and suitable for most purposes with little or no treatment. Primary treatment (e.g., minimal basic treatment) that aims to remove solids that settle or float on the water surface may or may not be required.

Category 2: Water is of a medium quality and suitable for some purposes, such as irrigation. Secondary treatment (e.g., more advanced treatment) is required to remove dissolved or suspended substances in the water before discharge.

Category 3: Water is of a low quality and suitable for limited purposes without significant treatment. Tertiary treatment (e.g., advanced treatment) is required to upgrade water to a higher quality before it is discharged. It includes processes that remove, for example, metals, nitrogen and phosphorus through chemical or physical means.

Water Non-Compliances

	Number	Type of Violation
2016	0	—
2017	0	—
2018	1	Administrative consent order to address combined process water and stormwater overflows
2019	0	—
2020	0	—

Non-compliances are associated with water quality permits, standards and regulations. Only non-compliance incidents that resulted in formal enforcement actions as defined under SASB EM-MM-140a.2 are included.

WASTE AND SPILLS

As environmental stewards, we continuously strive to eliminate or minimize our waste.

Our overall strategy focuses on reducing higher-volume waste and waste that has the potential to significantly impact the environment. We seek to achieve the following primary objectives:

- Eliminate or minimize our manufacturing waste at the source;
- Find alternative uses and recycling options for what we do generate; and
- Manage the safe disposal of what remains through incineration, treatment or secure land disposal.

Any waste generated from our manufacturing processes is characterized to determine safe management and disposal. These wastes are inventoried, stored, accumulated, labeled and inspected in accordance with applicable regulatory obligations and/or best management practices.

Our off-site transportation and waste management vendors must be compliant with not only regulatory obligations but also our own internal policies. To further lower potential environmental impact and liabilities, we require that all commercial treatment, storage, and disposal facilities and recyclers be audited and approved by us before they can receive our waste. Approved vendors are re-audited between one and five years based on risk.

In 2020, we generated approximately 88,430 metric tons of waste, which was a 24.7 percent reduction from 2019. Of the total waste generated in 2020, 67.5 percent was either recycled or reused, with 24.7 percent, or approximately 21,820 metric tons, being landfilled. This represented a 6.5 percent reduction in landfilled waste compared to 2019 and a 21.0 percent reduction from 2016. The decrease was due primarily to overall lower production levels in 2020, in addition to ongoing waste reduction projects and activities.

Our Rolled Products business, which accounted for approximately 76 percent of our 2020 revenue, generated the largest volume of waste at 71.7 percent. This was followed by our Buildings and Constructions Systems business at 25.0 percent and Extrusions business at 3.3 percent. The volume of waste generated by our three businesses is relatively consistent with the amount of revenue generated by each business.

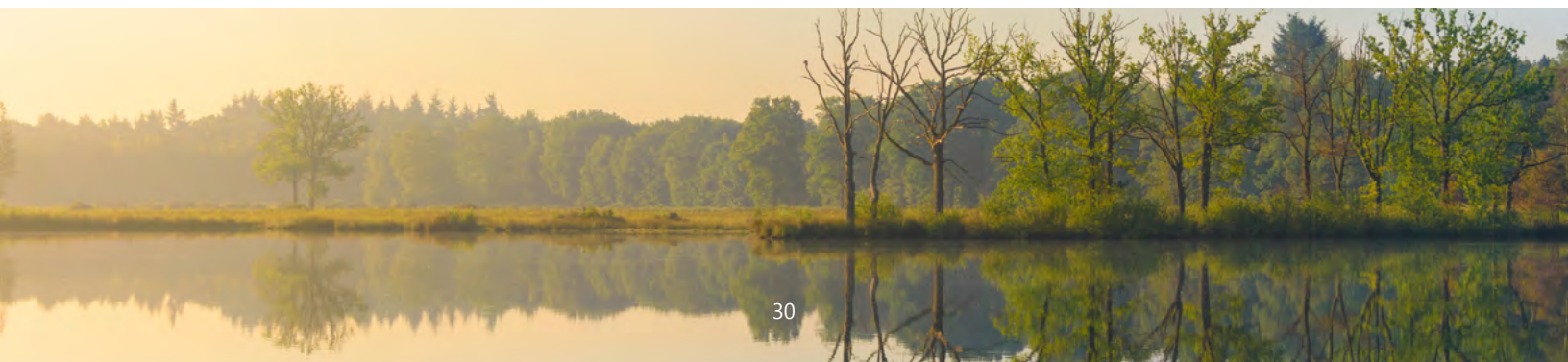
Examples of how our operating locations continued to focus on finding alternatives to landfilling in 2020 included:

- Sending filter paper, diatomaceous earth and filter cake from wastewater treatment facilities to cement manufacturers to be burned in kilns for energy;
- Shipping polishing dust (also known as fluff) off-site to be burned for energy; and
- Sending refractory material and sludge to landfills to be used as landfill cover instead of landfilled wastes.

Dross generated from our casthouses remains our largest volume by-product. It is a collection of impurities from the surface of the molten metal that is generated during the skimming operation in our casthouse furnaces when melting aluminum. Of the dross that we generate, 100 percent is recycled to recover aluminum content. Our Tennessee operation in the U.S. and Köfém location in Hungary recycle dross on-site using rotary furnaces, while our other locations send the material off-site for recycling.

Salt cake generated at our Tennessee and Köfém locations during the recovery of aluminum from dross in the rotary furnaces gets recycled rather than landfilled where possible.

We updated our historical waste and spills data to remove divested locations. (See the [Reporting and Materiality](#) section.)



Waste by Type

Thousands of metric tons

	Arconic Corporation			Rolled Products			Building and Construction Systems			Extrusions		
	Hazardous	Non-Hazardous	Total	Hazardous	Non-Hazardous	Total	Hazardous	Non-Hazardous	Total	Hazardous	Non-Hazardous	Total
2016	19.30	81.76	101.06	16.10	61.72	77.82	2.81	16.24	19.05	0.39	3.80	4.19
2017	19.92	86.58	106.50	16.58	61.61	78.19	3.08	19.81	22.89	0.26	5.16	5.42
2018	18.06	84.16	102.22	14.22	62.70	76.92	3.56	18.86	22.42	0.28	2.60	2.88
2019	21.27	96.22	117.49	17.23	73.50	90.73	3.61	19.89	23.50	0.43	2.83	3.26
2020	18.71	69.72	88.43	15.70	47.70	63.40	2.73	19.40	22.13	0.28	2.62	2.90

Waste by Type and Disposal Method

Thousands of metric tons (percent)

		Reuse	Recycling	Composting	Recovery (including energy recovery)	Incineration (mass burn)	Landfill	Other	Total
2016	Hazardous	0.31 (1.6)	14.30 (74.1)	0.00 (0.0)	0.37 (1.9)	0.61 (3.2)	0.49 (2.5)	3.22 (16.7)	19.30 (100.0)
	Non-Hazardous	23.30 (28.5)	27.60 (33.7)	0.15 (0.2)	2.84 (3.5)	0.64 (0.8)	27.13 (33.2)	0.10 (0.1)	81.76 (100.0)
	Total	23.61 (23.4)	41.90 (41.5)	0.15 (0.1)	3.21 (3.2)	1.25 (1.2)	27.62 (27.3)	3.32 (3.3)	101.06 (100.0)
2017	Hazardous	0.37 (1.9)	14.70 (73.8)	0.00 (0.0)	0.44 (2.2)	0.60 (3.0)	0.53 (2.7)	3.28 (16.4)	19.92 (100.0)
	Non-Hazardous	22.0 (25.4)	35.20 (40.7)	0.31 (0.4)	3.00 (3.5)	0.47 (0.5)	24.67 (28.5)	0.93 (1.0)	86.58 (100.0)
	Total	22.37 (21.0)	49.90 (46.9)	0.31 (0.2)	3.44 (3.2)	1.07 (1.0)	25.20 (23.7)	4.21 (4.0)	106.50 (100.0)
2018	Hazardous	0.57 (3.1)	12.70 (70.3)	0.00 (0.0)	0.48 (2.7)	0.45 (2.5)	0.43 (2.4)	3.43 (19.0)	18.06 (100.0)
	Non-Hazardous	21.30 (25.3)	36.90 (43.9)	0.16 (0.2)	3.51 (4.2)	0.52 (0.6)	21.75 (25.8)	0.02 (0.0)	84.16 (100.0)
	Total	21.87 (21.4)	49.60 (48.5)	0.16 (0.2)	3.99 (3.9)	0.97 (0.9)	22.18 (21.7)	3.45 (3.4)	102.22 (100.0)
2019	Hazardous	0.74 (3.5)	15.00 (70.5)	0.00 (0.0)	0.58 (2.7)	0.55 (2.6)	0.59 (2.8)	3.81 (17.9)	21.27 (100.0)
	Non-Hazardous	23.10 (24.0)	47.50 (49.4)	0.15 (0.1)	2.17 (2.3)	0.55 (0.6)	22.75 (23.6)	0.00 (0.0)	96.22 (100.0)
	Total	23.84 (20.3)	62.50 (53.3)	0.15 (0.1)	2.75 (2.3)	1.10 (0.9)	23.34 (19.9)	3.81 (3.2)	117.49 (100.0)
2020	Hazardous	0.76 (4.0)	13.50 (72.2)	0.01 (0.1)	0.79 (4.2)	0.19 (1.0)	0.53 (2.8)	2.93 (15.7)	18.71 (100.0)
	Non-Hazardous	19.40 (27.8)	26.00 (37.3)	0.21 (0.3)	2.25 (3.2)	0.53 (0.8)	21.29 (30.5)	0.04 (0.1)	69.72 (100.0)
	Total	20.16 (22.8)	39.50 (44.7)	0.22 (0.2)	3.04 (3.4)	0.72 (0.8)	21.82 (24.7)	2.97 (3.4)	88.43 (100.0)

Other includes caustic water that underwent neutralization and waste streams that underwent physical and chemical treatment. We do not use deep-well injection and had no on-site storage.

Landfilled Waste

Thousands of metric tons

	Arconic Corporation	Rolled Products	Building and Construction Systems	Extrusions
2016	27.62	14.00	10.49	3.13
2017	25.20	12.21	9.75	3.24
2018	22.18	10.77	9.59	1.82
2019	23.34	11.45	10.42	1.47
2020	21.82	9.91	10.17	1.74

Our landfilled waste data does not include construction and demolition debris, remediation waste, polychlorinated biphenyl waste and asbestos waste because they are non-production waste and highly episodic. Non-production waste is waste we generate from activities that are not production related.

Spills

Preventing spills and releases at and from our locations is of utmost importance. If a spill does occur, we respond quickly and effectively to minimize the impact.

We have a number of internal procedures, standards and audit guidelines that specifically address spill and release prevention, detection and response. Every location is required to have – and does have – a site-specific spill response plan.

Our locations exceeding volume thresholds for oil or oil products also have a specific spill prevention control and countermeasure (SPCC) or similar plan. All location plans require employee training on spill prevention and response that is provided upon hiring and annually thereafter.

In 2020, we also began developing action plans and putting controls in place to address the risks of releases from subsurface structures, such as sumps, pits and basements, at all of our operating locations worldwide. This followed our efforts in prior years to compile a comprehensive inventory of these subsurface structures, as well as develop a location-specific risk assessment quantifying the potential risk of releases from these subsurface structures at each location.

All spills at or above 20 liters (5.3 gallons) and outside of a designated containment area must be reported in our internal incident management system. This system drives an analysis of root cause and contributing factors, and it ensures corrective measures are put in place to prevent a reoccurrence. It also enhances incident awareness to our leadership and facilitates the sharing of information across facilities, enabling us to leverage the learnings to minimize the likelihood of similar spills occurring in the future.

We define a significant spill as one that exceeds 1,893 liters (500 gallons) outside of a designated containment area and/or meets our definition of a major environmental incident. We had zero significant spills in 2020.

Significant Spills

	Number	Location	Total Volume (liters/gallons)	Material	Impact
2016	0	-	-	-	-
2017	0	-	-	-	-
2018	0	-	-	-	-
2019	1	Lancaster	15,520 (4,100)	Kerosene	<ul style="list-style-type: none"> Subsurface soil and groundwater Limited to the site property. Ongoing monitoring and sampling.
2020	0	-	-	-	-

Leakproof Approach

Switching from manual to automatic lubricant monitoring in the rolling process has reduced leaks, extended equipment lifetime, delivered savings and improved quality assurance for our Davenport Works location in the U.S.

Rolling mills are complex systems and require specialized lubrication protection to ensure reliable and stable processing. The high potential for mill lubricant (ML) leaks can lead to increased use of lubricants, contamination of rolling mill coolant, unsafe working conditions and increased operating costs. The contamination has the potential to cause steering or surface quality problems in the rolling process, which is critical to downstream processes.



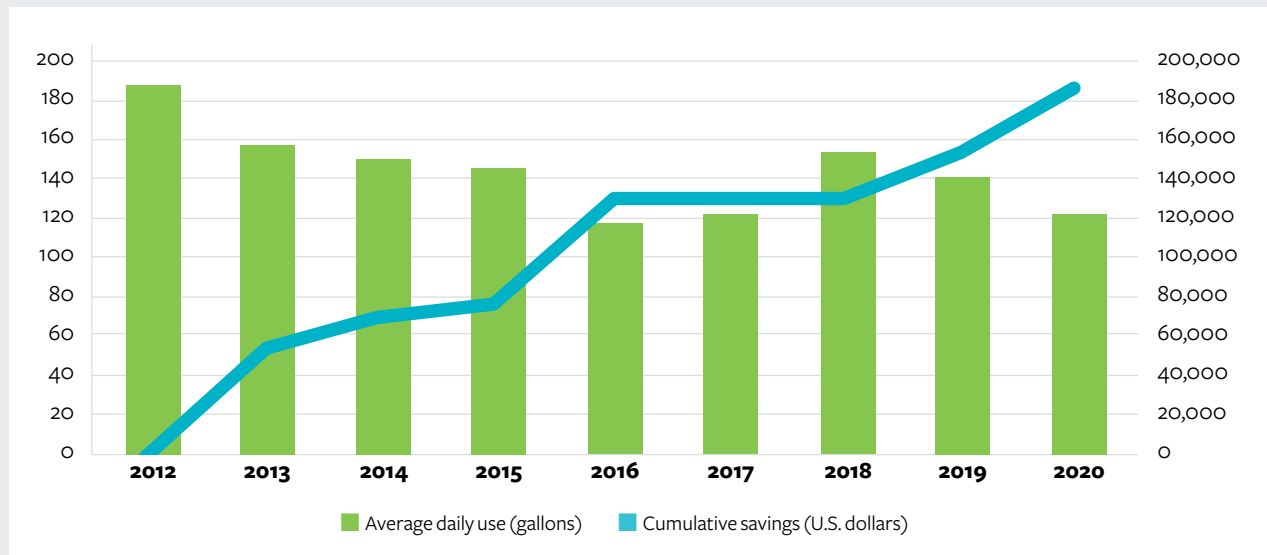
Davenport rolling mill

Manual lubricant monitoring required an employee to physically check lubricant levels in Davenport’s 100-inch hot mill tank on a routine basis. With the automated monitoring system, sensors continuously measure lubricant levels, and the system sends email alerts if leaks occur. This enables the rolling team to quickly identify and correct small issues before they become large, costly incidents.

With automatic lubricant monitoring, the rolling team has calculated a 35 percent annual reduction in the number of lubrication leaks. This resulted in a reduction in the overall consumption of lubricants and savings of more than US\$187,000 in leak-related costs from 2012 through 2020.

Davenport’s rolling team also has successfully maintained periodic Arconic ML Leak Certification since 2017. The certification requires proactive hose changes, system monitoring for faster leak detection and repair, and data-driven problem solving.

DPW Hotline ML Leak Prevention



2018 average daily usage increase associated with record production and decreased idle/maintenance schedules.

ENVIRONMENTAL COMPLIANCE

We live our [Values](#) and are committed to protecting and improving the environment. We strive to comply with all applicable laws, policies and environmental standards – not just the easy ones or those that we think make sense.

Environmental compliance is a foundation upon which we operate. We believe that having a manufacturing facility in a community is a privilege – not a right. This means we will not compromise our environmental commitment for profit or production.

We respond truthfully and responsibly to questions and concerns about our environmental actions and the impact of our operations on the environment. We are determined to earn our privilege to operate and strengthen our social contract by continuously improving our environmental performance.

As part of our corporate governance, we use an environmental compliance process and an environmental management system that aligns with [ISO 14001-2015](#) (environmental management systems) standard. Through the process and system, we equip our employees with the information, tools and verification they need to comply with environmental laws, regulations and our internal standards wherever we operate in the world.

Our internal environmental compliance metrics encourage identification, root-cause analysis and sharing of incidents, as well as prompt but thorough completion of corrective actions to prevent a similar reoccurrence. We believe our approach combats underreporting, drives continuous improvement and reduces risk.

Should an environmental incident occur, we undertake an appropriate technical and legal review using our environmental compliance process. We identify root causes, associated risks and necessary corrective actions.

Our senior leaders are proactively involved in our environmental compliance activities and engage in an ongoing dialogue to ensure our commitment to environmental stewardship is a focus throughout the company. They provide the resources and cultivate a culture that keeps environmental compliance a top priority for the company.



Our environmental compliance process and management system follows a six-step process:

1. Identify compliance issues through several mechanisms, including internal EHS audits, corporate environmental compliance reviews, self-assessments and external agency reviews, using the following hierarchy:
 - Determine the facts of the situation or incident;
 - Ascertain the applicable law and regulation;
 - Apply the law or regulation as well as our internal standards to the particular facts; and
 - If the facts contravene the applicable law or regulation, identify the matter as a non-compliance in our environmental management system regardless of how the matter was discovered.
2. Log the identified non-compliance into our environmental management system and report the matter to internal stakeholders and, when appropriate, external regulators or government agencies.
3. Initiate a root cause analysis and develop a corrective action plan, which includes a schedule to remedy the incident and attain compliance.
4. Have the action plan reviewed by internal and, if necessary, external environmental professionals to arrive at a consensus that we are taking appropriate corrective action.
5. Implement the action plan and monitor and track progress toward completion.
6. Close the matter once we have implemented all corrective actions, achieved compliance and verified that a system is in place to prevent reoccurrence and sustain compliance.

When we identify a non-compliance, the likelihood or extent of any enforcement action plays no part in our evaluations. We log all identified non-compliances, whether insignificant or significant, into our environmental compliance system and manage corrective actions consistent with our environmental management protocols. We also look for opportunities to leverage the learnings from any non-compliance to prevent similar issues in the future.

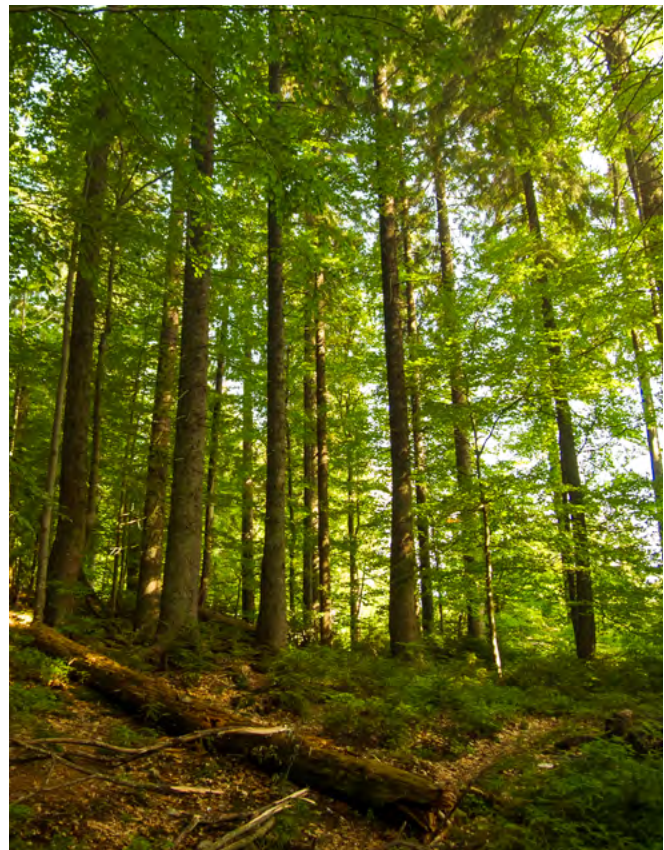
While environmental compliance determinations can be fraught with complex interpretations and opinions, the basis of our determinations is simple: what does the law or regulation require, and is the event or situation in compliance with that requirement?

In 2020, we had zero environmental non-compliance incidents that resulted in a significant fine, which we define as greater than US\$25,000.

Non-Compliance Performance

	Significant Fines (U.S. dollars)	Number of Significant Non-Monetary Sanctions	Number of Dispute Resolutions
2016	0	0	0
2017	0	0	0
2018	0	1	0
2019	28,750	0	0
2020	0	0	0

Significant fines are defined as greater than US\$25,000. Significant non-monetary sanctions refer to those that we consider high risk based on the costs required to address the issue and include actions we are ordered to take to ensure our operations return to, or remain in, compliance. Dispute resolutions refer to cases brought against the company using either international or national dispute mechanisms supervised by government authorities.





Social

We value human life above all else and are committed to operating worldwide in a safe, responsible manner which respects the environment and the health of our employees, our customers and the communities where we operate. We grow stronger together as a company and create a better society for everyone as we cultivate an inclusive and diverse culture that advocates for equity.

- **People**
- **Safety and Health**
- **Stakeholder and Community Engagement**

PEOPLE

We have a culture where we grow together as a company and individuals to deliver stronger results for our key stakeholders by living our [Values](#).

With global operations in diverse cultural, political and economic environments, we are committed to cultivating an inclusive and diverse culture that advocates for equity. We also conduct business ethically, transparently and in compliance with all applicable laws.

Following our separation from Arconic Inc., our Board of Directors expanded the responsibilities of its Compensation and Benefits Committee to include the oversight of talent management. This includes:

- Talent management strategies, such as our recruitment, development, promotion and retention programs;
- Policies and practices promoting diversity and inclusion within the company; and
- Key metrics and objectives related to our talent.

Our Values

At Arconic, we:

Act With Integrity.

We lead with respect, honesty, transparency and accountability.

Safeguard our Future.

We protect and improve the health and safety of our employees, communities and environment.

Grow Stronger Together.

We cultivate an inclusive and diverse culture that advocates for equity.

Earn Customer Loyalty.

We build customer partnerships through best-in-class products and service.

Drive Operational Excellence.

We pursue continuous improvement through innovation, agility, people development and collaboration.

Create Value.

We achieve success by generating and growing value for our shareholders.



Watch video

Our Board of Directors also has direct oversight responsibilities for our succession plan, ESG strategy and safety practices.

Our integrated approach to attracting, retaining and developing talent enables our employees to own their career path. We provide learning and development opportunities that help employees enhance their skillsets, and we equip our leaders with tools for ongoing coaching and feedback so our people can maximize their performance and potential.

Inclusion and Diversity

We are dedicated to maintaining an environment where everyone feels valued, and we celebrate both the differences and similarities among our people. We also believe that diversity in all areas, including cultural background, experience and thought, is essential in making our company stronger.

As a recently formed company during the time of growing urgency around social injustice in the U.S., we reenergized our efforts in 2020 with the launch of the Arconic Inclusion and Diversity Council and a unique awareness campaign called “Grow Together” to promote our long-term inclusion and diversity commitment.

The campaign encouraged employees to take actions related to inclusion, diversity and social justice through learning, volunteering and donating to any non-profit organization with a social equity mission. For each action recorded by an employee, Arconic Foundation pledged to grant US\$25 to each of six organizations with social equity missions that were selected in coordination with our employee resource groups (ERGs). The goal was to drive US\$50,000 to each organization by the end of the four-month campaign.

Our CEO led the campaign, kicking it off by making a personal pledge to the grantee organizations and promising to learn more about them and their efforts while sharing his personal learnings throughout and following the campaign.

We offered employees learning resources that included company-wide webinars featuring the grantee organizations, giving each an opportunity to introduce its mission, programs and ways for employees to get involved. Each ERG coordinated the webinar with its selected organization, of which two had an international scope to reflect the global composition of our company.

At the conclusion of the Grow Together campaign in December 2020, Arconic employees had reported more than 2,200 actions, exceeding the campaign goal. As a result, Arconic Foundation granted each of the six selected organizations US\$60,000, for a total of US\$360,000. In addition, our employees made more than \$100,000 in personal donations to nonprofits of their choice with a social equity mission.

Growing Together

“Advancing social responsibility goals around the world starts with us, as individuals. The high level of participation and thoughtful feedback from our employees during our Grow Together campaign makes me proud to lead a company with such strong values.”

Tim Myers, Chief Executive Officer

“I read ‘Getting over Your Fear of Talking about Diversity,’ and it was a great reminder to not be afraid of being uncomfortable about saying the wrong thing. Ask questions, be honest and be sincere. Avoiding the uncomfortable stops us from growing and learning.”

Debbie W., Cranberry, Pennsylvania

“I read ‘The Most Insidious Form of Age Discrimination at Work.’ I learned useful new terms, like ‘marginalization’ and ‘muting.’ It also affirmed what I see as the key to remaining valuable in one’s job – stay current and open minded and volunteer to do and implement new things. Everything was not always better in the past.”

Jorge R., Davenport, Iowa

“The book ‘So you want to talk about race’ by Ijeoma Oluo lays out several different topics regarding race, including race issues in schools, criminal justice and affirmative action. However, the best part of this book is it guides the reader on how to have meaningful conversations with others about race, arguments individuals make during race conversations and how to respond to them.”

Derek A., Lancaster, Pennsylvania

“I was reminded that there are still bad conditions for disabled people – they can’t go for a walk because most houses in Russia are not equipped with ramps, and they can’t use public transport. I strongly believe that critically ill children and disabled people have the same rights as all of us and should have the same life as everyone.”

Irina R., Samara, Russia



“I read an article titled ‘Getting Over Your Fear of Talking about Diversity’ and learned that you don’t need to know everything, but you can ask good questions to strengthen inclusiveness at work.”

Éva G., Szekesfehervar, Hungary

“I learned that you should use your everyday privilege to help others. It helped me recognize how many things there are in my life that I don’t even think about and how I can help others bring their whole person to work.”

Terrence T., Davenport, Iowa

“I read ‘Why People of Color Feel the Loneliest at Work.’ I realized that I was ignorant of the way people are treated differently based on their ethnicity and how that can affect their working lives. We hurt without thinking, without meaning, without knowing.”

Ann B., Pittsburgh, Pennsylvania

“I have read ‘White Fragility’ by Robin DiAngelo and ‘White Rage’ by Carol Anderson, and they have opened my eyes to how racism is a societal force that white people like myself are all socialized into. Basically, you don’t need to be an outspoken bigot to act in racist ways. It was very honest, very sad, and it made me feel certain that deliberate action needs to be taken by whites to reverse these injustices moving forward.”

Nick N., Norcross, Georgia

Our Inclusion and Diversity Council is chaired by our Chief Executive Officer. Council members include our executive leadership team, the Vice President and Treasurer of [Arconic Foundation](#), our Vice President of Inclusion and Diversity and the chairs and co-chairs of each of our six employee resource groups (ERGs).

Shortly after our separation, executives volunteered as sponsors for each ERG, and key leadership positions were appointed. Our ERGs – Arconic African Heritage Network, Arconic Hispanic Network, Arconic Next Generation Network, Arconic Veterans Network, Thrive Network (Women) and Spectrum (LGBTQ+) – reflect an inclusive, respectful and values-based company culture.

All of our employees are encouraged to participate in these grassroots, employee-led organizations that reflect our inclusive, respectful and values-based company culture. Our ERGs:

- Drive employee engagement through community outreach around science, technology, engineering and mathematics (STEM) education;
- Provide learning and development opportunities for employees;
- Help position Arconic as a global employer of choice through strategic recruiting activities;
- Inform company policies around diversity and inclusion; and
- Reinforce our brand through key external endorsements like the Human Rights Campaign and [Catalyst](#).

Our ERGs were one of the reasons we earned a perfect score of 100 on the Corporate Equality Index 2021, a U.S.-based benchmarking survey and report on corporate policies, benefits and practices related to lesbian, gay, bisexual, transgender and queer (LGBTQ) individuals. The index is administered by the [Human Rights Campaign Foundation](#).

The rating reflects the concrete steps we've taken on non-discrimination policies across our company, equitable benefits for LGBTQ employees and their families, internal education and accountability metrics to promote LGBTQ inclusion competency and public commitment to LGBTQ equality.

We remain committed to continuing to foster an inclusive culture through our policies, benefits, education and accountability metrics.

Our worldwide employment at the end of 2020 was approximately 13,400 employees located in 20 countries. As we continue to build a diverse and inclusive culture in all the countries in which we operate, we believe it is imperative that our employees are equitably compensated. During 2020, we completed a “living wages” review of our entire employee population. This resulted in confirmation that we meet and, in most instances, exceed local living wages in all countries in which we operate.

2020 Women and U.S. Minority Representation

Percent

	Executive	Management	Total
Women	37.5	22.1	20.5
U.S. Minorities	20.2	12.4	21.2

Percentages for women are on a global basis. Executive represents executive leaders who serve in a Vice President or higher role. Management represents members of management other than executives.

2020 Employees by Employment Contract and Type

	Contract		Type	
	Permanent	Temporary	Full-time	Part-time
Male	10,647	44	10,675	16
Female	2,690	45	2,678	57
Total	13,337	89	13,353	73

2020 Employees by Region and Employment Contract

	Permanent	Temporary
Asia	858	7
Europe	4,884	81
Americas	7,595	1
Total	13,337	89

2020 Board of Director Diversity

	Gender		U.S. Ethnic Minorities	Age		
	Male	Female		Under 30	30-50	Over 50
Board of Directors	8	2	1	0	0	10

2020 Employee Diversity

Percent

	Gender		Age		
	Male	Female	Under 30	30-50	Over 50
Officers	60.0	40.0	0	50.0	50.0
Employees	79.5	20.5	10.3	52.9	36.8

2020 New Employee Hires by Age

	Male	Female	Total
Under 30	287	79	366
30-50	378	206	584
Over 50	101	32	133

2020 New Employee Hires by Region

	Male	Female	Total
Asia	45	22	67
Europe	202	178	380
Americas	519	117	636

In response to the COVID-19 global pandemic, we initiated significant cost savings efforts, which included a workforce restructuring, temporary salary reductions and a suspension of the Company's matching contributions to the 401(k). During 2020, the Company's employee base was reduced by approximately 2,000, largely due to cost-saving initiatives and strategic dispositions, resulting in a distorted employee turnover rate.

2020 Turnover Rate

Percent

Type	Percent
Voluntary	8.11
Involuntary	7.63
Overall	15.75



2020 Employee Turnover by Age

	Male		Female		Total	
	Number	Rate (percent)	Number	Rate (percent)	Number	Rate (percent)
Under 30	325	27.50	75	37.31	400	28.92
30-50	723	12.84	213	14.48	936	13.18
Over 50	624	16.09	154	14.49	778	15.74

2020 Employee Turnover by Region

	Male		Female		Total	
	Number	Rate (percent)	Number	Rate (percent)	Number	Rate (percent)
Asia	47	6.29	12	10.17	59	6.82
Europe	424	11.54	105	8.13	529	10.65
Americas	1,201	19.16	325	24.51	1,526	20.10

Labor Relations

We believe in freedom of association. We respect an individual's choice to be represented by – or not to be represented by – a union in accordance with the laws of the countries in which we operate.

More than 3,000 employees at our largest U.S. manufacturing facilities in Indiana, Iowa, New York and Tennessee are represented by the United Steel Workers under a single contract. In 2019, these employees ratified a new labor agreement that extends through May 2022.



Where we have a union, we respect and engage the union in candid discussions regarding the needs of the business and its impact on employees. We also maintain an open dialogue with our union representatives and employees, and we work with our unions around the world to achieve safety and performance goals with an engaged workforce.

In Europe, our leadership continues to consult and inform the European Works Council (EWC) on key transnational matters through our formally established Arconic Euroforum. The forum, which consists of works council representatives located where we have European facilities, was created more than 20 years ago and has a long history of working collaboratively with Arconic on important topics for its businesses and employees.

In other regions of the world, such as Asia and Russia, we respect and support the appropriate legal and employee-related consultation processes in close cooperation with the relevant stakeholder groups.

2020 Union Representation

Percent of Employees

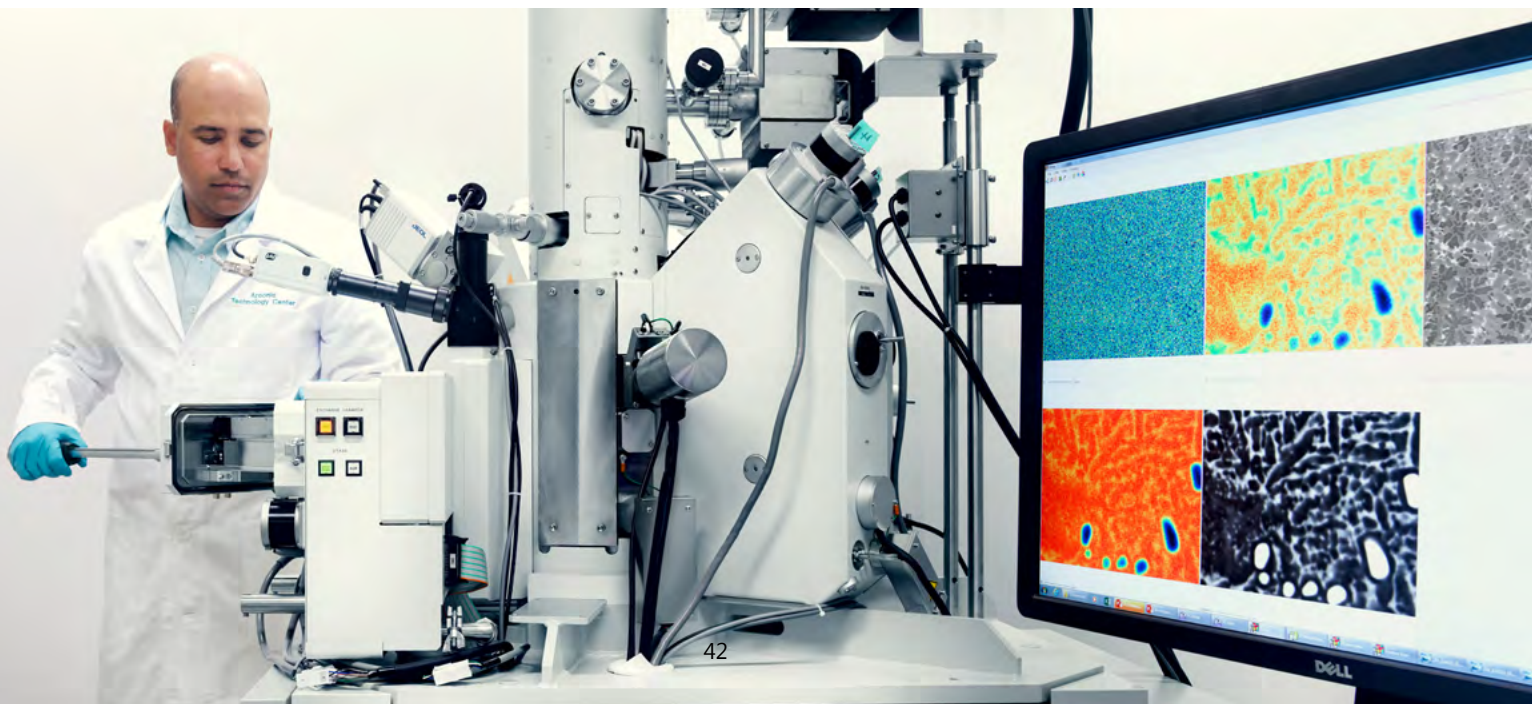
Asia	92.49
Europe	83.40
Americas	49.74
Global	64.96

Talent Development

We are committed to enabling employees and next-generation leaders to reach their goals through strategic planning, training and leadership development. We support the businesses and resource units throughout our People Experience program, which starts at recruitment and continues throughout career development, advancement and succession planning to enable our people to perform successfully.

We offer our employees the following resources to achieve and enhance their development:

- Arconic Leadership 360:** Our custom 360-degree assessment tool provides leaders with actionable feedback on 15 research-based leadership behaviors. Along with the assessment results, leaders receive coaching and develop action plans to improve performance.
- Learn:** All salaried employees have access to Arconic's global learning management system (LMS), which contains approximately 1,200 active courses. In 2020, more than 4,000 active users completed 21,065 courses. These included required cybersecurity, General Data Protection Regulation (GDPR), safety, and ethics and compliance training in addition to self-directed skill builder courses and frontline supervisory training.
- Skill builders:** Each skill builder guides employees through courses available in the LMS system, specifically focused on continuous improvement, smart manufacturing and supervisory skills. It also provides "in practice" activities for applying the new skills as well as resources for further learning.
- Express Training Program:** We offer live training sessions on a variety of productivity and development topics that are open to all interested employees. The sessions are presented in a variety of time zones to meet the needs of our global employee population.
- Performance management:** Available to all salaried employees, our comprehensive performance management program includes performance and development goal-setting and frequent manager-employee meetings to discuss performance and career planning. All employees are also encouraged to create personal career objective statements.
- Talent review and succession planning:** Annual talent review and succession planning ensures next-generation leaders are being recognized and offered appropriate opportunities. The planning also ensures a pipeline of qualified candidates for key roles across the global organization.
- Leading Others to Excellence Program:** This program, which is available to all salaried employees, focuses on advancing leadership skills to build high performance and bring out the collective strengths within our teams. Since the program's inception in 2016, more than 1,800 employees have attended at least one course.
- LEAD 2020:** In 2020, we developed and launched an accelerated leadership development program for more than 50 leaders from various teams. Over four months, the participants completed a variety of developmental experiences aimed at advancing their leadership skills.
- Tuition Assistance:** We provide tuition support for employees to take accredited courses, which often leads to them completing a degree that is related to their current role or a role that they desire and show aptitude for in the future.



Other examples of talent development efforts include professional summer internships and apprentice programs.

Based on business needs, we recruit and hire summer interns from locally and nationally recognized universities to engage in real projects at our facilities. For interns demonstrating an interest and aptitude, we offer return internship experiences as well as full-time positions to fill critical business needs.

Our apprentice programs vary by location. One example is at our location in Davenport, Iowa, in the U.S. The curriculum for the location's Davenport Electrical Apprenticeship Program is transitioning to material developed by the Electrical Training Alliance, which is a partnership between the International Brotherhood of Electrical Workers (IBEW) and National Electrical Contractors Association (NECA). Our partnership with the IBEW gives us access to this material.

This transition allows us to have more direct control over the program. Our instructors will be current Arconic hourly electricians or salaried electrical personnel, allowing for learning to be more applicable to our real-life work. This solution is also much more cost-effective, with a full year now costing what one class cost with the previous program.

Human Rights

Respecting, protecting and promoting fundamental human rights is a company mandate that is aligned with our Values.

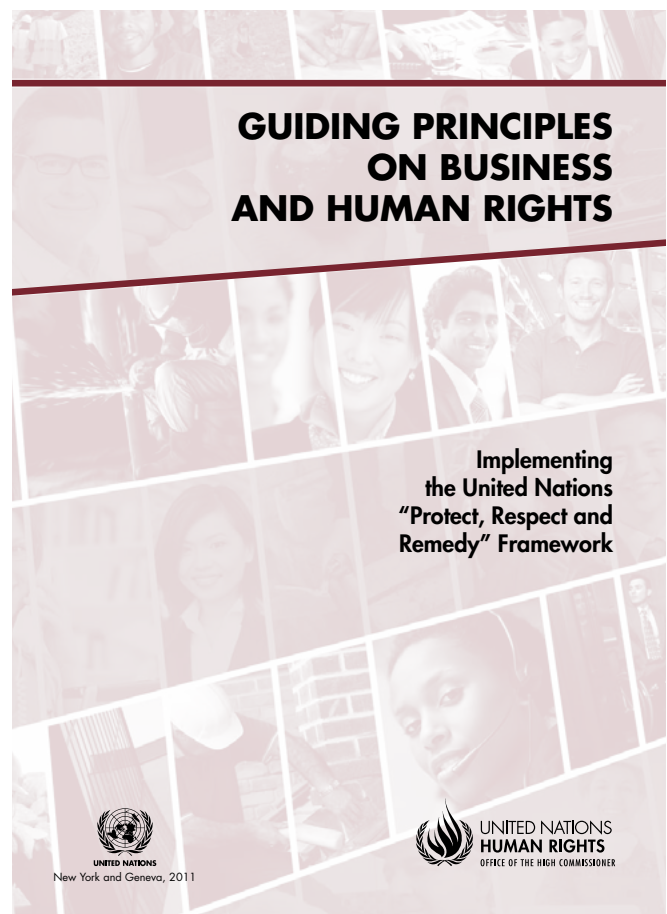
We strive to respect and promote human rights in our relationships with our employees, suppliers, customers and stakeholders in accordance with the [United Nations Guiding Principles on Business and Human Rights](#). We are guided by the principles reflected in the [Universal Declaration of Human Rights](#) and related covenants, the [International Labour Organization's core conventions](#) and the Ten Principles of the [United Nations Global Compact](#). All members of our supply chain are expected to operate their businesses in a responsible and ethical manner as outlined in our [Supplier Standards](#), which include respecting human rights.

Respecting and protecting human rights means we:

- Prohibit the use of all forms of human trafficking and forced, bonded, indentured or compulsory labor in our supply chain and business operations;
- Champion diversity and inclusion, maintain a safe, respectful and inclusive workplace, and do not tolerate harassment or discrimination in any form;

- Value human life above all else and are committed to operating worldwide in a safe and responsible manner;
- Respect the right of all communities to have a healthy environment;
- Provide fair living wages and compensate employees competitively relative to industry and local standards, in accordance with applicable laws and collective bargaining agreements;
- Respect the freedom of our employees to join, or refrain from joining, labor unions or other legally authorized organizations without fear of reprisal or intimidation;
- Respect our employees' privacy rights;
- Engage with our communities and respect the cultures, customs and values of the people in communities where we operate; and
- Responsibly source raw materials in accordance with all applicable laws.

Human rights and trafficking in persons and slavery are global issues. Our processes safeguard against unwittingly engaging with third parties who violate our Values.



SAFETY AND HEALTH

Our strong health and safety culture empowers our employees and contractors to take personal responsibility for their actions and the well-being of their coworkers. This culture is supported by corporate policies, standards, rules and procedures that clearly articulate our stringent expectations for working safely in all of our facilities worldwide.

Our health and safety policy and the values outlined in our [Code of Conduct](#) set requirements for which our leaders, businesses, employees and facilities are held accountable and measured against. Our leaders – from our CEO through line management – set a strong tone regarding safety, integrity and shared accountability with employees and third parties, such as contractors, suppliers and visitors.

Our industry-leading environmental, health and safety (EHS) process embeds annual goals and objectives in our operating plan in pursuit of our primary goal of zero fatalities and life-threatening or life-altering injuries and illnesses. The process is built and measured against internal and external standards and regulations and is linked to our EHS management system to address issues related to audit findings, location risk profiles, assessments and non-compliance cases.

Led by our Vice President of EHS, our global EHS Council is responsible for evaluating our EHS strategy and verifying its deployment and effectiveness annually. The Council includes corporate and business EHS Directors, as well as representatives from Legal and Human Resources.

Each year, we update corporate EHS plans that are cascaded throughout each business and manufacturing location. We manage progress against the plans electronically and share monthly reports with leadership.

We also maintain a library of EHS policies and procedures, which we updated in 2020. All locations are expected to deploy and comply with these policies and procedures, and compliance is verified through corporate auditing and self-assessment.

Our EHS management system is key to the successful operation of our EHS process. The system aligns with international standards, including [ISO 45001](#) (occupational health and safety) and [ISO 14001-2015](#) (environmental management systems). It applies to each of our production sites and North American headquarters, and our certifications cover more than 99.5 percent of our employees.



EHS Management System

	Employees Covered (percent)	Number of Certifications
2016	> 99.5	13
2017	> 99.5	14
2018	> 99.5	15
2019	> 99.5	15
2020	> 99.5	15

Numbers are for [ISO 14001](#) and OHSAS 18001/[ISO 45001](#) only. ISO 45001 replaced OHSAS 18001 in 2018. We also have five certifications for ISO 50001 Energy Management Standard. See the [Energy](#) section.

Safety

We are committed to upholding our strong track record of keeping our employees safe at work through our comprehensive strategy to prevent fatality and serious injury (FSI) incidents.

We had zero employee or contractor fatalities in 2020 – the fifth consecutive year that our operations achieved this important milestone. We also experienced zero FSI actuals during the year.

We define an FSI actual as a work-related incident that has resulted in a life-threatening, life-altering, or fatal injury or illness. An FSI potential is a work-related incident that has the potential to result in an FSI actual.

Our comprehensive FSI strategy process focuses on four pillars:

- Critical controls (fall protection, confined space, mobile equipment, lock/tag/verification, machine guarding, electrical safety, combustion system safety and contractor safety);
- Human performance;
- Automation and technology; and
- Consistent rule enforcement and learning.

Under our FSI prevention process, multidisciplinary teams chaired by each location manager identify potential hazards, look for root causes, ensure competent support and address gaps. We then focus on our most prevalent hazards, such as mobile equipment, and prioritize risk management processes and controls to eliminate or minimize risks.

We conduct a monthly call to review FSI potential incidences with EHS professionals across all locations. We share FSI information related to specific hazards and risks, which is used for active identification and reported via our predictive indicator system. We also share corrective actions for locations that have applicable issues, as well as a year-to-date snapshot of health and safety metrics in our [Safety Metrics Dashboard](#).

Fatality Hazards

	Identified	Closed
2016	949	1,094
2017	645	755
2018	694	709
2019	660	657
2020	475	501

The number of hazards closed may exceed the number identified due to carryover from the prior year. The reduction in identified and closed hazards between 2019 and 2020 is due to the reduced number of locations after separating from Arconic Inc. in April 2020.

When an incident occurs, we categorize it as either an FSI actual or FSI potential incident and investigate it at the plant level. We use business and corporate resources to assist with the most significant incidents, and all incidents are logged into our incident database to track corrective actions to completion.

Our most significant 2020 FSI potential occurred in December at our Lancaster Operations in the U.S. when we experienced a molten aluminum pop in a furnace in the location's casthouse. There were no injuries.

Our Vice President of EHS, Vice President of Technology and Engineering, the business' Health and Safety Director and experts from our Center of Excellence were involved in the investigation. As a result of the incident, we modified our Molten Metal Policy to require documentation to verify that metal is completely clear of visible moisture during charging. We also modified the procedure for preparing a furnace for melting and communicated it to all locations with a casthouse.

Safety Rates

All of our key 2020 safety rates decreased from the prior year and remained significantly below the most recent U.S. industry averages.

At the end of 2020, 57 percent of our locations had worked 12 consecutive months without a days away, restricted and transfer (DART) incident, 84 percent without a lost workday and 47 percent without a total recordable incident.

At 0.55, our 2020 DART rate decreased by 3.5 percent from prior year and was 30 percent less than the lowest industry average. The industry average DART rates are between 0.8 and 3.1 based on [NAICS codes](#) associated with secondary smelting and alloying of aluminum; aluminum sheet, plate and foil manufacturing; other aluminum rolling, drawing and extruding; and metal window and door manufacturing.

Our total recordable incident rate (TRIR) decreased 23 percent in 2020 to 0.95. The industry average for TRIR based on NAICS codes is between 1.7 and 5.1, putting our TRIR 43 percent lower than the lowest industry average.

Fatalities and Incident Rates – Full-time Employees

	Fatalities	Days Away, Restricted and Transfer	Lost Workday	Total Recordable Incident
2016	0	0.38	0.10	0.93
2017	0	0.36	0.13	0.93
2018	0	0.50	0.17	1.21
2019	0	0.57	0.18	1.24
2020	0	0.55	0.18	0.95

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 employees. Lost workday rate represents the number of injuries and illnesses resulting in one or more days away from work per 100 full-time employees. 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 employees.

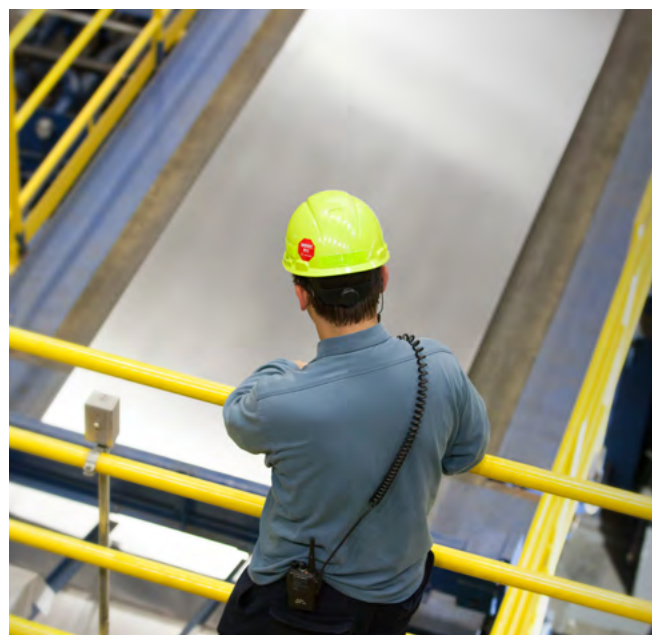
Fatalities and Incident Rates – Contractors

	Fatalities	Days Away, Restricted and Transfer	Lost Workday	Total Recordable Incident
2016	0	0.56	0.30	1.37
2017	0	0.47	0.13	1.34
2018	0	0.26	0.21	1.10
2019	0	0.22	0.07	1.12
2020	0	0.24	0.00	1.20

Incident Investigation

Incident investigation and reporting are additional key elements of our EHS strategy. When an incident occurs, the location must follow a pre-defined process to ensure root cause identification, followed by acceptable elimination or risk mitigation. Depending on the severity of an incident, leadership involvement may be escalated up to and including the CEO.

Our incident performance is reviewed by our Executive Lead Team each month and at least quarterly by our Board of Directors. We also look for opportunities to share learnings from incident reporting and investigations across our locations to mitigate the potential for future incidents to occur.



Audits and Assessments

Depending on each location’s inherent and controlled risks, we conduct an internal corporate audit every three to five years to provide assurance on implementation of the EHS management system and conformance with both regulatory and Arconic requirements. Each location is also scheduled to annually self-assess based on risk criteria, such as safety and environmental performance and management turnover. This is compared against relevant critical audit protocols.

Due to travel restrictions caused by the pandemic, we completed one corporate audit in February 2020 before suspending all audits for the remainder of the year.

To ensure continuous EHS measures and management systems in lieu of audits, we were able to conduct scheduled annual remote self-assessments for each location with the plant manager and EHS manager. All of our locations completed their self-assessments in 2020.

Each annual self-assessment covers 12 safety, seven environmental, seven health and five EHS management systems topics.

Completion is tracked monthly and shared with leadership. We also track corrective actions from the assessments for on-time completion.

In 2020, our EHS Council implemented an improved risk-based audit/assessment process, which narrows the scope of the most prevalent risks for each location and specifically assesses deployment of the location’s management system, practices and overall leadership engagement. This focused approach enables us to spend more time identifying potential hazards, risks and underlying causes, as well as assisting with corrective action plans and follow-through. We will fully implement the audit/assessment process in 2021 to ensure continuous, robust hazard and risk minimization.

Audit Safety Results

Percentage of sites achieving the level of “Good”

Category	2016	2017	2018	2019	2020
Fatality Prevention	86	85	90	90	Remote self-assessments
Tagout/Lockout	91	100	95	100	
Fall Control	86	90	85	95	
Mobile Equipment	100	100	100	100	
Confined Space	95	86	90	100	
Electrical Safety	73	57	55	55	
Combustion System Safety	75	63	74	75	
Dusts and Fine Particles	58	70	75	65	
Molten Metal	58	50	67	77	
Machine Guarding	86	95	85	95	
Contractor Safety	95	95	95	100	
Crane Safety	86	90	95	95	

A “good” rating is defined as meeting Arconic’s minimum expectations and regulatory standards. Percentages are rolling based on a location’s most recent audit score in each focus area regardless of the year of the audit.

Human Performance and Health and Safety Culture

We continued to deploy a human performance process throughout our operations during 2020, although this effort was slowed due to the pandemic.

Our active and sustained human performance process teaches employees how to predict and recognize errors or error-likely situations so that they can reduce the likelihood of an error that causes a fatality or serious life-altering injury. This system includes ownership, training, resources, task planning, pre-task briefs, incident investigations and root cause analysis, communication and field verification.

The approach is implemented in three stages – introducing, deploying and maturing. All of our locations are expected to work toward the maturing stage. At the end of 2020, all 22 of our manufacturing locations were actively implementing the human performance process.

With the success of human performance in health and safety, we are expanding its use to other disciplines, including human resources, finance and quality.

2020 Human Performance

Implementation Stage	Number of Manufacturing Locations	Percentage of Locations
Introducing	2	9
Deploying	5	23
Maturing	15	68

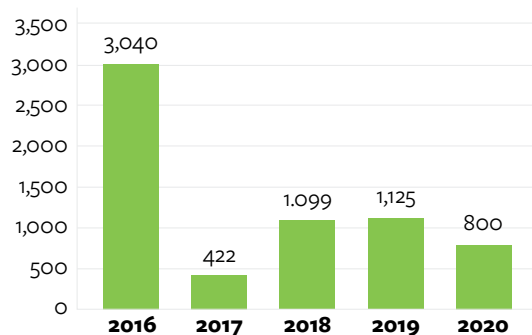
We believe that active employee engagement in raising concerns is critical to our health and safety culture, and our Anti-Retaliation Policy prohibits retaliation for employees who report a concern in good faith. We support and actively encourage a speak-up culture in which employees feel comfortable raising questions and concerns and expressing their views and opinions so that we can proactively identify and mitigate actual and potential risks.

Our employees also have the authority to refuse or stop unsafe work. We expect them to exert that authority, and we reward them when they do 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.



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.

STOP Coins Shipped



Training

We've developed processes and expectations for informing and educating our employees, contractors and visitors about workplace health, safety and environmental requirements. We assess our risk profile and conduct a needs assessment to develop our training programs. We also consider individual exposure at the task level, workplace hazards, historical incident experience and legal requirements.

The pandemic had a significant impact on the magnitude of training that we conducted in 2020. The number of employees within a training classroom significantly decreased due to social distancing and an effort to reduce the potential viral load of a room. Training was almost completely halted from March to July in 2020.

Through planned safety measures, more than 20 new Arconic leaders attended a two-day intensive course focused on EHS, including fatality prevention. The goal was to better inform and equip our leaders, who are key enablers for successful health and safety management.

Our EHS professionals spent more than 1,200 hours on professional development in 2020 through global Arconic EHS conferences on various topics. In addition, our employees and contractors completed more than 67,700 combined hours of EHS training during the year.

Joint Health and Safety Activities

In 2020, 87 percent of our manufacturing locations had joint health and safety committees that consisted of hourly production and maintenance workers and management.

These joint committees meet formally at least monthly and function in multiple ways. All committees cover reviewing, providing feedback on and setting location standards, policies and procedures; conducting floor observations and audits; developing health and safety communications; participating in kaizens and other continuous improvement events; and performing health and safety training.

In 2020, 74 percent of our locations with trade union agreements had health and safety requirements within those agreements. Topics included the type and frequency of health and safety meetings, stop-work authority, paid time allowed for training and education, representation for incident investigations, and departmental and location health and safety representation by union members.

Contractor Safety

All contractors are expected to comply with our EHS orientation training and tracking.

At a minimum, we require all contractors to complete training to understand our on-site safety rules and other site-specific precautions. Depending upon the work that the various contractors conduct at one of our locations, the contracting vendor must ensure that each employee has the required training for that role, such as respirator training. The contracting vendor must provide evidence of that training to its Arconic contact.

All contractors are also required to complete a prequalification assessment that includes specific information related to environmental, health and safety measures. Based on this assessment, we generate a contractor prequalification score that is maintained in a corporate database that all locations can access to verify suitability for a specific job.

For each job performed at one of our locations, contracting vendors must provide a job-specific safety plan that is reviewed by the location EHS and maintenance/engineering staff. While performing on-site work, contractors are also subject to observation by an Arconic team member based on relevant work risks.

Health

Regardless of the size of their location, all of our employees have access to occupational medicine services to optimize their health and well-being. These services include regulatory or Arconic risk-based chemical surveillance evaluations, fitness-for-duty assessments, hearing evaluations, lung-function testing, work-related injury and illness evaluation and treatment, substance abuse testing and job-related immunizations.

In 2020, our global pandemic response team proactively decided to suspend some medical surveillances and industrial hygiene sampling to reduce the spread of COVID-19 within our facilities. We strategically developed a list of surveillances to suspend and reviewed it frequently. We also established strict protocols for required surveillances to ensure our employees and medical staffs were protected.

We achieved 76 percent of our pre-pandemic goal for medical surveillance and industrial hygiene sampling in 2020. Each location is required to establish and execute a plan to fully reinstate medical surveillance and industrial hygiene sampling in 2021.

Chemical Exposure Protection

Chemical safety awareness is fundamental to protecting our employees from exposure risks. We assess and prioritize these risks based on sampling data and frequency of the exposure, and each documented exposure assessment is categorized as insignificant, significant or unacceptable.

Our continued efforts to eliminate or reduce unacceptable and significant employee chemical exposures include identifying substitutions, establishing best practices and ensuring stringent personal protective equipment requirements, training and use. General hazard communication training is provided to all locations, while chemical-specific training is provided at affected locations.



In 2020, our locations began in-depth chemical inventory assessments that included:

- Comparing digital inventories to those in active use;
- Auditing and walking through production, maintenance and storage areas;
- Identifying, characterizing and safely storing chemicals; and
- Safely disposing of chemical products that are no longer in use.

Assessments will continue through 2022 with a goal of 100 percent completion by all facilities. Identifying chemical substitutions is also part of our effort to meet customer needs, comply with external regulations, such as the European Union's Registration, Evaluation, Authorization and Restriction of Chemicals ([REACH](#)), and advance sustainability. We continue to work closely with our customers to validate new substances before making a permanent substitution.

In 2020, we identified eight hazardous chemicals that we then eliminated, substituted or reduced their exposure.

Noise and Ergonomics

We continue to provide custom-molded hearing protectors and hearing-conservation training to our employees to help raise awareness on the hazards of occupational noise exposure. To further protect our employees from occupational noise exposure, we have tasked each location to identify at least one noise exposure and control in 2021.

In 2020, we identified and eliminated a total of 20 ergonomic risks at our facilities. Each location will standardize or develop essential job functions to help reduce ergonomic risk in 2021. These documented job functions will also define task demands, such as lifting requirements and weight limits, to ensure that our employees are best equipped for their task.

Wellness and Benefits

We offer a suite of quality health care and well-being programs to all of our full-time employees. These programs, which are aligned with legal and regulatory requirements for every country where we operate, include annual insurance options, paid leave, flexible working hours and work/life support.

In the U.S., employees and dependents who enroll in medical/prescription drug benefits are eligible for tobacco-free credits to offset their cost of coverage. We also provide benefits for diabetes prevention and discounts on gym memberships, stress reduction programs, weight-loss coaching and healthy cooking classes. Our insurance carrier provides discounts on a variety of fitness, nutrition, personal care, and home and family programs. In addition, we offer paid leave for approximately six to eight weeks for the birth of a child through our disability program.

Examples of other regional benefit programs include:

- **Hungary:** Health screening services are available to all employees.
- **United Kingdom:** An employee assistance program and onsite medical services, such as physical therapy, are provided.
- **Russia:** We offer a health insurance program and well-being benefits, such as organized sports activities and mental health support.
- **China:** We provide supplemental insurance to improve accessibility to health care and minimize the cost to employees. In our Kunshan location, we also provide access to an on-site gym.

Our manufacturing locations conduct annual health fairs that focus on promoting employee health and well-being. Although the fairs were postponed in 2020 as a result of the pandemic, we were able to offer annual flu shot vaccine clinics in some of our larger locations. Health fairs will resume in 2021 when it is safe to proceed.



STAKEHOLDER AND COMMUNITY ENGAGEMENT

We strive to be a responsible corporate citizen and an active member of the communities in which we operate.

We engage with various stakeholders to put our [Values](#) into practice, define and achieve shared goals, and cooperatively strengthen our relationships. Our key stakeholders include our shareholders, employees, customers, members of the communities where we operate, suppliers, lenders, government representatives and non-governmental organizations (NGOs).

We engage with our stakeholders groups in each of our facilities to ensure robust collaborations based on the unique characteristics of each location.

The type and frequency of our engagement varies with each stakeholder based on issues and needs. A constant throughout each engagement is our commitment to ensuring a two-way conversation that is ongoing, effective and transparent.

In 2020, for example, our investors expressed significant interest in non-financial issues that can be important indicators of long-term performance. Our CEO, Chief Financial Officer, Chief Legal Officer and Director of Investor Relations, as well as our Board of Directors, conducted briefings with some of our largest shareholders. Topics

included corporate governance, human rights, diversity and inclusion, and environment. We continue to engage with investors on these topics so that our financial and non-financial performance can be considered.

Arconic Foundation

[Arconic Foundation](#) is the cornerstone of our engagement with communities. With assets of approximately US\$180 million as of January 2021, the Foundation is independently endowed and the charitable arm of Arconic.

Our Mission

Arconic Foundation partners with nonprofit and community organizations to strengthen its communities by enhancing education through skill building learning experiences, promoting environmental sustainability, and advancing social equity.



In 2020, the Foundation

- Expanded its mission and funding priorities beyond enhancing education to include promoting environmental sustainability and advancing social equity;
- Invested US\$7.1 million through 149 grants to nonprofit and community organizations in eight countries;
- Contributed to COVID-19 relief, including grants to community food banks and crisis funds (see the [COVID-19 Resilience](#) section); and
- Awarded 14 college scholarships to children of Arconic employees.

Enhancing Education

The Foundation seeks to create skill-building learning experiences that enhance individual opportunity, specifically within science, technology, engineering and math (STEM) and manufacturing workforce development.

2020 highlight: More than 100 teams in the FIRST® Tech Challenge will receive a US\$1,000 grant as part of the Foundation's 2020 contribution to FIRST. The grants will support approximately 1,000 students as they design, build and code robots to compete against other teams.

Promoting Environmental Sustainability

The Foundation forms partnerships with environment-focused organizations to protect the world and ensure a sustainable future. In 2020, 11 grants totaling nearly US\$800,000 supported the work of American Forests, Bonneville Environmental Foundation, National Forest Foundation, The Nature Conservancy and other organizations.

2020 highlight: The Foundation's partnership with the National Forest Foundation will result in 100,000 trees being planted within one year in U.S. national forests.

Advancing Social Equity

The Foundation looks to help build a more equitable society that reflects the diversity of all people. In 2020, it invested US\$1.1 million into programs and organizations that share this objective. This included funding a pledge campaign of US\$360,000 in support of Arconic's Grow Together initiative. For each action taken by an Arconic employee, a pledge was made to six nonprofits with social equity missions that were selected in coordination with our employee resource groups.

2020 highlight: The Foundation sponsored the Manufacturing Institute's Diversity and Inclusion Discussion Series, which engaged more than 2,500 participants across the manufacturing sector over the course of nine events.

Location and Employee Engagement

Despite the pandemic, our locations continued to invest in their communities during 2020. Our employees also safely volunteered their time, energy and skills to community programs and projects. Highlights include:

- **Székesfehérvár, Hungary:** With the support of Arconic-Kőfém and Arconic Foundation, the Pál Vasvári High School launched projects to engage students in STEM subjects and encourage them to lower their environmental footprint. The school significantly reduced its plastic bottle use by designing a new drinking water base and installed interactive whiteboards that encourage interest in environmental protection and technology.
- **Alcoa, Tennessee, USA:** Members of the Arconic Tennessee Operations STEM Council participated in mock interviews with local youth, worked with a local community college on a virtual manufacturing day career video and hosted a plant tour for 50 University of Tennessee professional MBA students. Council members are employee volunteers who help raise awareness of STEM careers and pathways in local industry.
- **Kitts Green, United Kingdom:** For 20 years, Arconic Kitts Green has supported the local Tile Cross Academy, which serves disadvantaged and ethnically diverse children ages 11 to 16. With Arconic Foundation support, the location and academy partnered in 2020 to develop a new engineering lab and the Arconic Work Experience Program at the school. The academy received the 2020 UK School/College of the Year Award in the UK Social Mobility Awards.



- **Samara, Russia:** Through an Arconic Foundation grant and with the help of Arconic Samara employee volunteers, approximately 1,500 high school students from 50 partner schools learned how to make a well-informed and thoughtful choice for a future STEM career. Parents and teachers were also engaged in this learning experience so they could assist in the decision-making.
- **Davenport, Iowa, USA:** Employees at our Davenport Works facility collected 125 kilograms (275 pounds) of food and raised more than US\$5,000 for the River Bend Foodbank through bake sales, contests, and more. In another activity, members of the location's Arconic Women's Network chapter participated in the Introduce a Girl to STEAM (science, technology, engineering, art and math) event at St. Ambrose University.

Learn more about our community engagement on the [Arconic Foundation website](#).

2021 Planned Actions

The Foundation's focus for 2021 is to build upon our commitment to social equity and environmental sustainability and develop opportunities to enhance community engagement by employees.

We will further strengthen our impact in the community in 2021 by encouraging employees to volunteer, serve on nonprofit boards of directors and be thought leaders in our communities. We are also launching a gift-matching program to provide our employees an opportunity to make personal donations to nonprofit organizations that advance the Foundation's mission.

Nurturing Nature

After expanding its mission and funding priorities in 2020 to include a focus on environmental sustainability, Arconic Foundation and its partners quickly began expanding forests, conservation programs and people's understanding and appreciation of nature. Here are three examples of that commitment in action.

[American Forests](#) is enhancing urban forests in two of Arconic's U.S. communities – Chandler, Arizona, and Pittsburgh, Pennsylvania. In partnership with the Foundation, the nonprofit conducted extensive mapping in the region around Chandler to identify the specific locations in which tree plantings will have the greatest positive impact. In Pittsburgh, American Forests is collaborating with Tree Pittsburgh to recruit, train and hire individuals from under-resourced communities to improve urban forests in those same communities.

Arconic Foundation and our location in Samara, Russia, are continuing their work to preserve the unique nature of Samara Bend National Park. The Foundation and location have partnered with the Educational Center for Environment and Safety to lay paths in the park, create information stands for visitors, conduct environmental education in Samara schools and other activities.

With the support of Arconic Foundation, [The Nature Conservancy](#) (TNC) is expanding its use of innovative eDNA monitoring technology to protect iconic lake whitefish and cisco species in the rivers and waterways near our facility in Massena, New York, U.S. TNC will use this cutting-edge technology to answer pressing conservation questions, such as what is the extent of the threat posed by invasive species, and how can native species be best protected?



Arconic volunteers lay a path in Samara Bend National Park.



Governance

As a global company with operations in diverse cultural, political and economic environments, we are committed to conducting business ethically and in compliance with all applicable laws. Our Values guide our behavior at every level in the organization and apply across the company on a global basis.

- **Corporate Governance**
- **Ethics and Compliance**
- **Supply Chain**

CORPORATE GOVERNANCE

Our [Values](#) guide our behavior at every level and apply across the company on a global basis. We believe that sound corporate governance is essential and consistent with our integrity culture.

Our Board is responsible for overseeing our management, to help ensure we meet our responsibilities to our shareholders and to build long-term growth in shareholder value, as well as giving consideration to the interests of our other key stakeholders, including customers, employees and the communities where the company has an impact.

Our Board believes that sound corporate governance is essential to effective fulfillment of its oversight responsibilities and is

consistent with our integrity culture. Following the Separation, our Board and its committees undertook a comprehensive review of our governance policies and practices to ensure that our governance program is in compliance with applicable rules and regulations, aligns with our management of the company and reflects best practices. Key features of our corporate governance practices include:

 <p>Board Structure and Function</p>	<ul style="list-style-type: none"> • De-classified board structure requiring annual election of directors • Majority voting standard in uncontested elections with resignation policy • Annual Board and committee self-evaluations • Director orientation and continuing education program • Board leadership succession plan • Retirement ages with Board option to waive
 <p>Director Independence and Qualifications</p>	<ul style="list-style-type: none"> • Eight of our 10 directors are independent • Board committees composed entirely of independent directors • Independent directors regularly meet in executive session • Robust Director Selection Policy, including specific criteria for service
 <p>Leadership</p>	<ul style="list-style-type: none"> • Independent Board Chairperson with strong public company board and executive leadership experience • Lead Independent Director appointed if the Chairperson is not independent • Standing committees chaired by independent directors with public company and executive leadership experience reflective of areas of committee oversight
 <p>Shareholder Alignment</p>	<ul style="list-style-type: none"> • Clawback policy for incentive compensation that incorporates our commitment to our Code of Conduct • Robust stock ownership and retention requirements • Policies prohibiting short sales, hedging, margin accounts and pledging
 <p>Shareholder Rights</p>	<ul style="list-style-type: none"> • Shareholder ability to act by written consent • Special meetings can be called by any shareholder owning at least 25 percent of outstanding shares for at least one year • Shareholder ability to remove directors with or without cause • No supermajority voting provisions in our charter or bylaws • No shareholder rights plan

Risk Oversight

Our Board is actively engaged in overseeing and reviewing our strategic direction and objectives, taking into account, among other considerations, our risk profile and exposures. It is management's responsibility to manage risk and bring to the Board's attention the most material risks to the company.

During 2020, we conducted a comprehensive and integrated enterprise risk management (ERM) assessment. Management reviewed the results of the assessment with the Board to

aggregate, monitor, measure and manage risks. Our ERM approach is designed to establish a mutual understanding among the Board and management of the effectiveness of our risk management practices and capabilities, review our risk exposure and to support our long-term operating plans and overall strategy.

While the full Board has overall responsibility for risk oversight, it is supported in this function by each of its committees, as set forth below.

 <p>Audit and Finance Committee</p>	<p>The Audit Committee supports the Board in the oversight of risks related to:</p> <ul style="list-style-type: none"> • our accounting, reporting and financial practices • compliance with legal and regulatory requirements • cybersecurity issues • capital structure, financing transactions, capital plan, policies related to interest rate, commodity and currency hedging, and employee retirement plans
 <p>Compensation and Benefits Committee</p>	<p>The Compensation Committee supports the Board in the oversight of risks related to:</p> <ul style="list-style-type: none"> • compensation structure and programs, including the formulation, administration and regulatory compliance with respect to compensation matters • talent management strategies
 <p>Governance and Nominating Committee</p>	<p>The Governance Committee supports the Board in the oversight of risks related to:</p> <ul style="list-style-type: none"> • Board organization, membership and structure • corporate governance practices

More information regarding our corporate governance practices is available on [our website](#).



ETHICS AND COMPLIANCE

As a global company with operations in diverse cultural, political and economic environments, we are committed to conducting business ethically and in compliance with all applicable laws. Our Values guide our behavior at every level in the organization and apply across the company on a global basis.

In 2020, we commenced a substantive review of our corporate policies to ensure they address our current risks and provide user-friendly guidance to our employees. This review continued into 2021.

Our ethics and compliance program promotes our integrity culture by taking a values-based approach to preventing, detecting and addressing violations of laws and/or our policies. Our program meets the recognized elements of an effective compliance program under the U.S. Federal Sentencing Guidelines and similar global standards of other countries' compliance programs and anti-corruption laws.

The program is designed to effectively:

- Foster an organizational culture of integrity, ethical decision-making and compliance with our [Code of Conduct](#), policies and applicable laws;
- Assure that we conduct business with the highest standards of ethics and integrity and in compliance with all applicable laws; and
- Prevent and detect unlawful or unethical conduct through our speak-up culture, risk assessments and due diligence.

Consistent with our commitment to the highest ethical standards, our compliance program is global, sustainable and focused on continuously evolving. We use our enterprise risk assessment process to identify and address our key and emerging ethical, legal and regulatory risks. This process supports our informed, risk-based approach in identifying the key areas for our compliance program, including training, communication, and policy and process development.

Our Board of Directors and senior leaders support and oversee our compliance program and demonstrate a strong commitment to our Values and ethical leadership. While the full Board has overall responsibility for risk oversight, it is supported in this function by each of its committees. Among its responsibilities, the Audit and Finance Committee assists the Board in overseeing and evaluating risks related to the effectiveness of the company's compliance program, internal controls over financial reporting and enterprise risk management.

Our global compliance program is administered by our Legal and Compliance Team, which is led by our Executive Vice President, Chief Legal Officer. Our Chief Legal Officer, in her capacity as our chief compliance officer, regularly reports to our Audit and Finance Committee on our compliance program and Integrity Line reports.



Our Code of Conduct, which is available publicly in eight languages, outlines the principles and standards that support our commitment to our Values. We expect all directors and employees to conduct business consistent with our Values and in compliance with our Code of Conduct and all applicable laws and regulations.

Our compliance program includes a comprehensive training program that features an e-learning platform and live training on specialty topics. In 2020, more than 3,700 salaried employees completed nearly 13,000 hours of legal and compliance training via our e-learning platform and live virtual sessions. These employees also completed our annual compliance questionnaire. In addition, we conducted live Code of Conduct training for more than 6,200 hourly employees.

During the year, we issued seven Preventative Law communications to all salaried employees. These communications provided guidance on topics such as antitrust and competition law, intellectual property and anti-corruption.

We promote a culture in which employees can raise concerns without fear of retaliation. Multiple reporting methods are available for employees to ask questions and report concerns, including discussing the concern with their manager, contacting company resources (such as Human Resources or the Legal and Compliance Team) or using the Arconic [Integrity Line](#). Our Integrity Line is operated by an independent third party and is available 24/7 to all employees and external stakeholders who wish to raise a concern or ask a question – anonymously where permitted by law.

In 2020, we received 231 new concerns and questions through our Integrity Line and ensured that each was addressed. Our reporting rate of 1.7 concerns per 100 employees is above the benchmark of 1.4 reports from the Navex Global 2020 Risk & Compliance Hotline Benchmark Report. Our anonymous rate was 61 percent, which was near the Navex benchmark of 59 percent.

As a result of issues raised, we implemented 57 corrective actions, including coaching, training, process improvements and discipline.

Integrity Line Reports

	Concerns	Questions	Total
2019	227	19	246
2020	226	5	231

We had zero monetary losses or penalties associated with incidents of corruption, bribery or illicit international trade in 2020. Our anti-corruption initiatives in 2020 included an update to our anti-corruption policy as well as the deployment of anti-corruption training to salaried employees.

As part of our compliance program, we periodically retain a third party to conduct an external assessment of our program. The next assessment is scheduled for late 2021.

Additional information on our ethics and compliance program, including our Code of Conduct and policies on anti-corruption, integrity reporting and anti-retaliation, and human rights, can be found on arconic.com.



SUPPLY CHAIN

Our suppliers are our partners, and they play an important role in helping our customers and us create a healthier and more sustainable world.

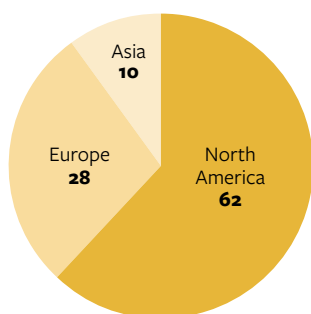
We have more than 7,600 suppliers globally. We expect these suppliers to conduct business in accordance with the values stated in our [Supplier Standards](#) and on the [Ethics and Compliance section](#) of our website.

We commit to carefully selecting and maintaining suppliers by:

- Screening against a denied/restricted party list;
- Ensuring responsible materials sourcing, as stated in our [Conflict Minerals Policy](#); and
- Assessing key suppliers periodically through our Global Supplier Sustainability Program to ensure alignment with our standards.

2020 Spend by Region

Percent



Our total spend in 2020 was US\$4.3 billion.



2020 Suppliers by Major Category

Category	Number
Operational/Capital Expenditures	1,481
Information Technology and Services	1,945
Metals	273
Production Materials	3,967
Total	7,666

Global Supplier Sustainability Program

We measured the sustainability performance of our key suppliers in 2020 through our Global Supplier Sustainability Program. These suppliers, which represented 2 percent of our supplier base by number but 51 percent of our total spend in 2020, are companies that impact our carbon footprint, possess preferred status, are sole sources of supply, may be located in emerging or high-risk countries, or provide regulated commodities.

The program consists of four components:

- **Communicating expectations:** We communicate our expectations regarding supplier sustainability through our Supplier Standards.
- **Conducting assessments:** We evaluate the maturity of supplier sustainability practices and determine where improvement may be needed. Assessment criteria include environmental, social and governance factors that are material to our supplier base.
- **Engaging in dialogue and development:** For emerging or lagging suppliers, we provide feedback on questionnaire results and discuss opportunities for improving practices or management systems.
- **Monitoring continuous improvement:** We periodically reassess our suppliers to evaluate changes that could potentially influence a supplier's maturity level rating. It is our expectation that supplier sustainability should improve over time.

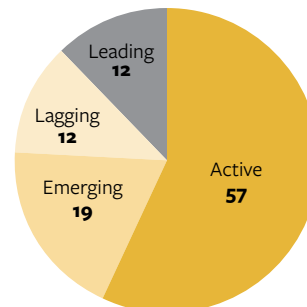
The 2020 assessment revealed that 69 percent of our key suppliers had sustainability practices that we consider leading or active.

For key suppliers deemed to be emerging or lagging, we recommunicate our sustainability expectations and, where necessary, work with them to incorporate sustainable practices into their businesses. We look for alternative suppliers for those that continue to show little to no improvement after these efforts.

For 2020, we categorized assessment results into key topic areas to further assess and understand supplier performance and compliance with our policies, as well as to help us identify areas in need of improvement.

2020 Key Supplier Assessment Results

Percent of key suppliers



2020 Performance by Topic Area

Percent of suppliers

	Business Practices	EHS Management System	Environment	Health and Safety	Human Rights	Labor Rights	Sustainability
Leading/Active	59	87	49	92	78	87	40
Emerging/Lagging	41	13	51	8	22	13	60

Human Rights

We place significant importance on the value of human rights in our [Supplier Standards](#), which serve as our code of conduct for suppliers, vendors, contractors, consultants, partners and others with whom we do business. The Supplier Standards outline the expectations for suppliers to align with our [Values](#) and policies, including our [Human Rights Policy](#) and [Conflict Minerals Policy](#).

Specific requirements related to human rights include:

- Maintaining a respectful workplace that respects human dignity and the rights of workers, individuals and the communities associated with their operations;
- Prohibiting the use of all forms of human trafficking and forced, bonded, indentured or compulsory labor;
- Prohibiting the employment of children (defined as under the age of 18 years old) or the use of child labor;
- Prohibiting harassment or discrimination of applicants or workers in any form, including any kind of corporal punishment or abuse;

- Maintaining a safe workplace that is free from violence, threats, intimidation and harassment and that respects the dignity and worth of every employee;
- Providing a fair living wage and compensating employees competitively relative to industry and local standards and in compliance with all applicable wage, work hours, overtime and benefits laws and the terms of applicable collective bargaining agreements;
- Upholding the principles reflected in the Universal Declaration of Human Rights and related covenants, the International Labour Organization's core conventions and the Ten Principles of the United Nations Global Compact;
- Upholding the principles stated in Arconic's Conflict Mineral Policy and providing transparency into the supply chain, from original source to Arconic; and
- Complying with laws related to workplace safety and health.

Concerns regarding any potential violations of these Supplier Standards can be reported 24/7 through our [Integrity Line](#).



Indexes

This report has been prepared is in accordance with the Global Reporting Initiative Standards: Core Option and Sustainability Accounting Standards Board Standards Metals and Mining Standard.

- **Global Reporting Initiative Content Index**
- **Sustainability Accounting Standards Board Index**

GLOBAL REPORTING INITIATIVE CONTENT INDEX

This index helps readers compare the information from our ESG report, annual report and website with the [Global Reporting Initiative GRI Standards](#).

This report has been prepared in accordance with the GRI Standards: Core option.

GRI 102 General Disclosures 2016

Disclosure	Description	Location
Organizational Profile		
102-1	Name of the organization	Arconic Corporation
102-2	Activities, brands, products, and services	What We Do Our Products
102-3	Location of headquarters	Pittsburgh, Pennsylvania
102-4	Location of operations	Locations
102-5	Ownership and legal form	Arconic Corporation is a publicly traded company listed on the New York Stock Exchange (NYSE: ARNC).
102-6	Markets served	What We Do
102-7	Scale of the organization	Form 10K (pages 7-12)
102-8	Information on employees and other workers	People Form 10K (pages 13-15)
102-9	Supply chain	Supply Chain
102-10	Significant changes to the organization and its supply chain	Form 10K (pages 7-12) Supply Chain
102-11	Precautionary Principle or approach	Environmental Management at Arconic
102-12	External initiatives	Stakeholder and Community Engagement
102-13	Membership of associations	Stakeholder and Community Engagement
Strategy		
102-14	Statement from senior decision-maker	CEO Statement
102-15	Key impacts, risks, and opportunities	Form 10K (pages 5-6 and 17-38)
Ethics and Integrity		
102-16	Values, principles, standards, and norms of behavior	Our Values Human Rights Policy Ethics and Compliance Code of Conduct
102-17	Mechanisms for advice and concerns about ethics	Integrity Line

Disclosure	Description	Location
Governance		
102-18	Governance structure	Corporate Governance Proxy Statement (pages 18-30)
102-19	Delegating authority	Corporate Governance Guidelines (Corporate Citizenship section)
102-20	Executive-level responsibility for economic, environmental, and social topics	Corporate Governance Guidelines (Corporate Citizenship section)
102-21	Consulting stakeholders on economic, environmental, and social topics	Stakeholder and Community Engagement
102-22	Composition of the highest governance body and its committees	Board of Directors Board Committees Proxy Statement (page 19)
102-23	Chair of the highest governance body	Proxy Statement (page 16)
102-24	Nominating and selecting the highest governance body	Proxy Statement (page 22) Certificate of Incorporation Bylaws Governance and Nominating Committee Charter
102-25	Conflicts of interest	Proxy Statement (pages 27-28) Governance and Nominating Committee Charter
102-26	Role of highest governance body in setting purpose, values, and strategy	Corporate Governance Guidelines
102-27	Collective knowledge of highest governance body	Proxy Statement (page 9)
102-28	Evaluating the highest governance body's performance	Proxy Statement (page 27) Governance and Nominating Committee Charter
102-29	Identifying and managing economic, environmental, and social impacts	Audit and Finance Committee Charter Corporate Governance Guidelines (Corporate Citizenship section)
102-30	Effectiveness of risk management processes	Proxy Statement (page 26) Audit and Finance Committee Charter Corporate Governance Guidelines (Corporate Citizenship section)
102-31	Review of economic, environmental, and social topics	Corporate Governance Guidelines (Corporate Citizenship section)
102-32	Highest governance body's role in sustainability reporting	Corporate Governance Guidelines (Corporate Citizenship section)
102-33	Communicating critical concerns	Proxy Statement (page 27)
102-34	Nature and number of total critical concerns.	Stakeholder and Community Engagement
102-35	Remuneration policies for the highest governance body and senior executives	Proxy Statement (pages 30-46)
102-36	Process for determining remuneration	Proxy Statement (pages 30-46)
102-37	Stakeholders' involvement in remuneration	Proxy Statement (page 32)
102-38	Annual total compensation ratio	Proxy Statement (page 52)
102-39	Percentage increase in annual total compensation ratio	Not applicable.

Disclosure	Description	Location
Stakeholder Engagement		
102-40	List of stakeholder groups	Stakeholder and Community Engagement Arconic Foundation
102-41	Collective bargaining agreements	People Form 10K (page 13)
102-42	Identifying and selecting stakeholders	Stakeholder and Community Engagement Arconic Foundation
102-43	Approach to stakeholder engagement	Stakeholder and Community Engagement Arconic Foundation
102-44	Key topics and concerns raised	Stakeholder and Community Engagement
Reporting Practice		
102-45	Entities included in the consolidated financial statements	Form 10K (Exhibit 21)
102-46	Defining report content and topic boundaries	Reporting and Materiality
102-47	List of material topics	Reporting and Materiality
102-48	Restatements of information	Found throughout the report.
102-49	Changes in reporting	Changes in reporting from prior year are indicated throughout the report
102-50	Reporting period	2020
102-51	Date of most recent report	2019
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Kim Kipin-McDonald Director of Environmental, Social & Corporate Governance
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.
102-55	GRI content index	Global Reporting Initiative Content Index
102-56	External assurance	Reporting and Materiality

Material Topics

Disclosure	Description	Location
GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	Form 10K (pages 71-132)
GRI 302: Energy 2016		
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	Energy

Disclosure	Description	Location
GRI 303: Water and Effluents 2018		
303-1	Interactions with water as a shared resource	Water
303-2	Management of water discharge-related impacts	Water
303-3	303-3: Water withdrawal	Water
303-4	303-4: Water discharge	Water
303-5	303-5: Water consumption	Water
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	Emissions
305-2	Energy indirect (Scope 2) GHG emissions	Emissions
305-3	Other indirect (Scope 3) GHG emissions	Emissions
305-4	GHG emissions intensity	Emissions
305-5	Reduction of GHG emissions	Emissions
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	Emissions
GRI 306: Waste 2020		
306-1	Waste generation and significant waste-related impacts	Waste and Spills
306-2	Management of significant waste-related impacts	Waste and Spills
306-3	Waste generated	Waste and Spills
306-4	Waste diverted from disposal	Waste and Spills
306-5	Waste directed to disposal	Waste and Spills
GRI 307: Environmental Compliance 2016		
307-1	Non-compliance with environmental laws and regulations	Environmental Compliance
GRI 403: Occupational Health and Safety 2018		
403-1	Occupational health and safety management system	Safety and Health
403-2	Hazard identification, risk assessment, and incident investigation	Safety and Health
403-3	Occupational health services	Safety and Health
403-4	Worker participation, consultation, and communication on occupational health and safety	Safety and Health
403-5	Worker training on occupational health and safety	Safety and Health
403-6	Promotion of worker health	Safety and Health
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Safety and Health
403-8	Workers covered by an occupational health and safety management system	Safety and Health
403-9	Work-related injuries	Safety and Health
403-10	Work-related ill health	Safety and Health
GRI 405: Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	Corporate Governance People

SUSTAINABILITY ACCOUNTING STANDARDS BOARD INDEX

Our sustainability reporting aligns with the metals and mining sustainability accounting standard issued by the Sustainability Accounting Standards Board. Portions of this current report meet aspects of the standard, and we will work toward reporting on additional disclosures in future reports.

Topic	Accounting Metric	Category	Code	Report Location
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	EM-MM-110a.1	Emissions
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	EM-MM-110a.2	Emissions (partially reported)
Air Quality	Air emissions of the following pollutants: (1) CO, (2) NO _x (excluding N ₂ O), (3) SO _x , (4) particulate matter (PM ₁₀), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Quantitative	EM-MM-120a.1	Emissions
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	EM-MM-130a.1	Energy
Water Management	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	EM-MM-140a.1	Water
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	EM-MM-140a.2	Water
Waste & Hazardous Materials Management	Total weight of tailings waste, percentage recycled	Quantitative	EM-MM-150a.1	Not applicable
	Total weight of mineral processing waste, percentage recycled	Quantitative	EM-MM-150a.2	Not applicable
	Number of tailings impoundments, broken down by MSHA hazard potential	Quantitative	EM-MM-150a.3	Not applicable
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	EM-MM-160a.1	Environmental Compliance
	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Quantitative	EM-MM-160a.2	Not applicable
	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	EM-MM-160a.3	Not applicable

Topic	Accounting Metric	Category	Code	Report Location
Security, Human Rights & Rights of Indigenous Peoples	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Quantitative	EM-MM-210a.1	Not applicable
	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Quantitative	EM-MM-210a.2	Not applicable
	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Discussion and Analysis	EM-MM-210a.3	Not applicable
Community Relations	Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	EM-MM-210b.1	Stakeholder and Community Engagement
	Number and duration of non-technical delays	Quantitative	EM-MM-210b.2	We had zero delays due to typical operating activities in 2020. COVID-19 delays occurred due to public health concerns and regional governmental requirements. COVID-19 Resilience
Labor Relations	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Quantitative	EM-MM-310a.1	People
	Number and duration of strikes and lockouts	Quantitative	EM-MM-310a.2	We had zero strikes and lockouts in 2020
Workforce Health & Safety	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Quantitative	EM-MM-320a.1	Safety and Health
Business Ethics & Transparency	Description of the management system for prevention of corruption and bribery throughout the value chain	Discussion and Analysis	EM-MM-510a.1	Ethics and Compliance Supply Chain
	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	EM-MM-510a.2	We had no production in any of the 20 lowest-ranked countries in 2020.



ARCONIC

Arconic Corporation (NYSE: ARNC), headquartered in Pittsburgh, Pennsylvania, is a leading provider of aluminum sheet, plate and extrusions, as well as innovative architectural products, that advance the ground transportation, aerospace, building and construction, industrial and packaging end markets.

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