



▶ **Executive Summary**

Moving Forward Sustainably

2022 Sustainability Report

▶ [READ THE FULL REPORT](#)



Letter to Our Stakeholders

With its durability, light weight and strong recyclability, aluminum has been central to societal innovation. It has revolutionized how we move, build and fly. It continues to positively influence numerous sectors including construction, packaging, transportation, aerospace, and electronics and will continue to impact innovation in the future.

But not all aluminum is created equal. Responsible and sustainable practices are vital for our Company, our customers and the world. In fact, strong environmental, social and governance performance will be key differentiators in the industry for the future. That is why Alcoa has a strategic priority to advance sustainably and a vision to reinvent the aluminum industry.

“As an integrated upstream aluminum Company, Alcoa provides the building blocks for a better tomorrow.”

ROY C. HARVEY
President and CEO
Alcoa

Accelerating the Transition to a World with Limited Carbon Emissions

Alcoa has an ambition to reach net-zero emissions (Scope 1 and Scope 2) by 2050, with interim targets to achieve a 30 percent reduction by 2025 and a 50 percent reduction by 2030, using our 2015 baseline. We are working to develop technology projects that have the potential to help us reach our decarbonization ambitions.

Our **ELYSIS™** inert-anode technology uses a proprietary process, first developed by Alcoa, that eliminates all direct greenhouse gas (GHG) emissions from the traditional smelting process, emitting clean oxygen as byproduct.

Our **Refinery of the Future™** initiative aims to achieve zero-carbon alumina refining through a host of new processes and technologies.

Our **ASTRAEA™** scrap purification technology under development has the potential to process non-ferrous scrap to purity levels that far exceed most commercial smelters. If successful, it would offer the opportunity to use more post-consumer scrap for an even wider range of purposes.

Aligning with the Science on Climate Change

We have embarked on a global study to understand the long-term impacts of climate change on operating assets, using a broad range of science-based scenarios from the United Nations Intergovernmental Panel on Climate Change (IPCC).

We know indirect emissions are an important part of the climate change equation, so we are considering potential approaches with respect to Scope 3 GHG emissions. This includes working collaboratively with our customers and business partners.

In 2022, our carbon-reduction efforts included continued work on increasing the percentage of renewable energy powering our aluminum production. At the end of the year, 86 percent of our global smelting portfolio was powered by renewable energy such as hydropower, wind or sunlight.

Our environmental priorities also include efforts to restore ecosystems that may be impacted by our operations. We strive to progressively rehabilitate mining sites and return decommissioned sites to productive reuse. We also prioritize locations with impoundments to work toward compliance with the Global Industry Standard on Tailings Management (GISTM).

Protecting the Safety and Health of our Workforce

While environmental progress is important, the safety and health of our employees continues to be our overarching focus.

In 2022, we extensively reviewed our corporate safety and health systems to improve critical risk management. We have made progress in lowering our incident rates, including a 17 percent decrease in our fatality and severe injury/illness potential (FSI-P) rate decreased compared to 2021.

Our definitions of safety and health are also expanding to recognize and address social and psychological factors that would pose risks to the well-being of our workforce. We are deploying new technologies, such as microsleap detection and fatigue data analytics, at several high-risk operating sites.

Promoting a Strong Culture of Diversity, Equity and Inclusion

People are at the heart of everything we do. Recognizing that there is strength in diversity, we aim to build inclusive and diverse work teams. As a result of these efforts, we were named in the 2022 Bloomberg Gender-Equality Index, and we received a score of 90 on the Human Rights Campaign Foundation's Corporate Equality Index.

We continue to champion employee-led initiatives. For example, the Alcoa Women's Network (AWN) celebrated its 20th anniversary with a virtual panel on International Women's Day that was attended by hundreds of Alcoans around the world.

Our 2022 independent gender pay equity analysis confirmed that we have achieved equal pay at each job level. And, despite a contracting global job market, we have increased our overall share of female employees.

Investing in our Communities

In 2022, Alcoa and the Alcoa Foundation, the nonprofit organization associated to Alcoa, partnered with numerous non-profit organizations in our communities. A total of US\$7 million was spent to support these efforts.

2022 also marked the 70th anniversary of the Alcoa Foundation. Its efforts remain focused on two program areas, education and environmental stewardship. Most recently, it began supporting adaptation efforts at the grassroots level to slow the effects and impacts of a changing climate.

In Brazil, Instituto Alcoa seeks to promote positive transformation in our areas of influence. The non-profit institution that is affiliated with Alcoa invested more than US\$1.3 million in the host communities of our three major operations in Brazil—Alumar, Poços de Caldas and Juruti.

In Canada, the Alcoa Sustainable Communities Fund, supported with Alcoa funding, provided C\$1 million to community-led projects in the Baie-Comeau, Bécancour and Deschambault-Grondines/Portneuf regions of Québec. Since its creation in 2011, the fund has supported nearly 147 projects and invested approximately C\$11 million.

In Australia, the Alcoa Harvey Waroona Sustainability Fund continues to serve the communities of Harvey and Waroona in Western Australia. Since its inception in 2008, the fund receives disbursements based on revenues from our Wagerup refinery and its monies are used to back community development projects in the area.

Turning Raw Potential into Real Progress

We invented the aluminum industry more than 135 years ago. That legacy motivates us for a better future, one where aluminum will play an even larger role in solving decarbonization challenges in a world threatened by climate change.

With the distinct advantage of being active in all aspects of upstream aluminum production, we are working with industry partners, governments, associations, and communities in alignment with our purpose: to turn raw potential into real progress.

We are proud to share more details of that progress in our 2022 Sustainability Report. We will continue to deliver on our purpose as we move toward a more sustainable future.

Sincerely,





ROY C. HARVEY


Alcoa President and Chief Executive Officer


2022 Highlights

ENVIRONMENT

 **86%**
of electricity powering
our smelters came from
renewable sources¹

 **Established**
new Centers of
Excellence (CoE)
to address climate
change and biodiversity

 **0.82:1**
active mining disturbance
to mine rehabilitation²


 **4.6%**
decrease in
CO₂e emissions

¹ Renewable energy is derived from natural processes that are replenished constantly, such as sunlight, wind, and hydropower.

² From 2018 – 2022.

SOCIAL

 **Zero**
worker fatalities

 **36.6%**
increase in new hires from
underrepresented groups

 **90 scored**
on the Human Rights
Campaign Foundation's
Corporate Equality Index¹

 **\$7M**
invested in communities
through Alcoa community
grants and the Alcoa
Foundation (US\$)

¹ Out of 100 possible points.

GOVERNANCE

 **17**
locations certified to the
Aluminum Stewardship
Initiative's (ASI)
Performance Standard

 **Top 1%**
of companies within the
manufacture of basic precious
and other non-ferrous metals
industry according to EcoVadis

Turning Raw Potential into Real Progress

We have projects across the globe that reflect our commitment to operating sustainably. The following case studies highlight our efforts in topics that were identified as most material to our Company. Visit our website for more examples of how we are working to address sustainability across our operations.

[▶ READ MORE: Sustainability Case Studies](#)



Turning Waste into Low-Carbon Cement

Working across continents, Alcoa and the University of São Paulo are unlocking the potential of using untreated bauxite residue to transform one of the world's most carbon-intensive industries: cement production.

[▶ Read more: Partnership Turns Waste into Low-Carbon Cement](#)



Process Optimized to Reduce Emissions

Thanks to a series of actions taken by our Lista team in Norway, the smelter's anode effect minutes were kept in check throughout 2022, reducing emissions from the smelting process.

[▶ Read more: Process Optimization Yields Emission Reductions](#)



Cultivating Seeds of Growth

Many of the trees planted in our land rehabilitation program are grown in small garden plots owned by local families surrounding our mine site in Juruti, Brazil.

[▶ Read more: Cultivating Seeds of Growth](#)



Promoting Gender Parity in the Workplace

Our Aluminerie de Bécancour in Québec, Canada has been going to great lengths to achieve gender balance and parity at the smelter.

[▶ Read more: Promoting Gender Parity in the Workplace](#)

Long-Term Sustainability Goals

SDG	Goal	Progress
	<p>Align our greenhouse gas (GHG) emissions intensity target (Scope 1 and 2 associated with our refining and smelting operations) with the 2°C decarbonization pathway by reducing intensity by 30 percent by 2025 and 50 percent by 2030 from a 2015 baseline.</p> <p>Ambition to achieve net-zero GHG emissions by 2050.</p>	<p>View Climate Change in full report.</p> <p>25.1 percent reduction from 2015.</p>
	<p>From a 2015 baseline of 3.79 m³ water/mt Al, reduce the intensity of our total water use from water-scarce locations by five percent by 2025 and 10 percent by 2030.</p>	<p>View Water in full report.</p> <p>5.3 percent decrease from 2015.</p>
	<p>From a 2015 baseline of 131.7mt, reduce landfilled waste by 15 percent by 2025 and 25 percent by 2030.</p>	<p>View Waste in full report.</p> <p>37.6 percent reduction from 2015.</p>
	<p>From a 2015 baseline of 53 m²/1000t m²/ k mt Al, reduce bauxite residue land requirements per metric ton of alumina produced by 15 percent by 2030.</p>	<p>View Impoundment Management in full report.</p> <p>15.6 percent reduction from 2015.</p>
	<p>Maintain a corporate-wide running five-year average ratio of 1:1 or better for active mining disturbance (excluding long-term infrastructure) to mine rehabilitation.</p>	<p>View Mine Rehabilitation in full report.</p> <p>0.82 ratio for the 2018 to 2022 period.</p>
	<p>Zero fatalities and serious injuries (life-threatening or life-altering injuries and illnesses).</p>	<p>View Safety and Health in full report.</p> <p>Zero fatalities and one serious injury in 2022.</p>
	<p>Achieve a more inclusive culture that reflects the diversity of the communities where we operate.</p>	<p>View People in full report.</p> <p>Increased the percent of women in our global employee population from 17.17 to 18.48 percent.</p> <p>The percent of new hires from underrepresented populations was 51.26 percent.</p>
	<p>By the end of 2022, implement a social performance management system (SP360) at all locations, including the definition of performance metrics and long-term goals to be achieved by 2025 and 2030.</p>	<p>View Shared Value Creation in full report.</p> <p>Completed the implementation of SP360 in our mining operations in Australia and Brazil, defined performance metrics and identified a long-term goal.</p>

Each Sustainability Development Goal (SDG) icon indicated here signifies Alcoa's alignment with one of the United Nations Sustainable Development Goals. They are a set of 17 goals with specific indicators agreed to by UN member states for achieving sustainable development, and they demonstrate how our actions contribute to broader global sustainability efforts.

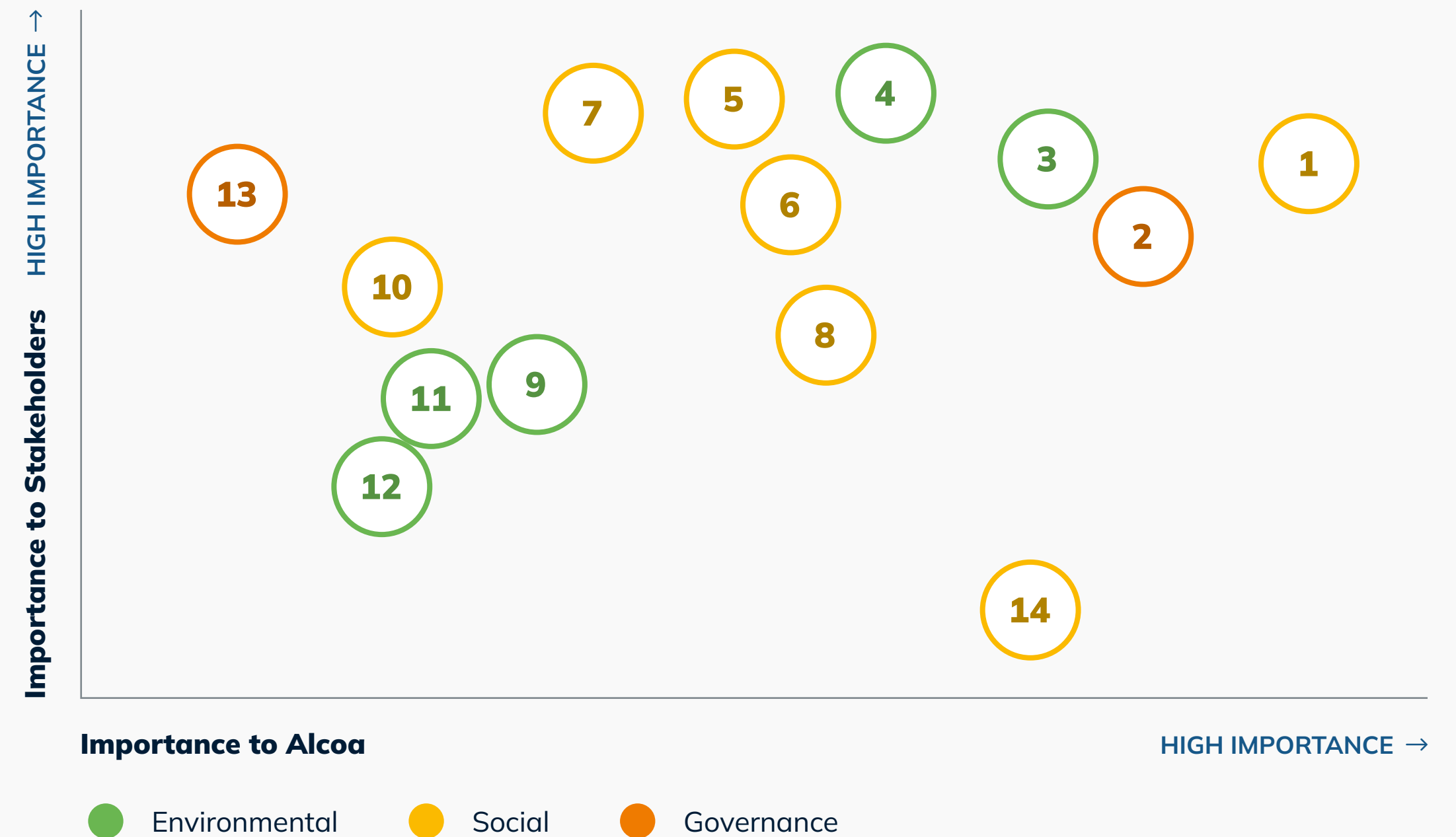
Reinventing the Aluminum Industry for a Sustainable Future

With responsible bauxite mining practices, an alumina refining system with one of the lowest carbon footprints in the industry, a suite of emerging green technologies in aluminum smelting, and our portfolio of lower-carbon Sustana™ products, Alcoa is steadily working to reinvent the aluminum industry for a sustainable future.

We are committed to managing our impact on our stakeholders and the environment, and disclosing those impacts transparently and in accordance with international standards for disclosure. With 13,000 employees operating in communities spread across six continents, transparency and accountability are essential to managing our impacts.

This year's Sustainability Report highlights the progress we made in 2022 toward our vision for a sustainable future, as well as our progress toward achieving our long-term sustainability goals. Organized around environmental, social and governance (ESG) themes, it also provides a comprehensive overview of our approach to managing important sustainability topics, including those that were identified as most material to our organization and our stakeholders.

MATERIALITY MATRIX



Materiality Topics

- 1** Safety and Health
- 2** Ethics and Good Governance
- 3** Impoundments Management
- 4** Climate Change
- 5** Human Rights
- 6** Local Commitment with Communities
- 7** Indigenous and Land-Connected People
- 8** Workforce Inclusion, Diversity and Equity
- 9** Biodiversity and Mine Rehabilitation
- 10** Supply Chain Management
- 11** Water Stewardship
- 12** Energy Use and Efficiency
- 13** ESG Transparency and Disclosure
- 14** Talent Attraction, Retention and Development

NEW THIS YEAR



Established

Sustainability Governance Board to provide a dedicated forum to focus on the work of our CoEs while guiding and endorsing our approach on social sustainability, biodiversity and other material issues



99%

of audited suppliers met requirements from EcoVadis Ratings on sustainability



17

sites now certified to the ASI Performance Standard



Technology & Innovation

[Read more: Q&A with Alcoa's Chief Strategy & Innovation Officer](#)



Governance

For Alcoa, good governance is synonymous with good business, which is why we continue to take steps to improve our management and oversight processes. Our Board of Directors provides oversight of our operations, including sustainability, risk management, human rights, safety, ethics, and regulatory compliance.

Good governance also extends to our supply chain, which is managed through our Responsible Sourcing Program. Alcoa's suppliers are monitored and audited for several indicators including labor and human rights risks, environmental impacts, and internal policies. We also look for opportunities to improve our sourcing strategies to include purchasing from diverse suppliers.

In line with our commitment to ethical operations, Alcoa works to ensure transparency, disclosing our ESG performance based on international standards for reporting, including industry specific standards like the International Council on Mining and Metals (ICMM) and the ASI. We also have our reporting verified through third party assurance providers.

NEW THIS YEAR



17%

decrease in FSI-P rate*

*0.88 fatal or serious injury potential incidents per 100 workers



Joined

the Voluntary Principles Initiative on Security and Human Rights



Established

a human rights practice area team in our legal department



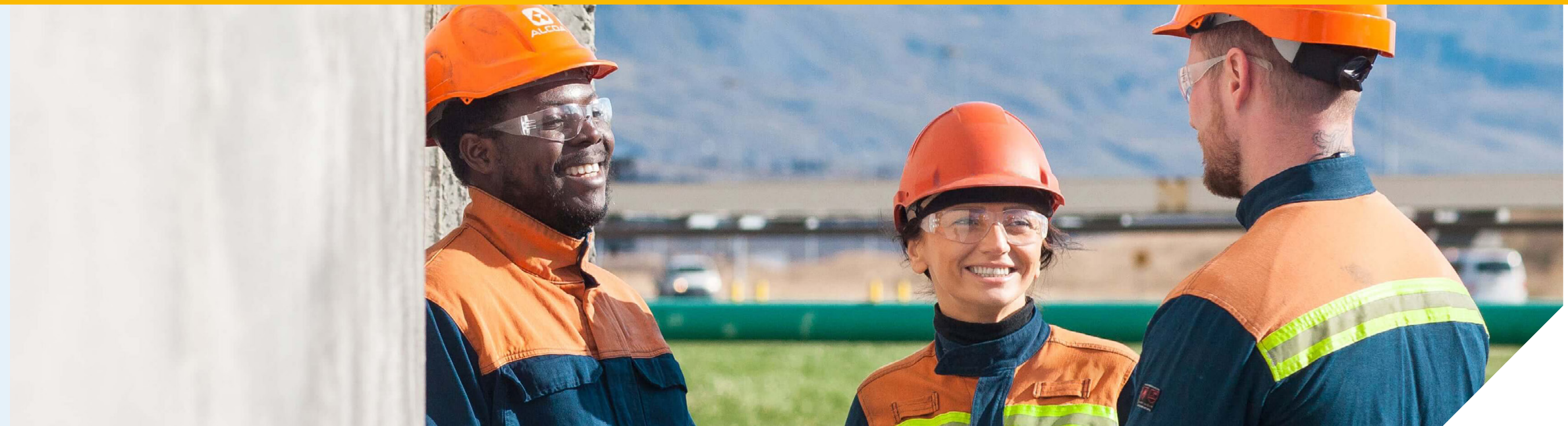
Launched

our social management system, SP360, to manage our efforts to create shared value



51.26%

of new hires in 2022 were from underrepresented groups



Social

Our people are key stakeholders for Alcoa. We have a rigorous safety and health program to ensure the physical and mental wellbeing of all Alcoa workers, and we take an active approach to encouraging an inclusive and equitable work culture that is free from discrimination.

Operating in a diverse range of communities and regions worldwide, we endeavor to respect the interests, cultures, customs and values of all our stakeholders. As part of our Values, we work to uphold human rights in all jurisdictions and areas of our value chain through our Human Rights program.

We also take special consideration for meaningful engagement with Indigenous and Land Connected People, and we work with communities to create shared value together through partnerships and community projects. Our commitment to creating shared value is centered around driving better outcomes for our communities and broader stakeholder groups. We make these outcomes possible by creating jobs, supporting local suppliers, and investing in our local communities.

NEW THIS YEAR



4.6%

4.6% decrease in GHG emissions from last year (Scope 1 & 2)



Expanded inventory

for Scope 3 to include all 15 categories



15.6%

reduction in bauxite residue land storage requirements per ton of alumina from 2015 baseline



Launched

circular economy program to improve the circularity of our operations



Environment

In an effort to achieve our vision to reinvent the aluminum industry for a sustainable future, Alcoa is continuously looking for opportunities to minimize our environmental impact and position our industry to support a greener economy.

Year over year, we are reducing our GHG emissions through technology innovation, efficiency and process improvements, and through sourcing renewable energy to power our operations. In addition to climate change mitigation efforts, we are also working to minimize our impact on ecosystems. We are committed to responsibly managing impoundment facilities, monitoring and reducing air pollution and emissions, and effectively rehabilitating land after mine closures.

We minimize waste wherever possible to reduce our impacts on both ecosystems and climate. This includes strict water resource management, and investing in shifting from a linear to a circular production model.