



# CLIMATE CHANGE POLICY

The world is focused on finding solutions to address global warming and climate change. A major step forward was achieved on December 15<sup>th</sup>, 2015 at the 2015 Paris Climate Conference, where world leaders reached an agreement to keep the global average temperature increase below 2°C and pursue efforts to limit the increase to 1.5°C.

Alcoa acknowledges the scientific evidence of global warming reported over time by the United Nations Intergovernmental Panel on Climate Change (UNIPCC) and supports the need for an urgent global response to the threat of climate change.

Alcoa is committed to support the outcomes of the Paris Agreement and its long-term goals aligning its greenhouse gas emission reduction goal with the below 2°C decarbonization path<sup>1</sup>. Alcoa's contributions toward these goals include (1) actions to reduce its carbon intensity in manufacturing its products, (2) by making customers and the public aware of how Alcoa's light metal and other products can positively contribute to a low-carbon society (Sustana™ product line), and (3) by leading research and development programs to reduce intrinsic greenhouse gas emissions of Aluminium manufacturing process (ELYSIS™ technology).

As a strong and lightweight material that can be infinitely recycled, aluminum can help society significantly reduce greenhouse gas emissions and energy consumption.

As an emissions-intensive and trade-exposed (EITE) industry, the aluminum industry should work to prevent inconsistent application of carbon pricing across jurisdictions which potentially creates significant competitive distortions as some facilities face carbon pricing while others remain unconstrained.

This document addresses Alcoa's commitments in a carbon constrained world, its objectives and initiatives to support the transition to a low carbon society, its long-term commitments and the governance process to be successful.

## 1. GOVERNANCE

The highest level of direct responsibility for Climate Change Strategy is with the Safety, Sustainability and Public Issues Committee of the Alcoa Board of Directors. Decisions made at Executive Team level, and endorsed by the Board of Directors, are cascaded to all operations.

## 2. OBJECTIVES AND PERFORMANCE REPORTING

Alcoa Corporation's predecessor company first defined long-term objectives for greenhouse gas emissions reduction in the late 1990s. Since 2005<sup>2</sup>, Alcoa has achieved a reduction of 47% of its climate related emissions (absolute emissions basis). In order to support the Paris Agreement and align our efforts with the <2°C decarbonization path, we have refreshed our greenhouse gas reduction commitment: **Reduce GHG**

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<sup>1</sup> Level of decarbonization required to keep global temperature increase below 2°C compared to preindustrial temperatures, as described in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

<sup>2</sup> References to "Alcoa" before November 1, 2016 mean the upstream business of Alcoa Inc. (predecessor company) that became part of Alcoa Corporation.



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**emission intensity (scope 1 and scope 2)<sup>3</sup> by 30 percent by 2025 and 50 percent by 2030 from a 2015 baseline.**

We will continue to report Scope 3<sup>4</sup> GHG emissions in accordance with World Resources Institute (WRI) protocols. Additionally, we will continue to engage with customers to support their efforts to reduce the carbon footprint of their value chain and to work with our suppliers to foster improvements in the full supply chain.

Alcoa is committed to transparency and has disclosed its performance on climate related emissions for more than fifteen years. Calculations of our emissions conform to the International Aluminium Institute's Aluminium Sector Greenhouse Gas Protocol using 100-year global warming potentials provided by the Intergovernmental Panel on Climate Change (IPCC), 5<sup>th</sup> assessment report. We engage an approved third-party to provide limited assurance on our carbon emissions scopes 1, 2 and 3 and energy consumption data. We publish this data annually in our Sustainability Report, which is publicly available on our website [www.alcoa.com](http://www.alcoa.com).

### 3. INTEGRATION OF CLIMATE CHANGE INTO THE DECISION-MAKING PROCESS

**Risk Management:** Climate change risks and opportunities are assessed at least annually as part of Alcoa's overall risk management process. Alcoa's risk management program is assessed at the company level. Single point accountability resides with the role of the Chief Financial Officer, but this is a joint effort among the entire management team of Alcoa. The results of the assessment are presented to the Executive Team and the Board of Directors and used in the annual strategic planning process. In 2019, Alcoa performed a first analysis following the recommendations of the Task Force on Climate Related Financial Disclosures (TCFD). This work will continue to be advanced and will be incorporated into the general risk management process.

**Capital expenditures:** The internal process to analyze and approve capital expenditure requests includes consideration of the financial and social impacts of carbon emissions.

**Corporate development:** Alcoa has defined a set of sustainability indicators for mines, refineries and smelters with applicable thresholds to be considered in any corporate development decision. Those indicators will define whether a project is attractive to Alcoa's portfolio and contributes to achieving its long-term objectives for climate change as well as other sustainability-related goals. Greenhouse gas emissions are assessed through two metrics: carbon intensity per ton of alumina or per ton of aluminum and energy source.

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<sup>3</sup> Scope 1: indicates direct greenhouse gas (GHG) emissions that are from sources owned or controlled by the reporting entity; Scope 2: indicates indirect GHG emissions associated with the production of electricity, heat, or steam purchased by the reporting entity.

<sup>4</sup> Scope 3: indicates all other indirect emissions within the value chain, i.e., emissions associated with the extraction and production of purchased materials, fuels, and services, including transport in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc.



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## 4. ENHANCING CLIMATE RESILIENCE OF OPERATIONS AND COMMUNITIES THROUGH PARTNERSHIPS

The potential physical impacts of climate change or extreme weather conditions on the Company's operations are highly uncertain and will be particular to the local geographic circumstances. These may include changes in rainfall patterns, shortages of water or other natural resources, changing sea levels, changing storm patterns, increased frequency and intensities of storms or wildfires, and changing temperature levels. The effects may adversely impact the cost, production volumes and financial performance of our operations.

Alcoa developed its first climate risk analysis in 2014 showing the risk of water scarcity being the most relevant for certain parts of Alcoa's portfolio, followed by the risk of increased frequency and intensity of storms. This analysis was updated in 2019, resulting in similar conclusions. Building on these data points, Alcoa developed a more in-depth analysis of locations that might be exposed to water scarcity, leading to the publication of a new commitment to increase the resilience of water scarce locations: **Reduce the intensity of our total water use from Alcoa defined water-scarce locations by 5 percent by 2025 and 10 percent by 2030 from a 2015 baseline.**

We partner with not-for-profit organizations in the communities where we operate through the Alcoa Foundation (the Foundation linked to Alcoa Corp.) to engage local communities in developing activities designed to preserve biodiversity and increase resilience to climate change. More information and specific results achieved can be found at [www.alcoafoundation.com](http://www.alcoafoundation.com).

## 5. CLIMATE RELATED OPPORTUNITIES

**Products for a low carbon society:** Aluminum products contribute to the decarbonization of the society through the light weighting of vehicles, improved energy efficiency of buildings, preservation of food and beverages and many other ways. Alcoa has committed to expand its SUSTANA<sup>TM5</sup> line of low carbon products, and develop and/or enhance other low carbon products, to support our customers in reducing their carbon footprint.

**Process efficiency:** Alcoa has Centers of Excellence to drive each of its business segments to superior operational performance. Over time, internal benchmarking and deployment of best practices has reduced energy consumption and carbon emissions. As a result, our refining system has the industry's lowest carbon footprint.

**Innovation:** Alcoa has been an innovative leader of the aluminum industry since it discovered how to produce aluminum on an industrial scale in 1888. In 2018, Alcoa announced a joint venture with Rio Tinto, [ELYDIS<sup>TM</sup>](#), to commercialize a revolutionary smelting technology, invented by Alcoa, that eliminates direct greenhouse gases by emitting oxygen instead of carbon dioxide. It is the most significant innovation in the

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<sup>5</sup> SUSTANA<sup>TM</sup> line of environmentally friendly aluminium products includes ECOLUM<sup>TM</sup> cast products, which are produced at Alcoa smelters that generate no more than 2.5 metric tons of carbon dioxide equivalents per metric ton of aluminium produced and ECODURA<sup>TM</sup> billet, which has a minimum 50 percent pre-consumer, post-industrial recycled content, not including internal scrap or primary remelt.



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aluminum industry in more than a century. The joint venture intends to offer in 2024 commercial licenses for retrofitting existing facilities or the construction of new smelters.

## 6. PUBLIC ADVOCACY

Alcoa believes that action is necessary to protect our environment and has adopted challenging long-term strategic goals to guide our actions; our goals are independent of government positions in the countries where we operate. We are committed to supporting climate change efforts and are continually working to significantly reduce our carbon footprint and contribute with our products to a low carbon society.

### **Alcoa's Position on Legislative Proposals:**

**A Global Issue:** Climate change is a global problem that requires a global solution. Simultaneous action by all countries, although desirable, is not necessary, but legislation must be crafted to ensure competitive equity until there is a comparable cost of carbon worldwide.

**Market Mechanisms:** Alcoa agrees that a well-designed market mechanism, like a cap and trade system, is the best way to address climate change issues as it pre-defines the emission reduction outcome within the trading period. The solution must be environmentally and economically sound, equitable and ethical, and must be flexible to accommodate energy intensive and trade exposed industries until a global solution is enacted. It is of critical importance that any market mechanism represents a global value to create a fair and level playing field.

**The need for predictability in carbon pricing:** The pricing of carbon should be transparent and predictable to provide efficient signals for investment decisions.