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# Background

Alcoa ("the Company")<sup>1</sup> has set up this Green Finance Framework ("the Framework") to govern the issue of "Green Finance Instruments" (as defined below). The Framework outlines the criteria for what constitutes a "green project" ensuring clarity and transparency for current and potential investors. The Framework also provides a structured approach for Alcoa to assess, select and report on its Green Finance initiatives, assisting the Company to deliver on its sustainability strategy by aligning it with its financing strategy.

# Introduction

# **Company Information**

Alcoa is a vertically integrated aluminum company comprised of bauxite mining, alumina refining, aluminum smelting and casting, and energy generation. Through direct and indirect ownership, we have 27 operating locations in nine countries, situated primarily in Australia, Brazil, Canada, Iceland, Norway, Spain, and the United States. The Company has approximately 13,000 employees and is organized in two reportable business segments: Alumina and Aluminum. The Alumina segment includes our global bauxite mines and alumina refining assets. Alcoa is one of the world's largest bauxite miners, with active mines that the Company operates in Brazil and Australia. We also operate a third-party alumina business with six refineries on three continents. The Aluminum segment includes aluminum smelting, casting and the majority of the Company's energy assets.

Unless the context indicates otherwise, references in this Alcoa Green Finance Framework (the "Framework") to "Alcoa," "Company," "we," "us" or "our" refer to Alcoa Corporation and its consolidated entities.

As a global industry leader in bauxite, alumina, and aluminum products, Alcoa is built on a foundation of strong values and operating excellence, dating back 135 years to the world-changing discovery that made aluminum an affordable and vital part of modern life. The aluminum industry has an essential role to play in meeting global decarbonization goals. Aluminum is lightweight, strong, and has the potential to be infinitely recyclable.<sup>2</sup> It can replace plastic and heavier metals in applications ranging from product packaging to electric vehicles,

all while advancing sustainably.<sup>3</sup> Since the Company's beginnings, talented Alcoans<sup>4</sup> have developed innovations and best practices that have led to improved safety, sustainability, and stronger communities wherever Alcoa operates. Today, Alcoa continues that innovation legacy by turning ideas into outcomes, impossibility into impact and "what if" into "what is." All of this is aligned around a clear purpose – to turn raw potential into real progress, and a vision – to reinvent the aluminum industry for a more sustainable future.



<sup>&</sup>lt;sup>2</sup> https://www.aluminum.org/Recycling

<sup>&</sup>lt;sup>3</sup> At Alcoa, sustainability means operating our global business in a way that seeks to minimize environmental impacts, prioritize safe work practices, and positively influence our employees, customers, and the communities in which we operate.

<sup>&</sup>lt;sup>4</sup> Alcoa's global workforce

# **Approach to Sustainability**

# **Sustainability Approach**

Alcoa has three strategic priorities: reduce complexity, drive returns and advance sustainably. The Company strives to operate with a lean overhead and manage its portfolio of assets with the goal of profitability through all market cycles. Alcoa aims to drive margin-focused growth while innovating and creating lower-carbon solutions.

We have three strategic components in our approach:

- 1. Our Communities: Maintain our social license to operate by creating sustainable value for our stakeholders and, in particular, our host communities;
- 2. Our Operations: Reduce risk and future liabilities by minimizing social and environmental impacts; and
- 3. Our Products: Improve our profitability by enhancing the value of our products through differentiation.

Based on these strategic components, we have developed three Centers of Excellence focusing on the following:

### **Creating Sustainable Value**

Across our global operations, we strive to partner with our local communities in their efforts to develop and succeed. Being a good neighbor enhances our reputation and supports our social license to operate. Our operations help stimulate economic growth, and we work hard to embed practices in our communities that are sustainable, even if industrial activities end.

#### **Enhancing Product Value**

We offer a range of lower carbon and circular products via our Sustana™ brand. This brand family includes products with lower carbon footprints, that can support our customers in achieving their own sustainability goals.

#### **Reducing Our Footprint**

We recognize that primary aluminum production is energy-intensive. To that end, we are working to develop and adapt technological advancements that can help reduce our environmental footprint.

## Materiality Analysis<sup>5</sup>

We base the content of our sustainability reporting on the outcomes of a materiality analysis of relevant sustainability indicators, stakeholder feedback and key disclosure standards.

In 2022, we refreshed our sustainability materiality assessment to identify shifting industry priorities, verify focus areas, uncover new opportunities, and prioritize sustainability-related topics that are most important to Alcoa and our stakeholders.

Among the material environmental topics identified are climate change, water stewardship, and energy use and efficiency.

In 2023 we further reviewed our strategic materiality assessment approach considering the impacts Alcoa has on people and the environment as well as the impact that sustainability topics can have on the business.

The process involved 4 key steps:

- 1. Business context review and development of a list of topics, including a review of more than 150 internal and external documents, including sustainability regulations, Alcoa's performance assessments and audits, management reports, risk assessments, biodiversity, water and climate change impact assessments, investor sentiment, employee engagement surveys, local community engagement records and grievance mechanism records
- 2. Stakeholder engagement and collection of qualitative and quantitative data on both impact to the business and impact to the environment and society. We reached more than 350 stakeholders, including more than 250 employees, and nearly 100 external stakeholders.
- 3. Analysis and collation of findings
- 4. Internal subject matter experts and senior management validation

The outcomes of this review will be made available as part of the annual Sustainability Report that will be published on Alcoa's web site in June of 2024.

The approach, methodology and outcomes of the 2022 Materiality Assessment (the latest one published) can be found in our Sustainability Report available on our external website. Future reviews of the updated materiality assessment process will also be made available on our external website.

# **Alcoa's Climate Action Strategy**

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 supporting the outcomes of the Paris Agreement and aligning its greenhouse gas emission reduction goal with the well below 2°C decarbonization path. Alcoa's contributions toward these goals include (1) actions to reduce its carbon intensity in manufacturing its products, (2) making customers and the public aware of how Alcoa's light metal and other products can positively contribute to a lower-carbon society (in particular, via the Sustana™ product line), and (3) leading research and development programs to reduce intrinsic greenhouse gas emissions within the aluminum manufacturing process (ELYSIS™ technology).

#### Alcoa's Transition to Net Zero

As part of our strategic priority to advance sustainably, we are continually working to reduce our carbon footprint. Alcoa has set an ambition to achieve net zero GHG emissions across our global operations by 2050 for direct (Scope 1) and indirect (Scope 2) emissions, with interim targets to achieve a 30 percent reduction by 2025 and a 50 percent reduction by 2030, using our 2015 baseline (intensity basis).

We believe indirect emissions are an important part of the climate change equation, so we are considering potential approaches with respect to Scope 3 GHG emissions and how to incorporate them into our net zero ambition. This includes working collaboratively with our customers and business partners – see 'Alcoa's Strategic Long-Term Goals' section for more details.

While we continue to work on our approach to account for our Scope 3 emissions, Alcoa has a comprehensive product portfolio that includes the Sustana™ family, which encompasses lower carbon EcoSource™ alumina and EcoLum™ primary aluminum, as well as EcoDura™ aluminum with at least 50 percent recycled aluminum content. These products provide customers an opportunity to lower their environmental impact by using Alcoa's products. For more details, see 'Our Sustana Products' section.

#### Strategy

Our global strategy to reduce GHG emissions that contribute to climate change uses the hierarchy of mitigation: eliminate, reduce, substitute and offset. The strategy is aligned with achieving a below 2°C global warming scenario by 2050. Our periodic assessment of physical and transition climate change risks allows us to refine our approach, respond to threats and capitalize on emerging opportunities while pursuing our strategy.6

#### **Decarbonization Technology**

As one of the world's largest aluminum producers, we have a unique opportunity to drive real environmental progress and create lasting change. We work to continually innovate and create lowercarbon solutions through future-oriented research and development projects. These projects emphasize our work to achieve carbon emissions reductions in both alumina refining and aluminum smelting. They also aim to improve efficiency and lower costs. In addition to smelting and refining, we have also started exploring decarbonization options in mining operations.



**LEAST PREFERRED** 



#### **Eliminate**

Decarbonization technology



#### Reduce

- Renewable energy and fuels
- Fix, curtail or close remaining assets under review



#### Substitute

- Recycling
- Low-carbon products



#### Offset

High-integrity carbon offsets

Physical risks include acute and chronic changes in weather patterns that impact our operations, biodiversity management, host communities, suppliers and customers. Severe risks are generally event-driven and include heat waves, floods, storms and fires. Ongoing risks generally refer to longer-term changes to traditional weather patterns, such as above-average temperatures that can lead to droughts and rising sea levels.

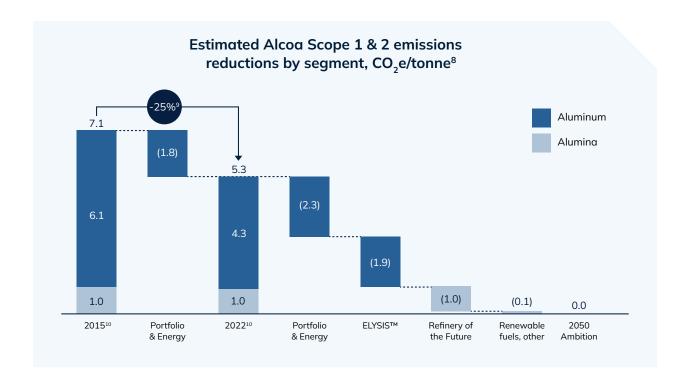
The transition to a lower-carbon global economy continues to drive policy, legal, technology and market changes that vary in nature, speed and focus. We consider the transition risks associated with these changing external factors in our internal strategy discussions and long-term planning.

### Expected Pathways to Support Net Zero Ambition

Our path to achieving our ambitions includes increasing the use of renewable energy in our operations, product portfolio decarbonization, and developing new technologies that have the potential to unlock decarbonization on a larger scale. Carbon dioxide represents most of our GHG emissions.

#### **Portfolio & Energy**

Our carbon-reduction efforts include continued work on increasing the percentage of renewable energy powering our aluminum production. At the end of 2022, 87 percent of our global smelting portfolio was powered by renewable energy such as hydropower, wind or sunlight<sup>7</sup>.



<sup>&</sup>lt;sup>7</sup> Following GHG Protocol's location-based approach for Scope 2 emissions.

Reductions in CO<sub>2</sub>e/tonne depend on various factors, including access to cost effective renewable energy, successful deployment of R&D projects under development with acceptable returns, and ability to complete portfolio review. See also the risk factors discussed in Part I Item 1A of Alcoa Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2023.

<sup>&</sup>lt;sup>9</sup> 25 percent CO<sub>2</sub>e reduction against 2015 baseline.

<sup>&</sup>lt;sup>10</sup> Source: 2022 Alcoa Sustainability Report

#### **Technology and Customer Roadmap**

Technology roadmap addresses upstream aluminum value chain.

Alcoa's Refinery of the Future project targets elinimation of direct refinery emissions, lower water use, and reduced waste generation

**ELYSIS™** inert-anode technology eliminates Scope 1 emissions associated with aluminum smelting

ASTRAEA™ technology focuses on creating high purity aluminum from post-consumer scrap

Sustana Products Continue growing volumes and margins of Sustana products

TRANSPORT

REFINING

TRANSPORT

**SMELTING** 

**POST** CONSUMER RECYCLING

**TRANSPORT** 

#### Refinery of the Future™

Our Refinery of the Future™ initiative aims to reduce the emissions that are generated from the thermal energy used in the refining process, which are the thirdlargest contributor to the carbon footprint of aluminum after power- and smeltingrelated emissions. One example is electric calcination where renewable energy will drive the calciner, eliminating calcination carbon emissions. While the application of electric calcination in alumina refining is still in the research and development phase, the building block technologies to support the process are proven.

#### **FLYSISTM**

ELYSIS™ is a technology partnership, created in 2018, that can eliminate direct GHG emissions and seven other by-products from the traditional smelting process and, instead, produce pure oxygen as a byproduct.11

Alcoa first developed at its Alcoa Technical Center, located near Pittsburgh, the carbonfree smelting technology that ELYSIS is now working to ramp up to a commercial scale. Some batches of aluminum produced by the ELYSIS process have been sold by both Alcoa and Rio Tinto to some end users as ELYSIS continues to work to bring the technology up to a larger scale. ELYSIS plans to license for sale its technology for either retrofits of existing smelters or the construction of new ones.

The ELYSIS process involves replacing the carbon anodes used in traditional aluminum smelting with inert, proprietary materials.

#### **ASTRAEATM**

Our ASTRAEA™ scrap purification technology, which is an R&D project 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.

<sup>11</sup> https://www.elysis.com/en/faq

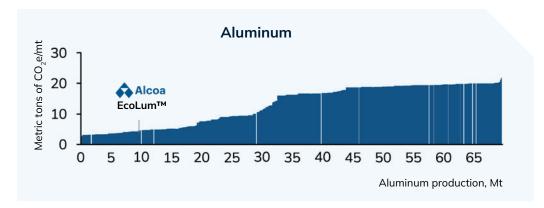
#### Our Sustana™ Products<sup>12</sup>

Alcoa is innovating for a more sustainable future. Today, as part our vision, we're helping our customers lower the carbon footprint and increase the circularity of their supply chains through our Sustana family of products.

The Sustana line includes the following:



**EcoLum™** aluminum with no more than 4 tons of carbon dioxide equivalents per ton of aluminum produced, inclusive of Scope 1 and 2 emissions across the full value chain, including bauxite mining, alumina refining, and aluminum smelting.

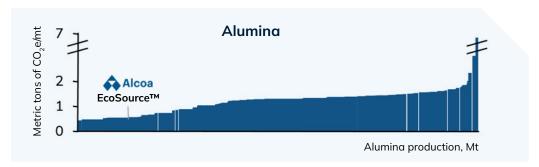




EcoDura aluminum, which has a minimum 50 percent pre-consumer recycled content<sup>13</sup>;



EcoSource™ alumina, which is lower-carbon alumina offered in both smelter-grade ("SGA") and non-metallurgical ("NMA") grades. EcoSource is available globally and delivered from a refinery portfolio with an average emissions intensity that is no more than 0.6 metric tons of carbon dioxide equivalents per ton of alumina produced, including both direct and indirect (Scope 1 and Scope 2) emissions from bauxite mining and alumina refining, leveraging Alcoa's mine-to-refinery advantage.



 $<sup>^{12}</sup>$  For our EcoLum<sup>TM</sup> and EcoSource<sup>TM</sup> products, life cycle assessments are available to our customers.

<sup>13</sup> Pre-consumer scrap. Recycled content defined using credit allocation system at a product line and production facility level.

# **Alcoa's Strategic Long-Term Goals**

Our long-term sustainability goals address material sustainability topics for our Company and stakeholders. These goals apply to governance, environmental and social aspects of our operations. Our sustainability goals are periodically reviewed and updated, and we routinely assess key environmental and social topics through our materiality analysis. They guide decision making, so we can make good use of natural resources, identify new opportunities, and continually minimize environmental and social impacts.

In 2021, we announced our ambition relating to climate change: achieve net zero greenhouse gas emissions (Scope 1 and Scope 2) across our global operations by 2050.

Using globally accepted and recognized emission factors, we calculate and report all applicable Scope 3 categories per the GHG Protocol. Alcoa has been calculating, disclosing and receiving third party verification of our Scope 3 emissions under this Protocol since 2016 with results shared in our Sustainability Report.

Our continuing commitment to advance sustainability and better understand our potential Scope 3 emission reduction opportunities led us to complete a fourphase Scope 3 analysis project. This project included a review of Alcoa's

Scope 3 inventory; research on Alcoa's partnerships, suppliers, and customers; and a deep dive into our purchased goods and services and processing of sold products. Last, this analysis and research was consolidated to support potential Scope 3 emission reduction opportunities. Given the complexities of the aluminum sector's supply chain, and limited ability to control reductions from suppliers and customers, we continue to evaluate Scope 3 emissions and the feasibility of achieving Scope 3 reductions.

At Alcoa, we understand there are evolving expectations around how companies and industries should independently verify the alignment of their decarbonization strategies and targets with the latest science.

The Science-based Target initiative ("SBTi") is currently in the scoping phase of the development of a sector-specific decarbonization guideline for the Aluminum industry. It is working closely with the International Aluminum Institute ("IAI") to identify a suitable approach. Alcoa has extensively engaged with SBTi in defining decarbonization related disclosures and targets and will seek to join a SBTi's expert advisory group to provide input for development of standardized pathways that identify effective ways to reduce emissions relevant for our industry.

#	Strategic Long-Term Goals <sup>14</sup>	Aligns with the Following UN SDGs	2022 Progress
1	Align our GHG (Scope 1 and 2) emissions reduction targets with the "well below 2°C" pathway by reducing GHG emission intensity by 30 percent by 2025 and 50 percent by 2030 from a 2015 baseline. Ambition to achieve net zero GHG emissions by 2050.	7, 12, and 13	Climate Change 25.1 percent reduction from 2015
2	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.	6, 9, 12, and 14	Water 5.3 percent decrease from 2015
3	From a 2015 baseline of 131.7mt, reduce landfilled waste by 15 percent by 2025 and 25 percent by 2030.	12, and 15	Waste 37.6 percent reduction from 2015
4	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.	12, and 15	Impoundment Management 15.6 percent reduction from 2015.
5	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.	12, and 15	Mine Rehabilitation 0.82 ratio for the 2018 to 2022 period
6	Zero fatalities and serious injuries (life-threatening or life-altering injuries and illnesses).	3, and 8	Safety and Health Zero fatalities and one serious injury in 2022.
7	Achieve a more inclusive culture that reflects the diversity of the communities where we operate.	5, and 10	People Increased the % of women in our global employee population from 17.17 to 18.48 %. The % of new hires from underrepresented populations was 51.26 %
8	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.	3, 4, 5, 8, 10, 16, and 17	Shared Value Creation Completed the implementation of SP360
9	By 2030, through our operations and in collaboration with Alcoa Foundation and Instituto Alcoa, increase access to skills development in our host communities to better equip individuals to participate in economic activities.	4, 5, 8, and 10	Shared Value Creation Introduced new goal with commitment to disclose progress in accordance with ICMM's Socio Economic Reporting: Framework & Guidance indicators from 2024 (2023 base year)

<sup>14</sup> In the case of significant divestitures, mergers or acquisitions, Alcoa may restate quantitative targets per industry guidance as appropriate.

# **ESG Disclosure and Governance**

#### Governance

Alcoa's commitment to ethics and compliance starts at the top. Our Board of Directors takes an active role in Alcoa's governance, including our efforts in sustainability, while our management drives the actions of organization. The Alcoa Board of Directors has adopted Corporate Governance Guidelines<sup>15</sup> and board committee charters<sup>16</sup> to promote the effective functioning of the board, its committees, and our overall corporate governance practices. Among our board committees is the Safety, Sustainability and Public Issues Committee, whose responsibilities include providing guidance on and oversight over Alcoa's corporate and social responsibility, including environmental sustainability. More information about our Board of Directors can be found on our website.

To operationalize our goals specifically related to Climate Action, we created a Climate Strategy team that consists of a cross-functional group of senior-level employees that support the governance and overarching strategy for a decarbonization roadmap, renewable energy strategy and commercial opportunities. At the corporate level, we have third-party verification of our inventory of carbon emissions to monitor progress against targets and report transparently to our different stakeholders.

We have developed carbon footprint calculations for most of our products to support the commercial opportunities for differentiation of aluminum in the market that is made with lower-carbon emissions and strive to help our customers reduce the carbon footprint of their own products.

In 2022, we established a Climate Change Centers of Excellence ("CoE") that brings together a range of experts to provide strategic climate leadership and advice, informing decision-making and ensuring cross-functional alignment with our Climate Change Policy.

# **ESG Transparency** and Disclosure

Alcoa is committed to being transparent with our stakeholders about our social and environmental impact. We are working to align our disclosures with internationally recognized standards and best practices, including by obtaining 3rd party limited assurance for much of the information in our sustainability disclosures. For instance, our environmental metrics have received third party limited assurance as stated in our 2022 sustainability report.

<sup>&</sup>lt;sup>15</sup> Corporate Governance Guidelines, accessible <u>here</u>.

<sup>&</sup>lt;sup>16</sup> Board committee charters, accessible <u>here</u>.

#### Our Approach to Transparency

Transparency is paramount to maintaining the trust of our stakeholders, whether customers, shareholders, employees, regulators, or the communities in which we operate. Disclosing our ESG performance shows both progress and opportunities for improvement. Underpinning this approach is the expectation that we demonstrate good stewardship by managing our potential impacts and building a positive contribution to society.

Alcoa is proud to be actively engaged in many ESG disclosure initiatives, and we align our reporting to their guidelines and recommendations including through:

- Our Sustainability Report: Alcoa annually reports progress on its sustainability strategy implementation, in alignment with internationally accepted best market practices and with limited assurance of certain information from ERM CVS. The Report also includes an index showing alignment with Global Reporting Initiative ("GRI") Standards, Sustainability Accounting Standards Board ("SASB") Standards, United Nations Sustainable Development Goals ("UN SDGs") and the International Council on Mining & Metals ("ICMM") 10 Principles;
- CDP: Alcoa has responded to CDP since 2010 and received a B score on the 2022 CDP Climate Change response.

#### Sustainable Aluminum Finance

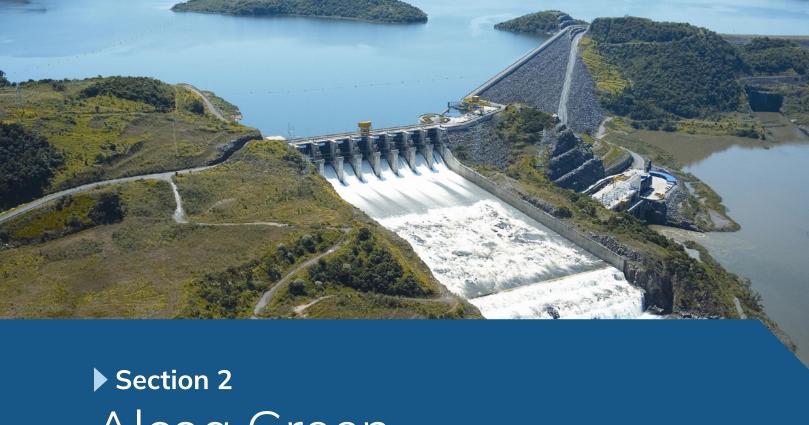
Alcoa is one of the five corporate stakeholders that contributed to the development of the Sustainable Aluminum Finance Framework spearheaded by the Rocky Mountain Institute's ("RMI") Center for Climate-Aligned Finance. The framework enables banks to measure the climate alignment of their aluminum lending portfolios and their associated emissions intensity, using 1.5°C-scenario benchmarks. Ultimately, it will enhance aluminum lenders' ability to support their clients' decarbonization efforts, demonstrate progress on climate goals and, crucially, do so with a standardized approach.

# **Memberships and Collaborative** Stakeholder Activities

Alcoa is a member of International Council on Mining and Metals ("ICMM") and the Aluminum Stewardship Initiative ("ASI"). We are also a founding member of the industryled Heavy Industry Low-Carbon Transition Cooperative Research Centre ("HILT CRC").

Besides our memberships, we actively contribute to initiatives that advance our industry's interests. For instance, we assisted in the development of the "Making Net-Zero Aluminium Possible" report prepared by the IAI and Mission Possible Partnership ("MPP"). The report provided a sectorial-level 1.5°C-aligned transition strategy.

Another initiative we participated in is the Rocky Rocky Mountain Institute's ("RMI") Horizon Zero workstream, an ongoing effort focused on harmonizing product-level GHG accounting and developing technical architecture to track emissions digitally.



# Alcoa Green Finance Framework

# **Our Framework**

## Rationale for Issuance

After successfully amending our \$1.25 billion Revolver Credit Facility ("RCF") to include sustainability-linked metrics in June 2022, our intention is to further align corporate sustainability commitments to our financing to meet our long-term goals. To that end, we have designed this Framework, under which we may issue, from time to time, a variety of instruments ("Green Finance Instruments"), which may include bonds (including private placements), commercial paper, loans, working capital solutions, promissory notes and other Green Finance Instruments in various formats and currencies, to finance and/or refinance, in whole or in part, new or existing qualifying projects that meet the eligibility criteria described below and that are expected to have positive environmental impact.

#### **Basis of Framework**

This Framework is aligned with the International Capital Market Association's ("ICMA") 2021 Green Bond Principles<sup>17</sup> ("GBP"), and the Loan Market Association ("LMA"), Asia Pacific Loan Market Association ("APLMA") & the Loan Syndications and Trading Association's ("LSTA") 2023 Green Loan Principles<sup>18</sup> ("GLP"). These principles (collectively, the "Principles") are a set of voluntary guidelines that intend to promote the integrity of the sustainable financing market by offering guidelines that recommend transparency, disclosure and reporting.

The four components that follow, form the basis of the Framework:

- **1.** Use of Proceeds:
- 2. Process for Project Evaluation and Selection
- 3. Management of Proceeds; and
- 4. Reporting.

This Framework also follows the GBP and GPL's recommendations for external review.

The Framework may be further revised or updated to remain consistent with changes in corporate strategy, market or regulatory developments on a best effort basis. This Framework will apply to any Green Finance Instruments issued by Alcoa for as long as those Green Finance Instruments are outstanding.



<sup>&</sup>lt;sup>17</sup> ICMA Green Bond Principles, accessible here. ICMA 2021 Green Bond Principles, with June 2022 Appendix 1.

<sup>&</sup>lt;sup>18</sup> LMA, APLMA & LSTA Green Loan Principles, accessible here.

# Use of Proceeds

#### Allocation of Net Proceeds

An amount equivalent to the net proceeds from any issuance of Green Finance Instruments will be allocated to finance and/or refinance, in whole or in part, new or existing qualifying projects that meet the Eligibility Criteria from any of the Eligible Green Project Categories, each as defined in the table on the following page (such projects, the "Eligible Green Projects", and together the "Eligible Green Project Portfolio").

# Types of Expenditures

Expenditures can include the following types:

- Capital expenditures ("CAPEX");
- Operational expenditures ("OPEX"), in the form of maintenance, procurement, purchasing and other direct manufacturing costs;
- Late-stage Research and Development expenditures ("R&D"), explicitly tied to Eligible Green Projects;
- Acquisitions<sup>19</sup> of entities and/or assets explicitly tied to Eligible Green Projects; and
- Investments and loans, including direct and indirect (venture capital) investments for Eligible Green Projects (pro rata the share of Alcoa's stake for direct and indirect investments).

#### **Exclusions**

Where relevant. Alcoa intends to exclude the dollar value of any subsidies, grants, and tax credits that may apply to the below identified Eligible Green Projects from the allocation of net proceeds.

The net proceeds from Green Finance Instruments will not be allocated to any expenditures that relate directly to fossil fuel activities.

<sup>19</sup> Acquisition of, investments in, loans to or join ventures related to entities where at least 90% of the revenues can be attributed to one or more of the Eligible Green Project Categories.

#### Use of Proceeds

#### Alcoa Contribution Focus Area to UN SDGs **Eligibility Criteria**

#### **Enhancing** Product Value

Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products

#### **Recycled content products**

Expenditures related to the sourcing of pre and post-consumer scrap and certification costs for recycled content products. Examples include:



#### • EcoDura aluminum

Aluminum produced with at least 50% recycled content<sup>20</sup>.

#### Secondary aluminum recycling process

Expenditures related to the acquisition, research & development, design & redesign and development of secondary aluminum recycling manufacturing processes, technologies, and/or infrastructure. Examples include:

#### • ASTRAEA<sup>TM</sup> recycling process

- Post-consumer scrap recycling process to convert low-quality aluminum scrap into high-purity aluminum (purity level of up to P0101<sup>21</sup>)
- Induction furnaces to recycle scrap aluminum

#### **Improving Our Footprint**

#### Renewable Energy

Expenditures related to the acquisition, development, operation and maintenance of renewable power generation plants, both on- and off-site. from:



#### • Wind and Solar photovoltaic ("PV") sources

Expenditures related to the procurement of power through long-term power purchase agreements ("PPAs") or virtual PPAs for wind, solar PV and hydro projects. Alcoa intends that such contract(s) shall have a tenor of at least 5 years.



#### **Pollution Prevention and Control**

#### Lower-carbon (Sustana<sup>™</sup>) products

All expenditures related to sites dedicated to manufacturing the following lower-carbon products:



#### EcoSource<sup>™</sup> alumina

Alumina from a refinery portfolio with an average emissions intensity no more than 0.6 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e) per tonne of alumina produced—an emissions intensity less than half the industry average—including both direct and indirect (Scope 1 and Scope 2) emissions from bauxite mining and alumina refining.

#### EcoLum<sup>™</sup> aluminum

Lower-carbon primary aluminum with a maximum 4.0 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e) per tonne of metal produced, including both direct and indirect (Scope 1 and Scope 2) emissions across bauxite, alumina, smelting, and casting.

<sup>&</sup>lt;sup>20</sup> Pre-consumer scrap. Recycled content is defined using mass balance / credit allocation system at facility and production line level.

<sup>&</sup>lt;sup>21</sup> Surpassing the purity of P1020 aluminum that is produced at any commercial smelter.

#### Alcoa

#### Focus Area

#### **Eligibility Criteria**

Contribution to UN SDGs

#### **Improving Our Footprint**

#### **Pollution Prevention and Control (Continued)**

#### Lower-carbon primary aluminum

• For other products, all expenditures related to manufacturing sites that meet the following criteria: manufacture primary aluminum in facilities with (i) a current GHG emission intensity<sup>22</sup> not exceeding 4.35 tCO<sub>2</sub>e per tonne of aluminum manufactured, and (ii) expected GHG emissions intensities following the Transition Pathway Initiative's ("TPI") 2 Degrees scenario.



#### Carbon-free aluminum (smelting) process

Expenditures related to the research and development, design & redesign and development of carbon-free aluminum manufacturing processes, technologies and/or infrastructure. Examples include:

- ELYSIS<sup>™</sup> smelting process
  - Carbon-free smelting technology using next-generation electrode design; the R&D technology would replace traditional carbon anodes with inert, proprietary materials.

Expenditures for technologies related to Alcoa's Refinery of the Future program. Examples include:

• Electric calcination would use renewable energy sources to power the process used to heat alumina hydrate crystals to remove water molecules.

Expenditures related to the **reduction of environmental pollutants** (such as carbon dioxide capture, sulfur dioxide, nitrogen oxide, fluoride mercury, Volatile Organic Compounds) using emission-reduction and monitoring technologies.

#### Water and Wastewater Management

Expenditures related to water efficiency, recycling, reuse and conservation projects in Alcoa's operations, operations, particularly at locations with high water consumption, competing users or water supply risks. Examples include:



- Retrofitting once-through water system to closed loop
- Technologies that minimize evaporative losses
  - Residue filtration
- Treatment and reuse

<sup>&</sup>lt;sup>22</sup> With regards to Scope 1 and 2 GHG emissions.

# **Process for Project Evaluation and Selection**

#### **Green Finance Committee**

Alcoa has established a Green Finance Committee, which is composed of representatives from the Company's Legal, Treasury, Accounting, Sustainability, **Environment, and Investor Relations** functions. Additional departments and subject matter experts will be invited as deemed appropriate. The Green Finance Committee will meet at least once a year and is responsible for:

- Reviewing the content of the Framework and considering amendments to reflect changes in corporate strategy, technology, market trends, or regulatory developments (such as but not limited to global sustainable finance and climate disclosure: regulations, e.g., EU Taxonomy) on a best efforts basis;
- Initiating the update of documents such as the Second Party Opinion ("SPO") and related documents from external auditors as necessary;
- Overseeing the allocation of the net proceeds from Green Finance Instruments to Eligible Green Projects, to ensure that the amount of Eligible Green Projects equals or exceeds the amount of Green Finance Instruments, and replacing those projects that no longer comply with the eligibility criteria; and
- Overseeing, approving and publishing the allocation and impact reporting, including external assurance statements.

# **Alcoa's Sustainability Policies**

Alcoa's sustainability policies, guidelines and commitments set standards for environmental and social compliance in the conduct of Alcoa's businesses. Alcoa's policies will be used by the Green Finance Committee to ensure that environmental and social impacts that could be potentially associated with any Eligible Green Projects are properly assessed, mitigated and monitored through Alcoa's due diligence process.

Examples of relevant policies, guidelines and commitments that may be used to assess, mitigate and monitor potential environmental and or social risks associated with any Eligible Green Projects may include:

- Code of Conduct and Ethics
- Environment, Health and Safety Policy
- Climate Change Policy
- Water Stewardship Policy
- Equal Employment Opportunity Policy
- Human Rights Policy
- Social Policy
- Indigenous Peoples Policy
- Alcoa's Supplier Standards
- Anti-Corruption Policy

Alcoa intends for all Eligible Green Projects to comply with official national (federal, state, and local laws) and international environmental and social standards and local laws and regulations in line with Alcoa's environmental and social risk management processes and governance.

# **Management of Proceeds**

# **Tracking of Green Finance Net Proceeds**

Alcoa will establish a Green Bond Register for the purpose of recording all Eligible Green Projects that are intended to receive allocations from the net proceeds from the issuance of Green Finance Instruments. The Green Finance Committee will maintain and update the Green Bond Register, with appropriate tracking through the company's internal system.

Alcoa intends to allocate an amount equivalent to the net proceeds from the issuance of any Green Finance Instruments, finance and/or refinance, in whole or in part, new or existing Eligible Green Projects. In the case of divestment or if a project is not completed or no longer meets the eligibility criteria listed above, we intend to reallocate the funds to other Eligible Green Projects.

# **Financing and Refinancing**

CAPEX, OPEX, R&D, acquisitions, investments and loans, including direct and indirect (venture capital) investments, will qualify with a 24 month look-back period from the time of issuance of any Green Finance Instrument. Alcoa intends to allocate the net proceeds from any Green Finance Instrument under this Framework within 36 months from the settlement date of the relevant transaction.

# **Temporary Holdings**

Pending the full allocation of an amount equivalent to the net proceeds, Alcoa commits to manage the unallocated proceeds within its regular treasury operations, in cash, deposits or money market instruments, for the repayment of existing debt, and/or for any other treasury activity.

#### **Exclusions**

Temporary investments will not be used for the refinancing of existing debt associated with expenditures that relate directly to carbon intensive activities, which include coal-related activities and the procurement of other forms of fossil fuel energy.

# Reporting

If Alcoa issues any Green Finance Instruments, Alcoa intends to report on the allocation of amounts equivalent to the net proceeds from the issuance of such Green Finance Instruments and, on a best-efforts basis and where feasible, on actual or estimated impact metrics. This reporting will start one year after the issuance of any Green Finance Instruments, and will be renewed annually until full allocation of the net proceeds or in case of any material change. This reporting will be made publicly available on Alcoa's website.

The reporting will be reviewed and validated by the Green Finance Committee. The allocation reporting will be verified by a reputable external party appointed by Alcoa.

Alcoa intends to report on an aggregated basis for all Green Finance Instruments outstanding, at the level of the eligible project categories recognized by ICMA and LMA, APLMA & LSTA. Alcoa intends to align its impact reporting with the 2023 ICMA Handbook<sup>23</sup> for 'Harmonized Framework for Impact Reporting'.

# **Allocation Reporting**

The allocation report may provide indicators such as:

- The total amount of Green Finance Instruments outstanding;
- The amount of the net proceeds allocated to Eligible Green Projects;
- The balance of unallocated net proceeds: and
- The amount or the percentage of new financing and refinancing.

<sup>&</sup>lt;sup>23</sup> Handbook for 'Harmonized Framework for Impact Reporting', accessible here.

## **Impact Reporting**

On a best efforts basis and where feasible, Alcoa intends to publish an impact report that will provide information on actual and estimated impact metrics. The calculation methodologies and associated assumptions will be further detailed in the reporting. Examples of actual or estimated impact metrics may include, where feasible, but are not limited to:

Alcoa Focus Area	Eligible Green Project Category Impact Indicators		
Enhancing Product Value	Circular Economy Adapted Products, Production Technologies and/or Processes and Certified Eco-efficient Products		
	<ul><li>Tonnes of recycled content</li><li>Tonnes of pre-consumer scrap</li></ul>		
Improving Our Footprint	Renewable Energy		
Our Pootprint	<ul> <li>GHG emissions avoided/reduced (tons of CO<sub>2</sub>e)</li> <li>MWh of renewable electricity capacity consumed/generated</li> </ul>		
	Pollution Prevention and Control		
	<ul> <li>Tonnes of lower-carbon products</li> <li>Emission intensity versus world average</li> <li>Carbon dioxide, sulfur dioxide, nitrogen oxide, fluoride, mercury, and Volatile Organic Compounds emissions avoided/reduced (tons or kilograms)</li> <li>GHG emissions avoided (tons of CO<sub>2</sub>e) through the use of Alcoa products</li> </ul>		
	Water and Wastewater Management		
	<ul> <li>Volume of (fresh) water avoided/reduced/recycled (cubic meters)</li> <li>Total water use intensity (m³/metric tons alumina)</li> </ul>		

# Verification

# **Second Party Opinion** (Pre-Issuance)

Alcoa has appointed Sustainalytics to provide a Second Party Opinion on the Green Finance Framework, including:

- Its alignment with the International Capital Markets Association ("ICMA") and Loan Markets Association ("LMA"), Asia-Pacific Loan Markets Association ("APLMA") & Loan Syndications and Trading Association ("LSTA") Principles;
- Its credibility and anticipated positive impacts of the Use of Proceeds; and
- The alignment of Alcoa's sustainability strategy, performance, and risk management in relation to the Use of Proceeds.

The Second Party Opinion is available on Alcoa's website<sup>24</sup>. Alcoa commits to have the Second Party Opinion updated in case of any material changes to the Framework.

# **External Verification** (Post-Issuance)

Annual reporting will be accompanied by an assertion by management detailing the amount of net proceeds from any Green Finance Instrument issued under this Green Finance Framework that have been allocated to Eligible Green Projects. An independent third party will be appointed by Alcoa to provide a report in respect of its examination of management's assertion of the allocation of such net proceeds, which will accompany future allocation reports.

<sup>24</sup> https://www.alcoa.com/sustainability

# **Disclaimers**

The information and opinions contained in this Framework are provided as of the date of this Framework and are subject to change without notice. We reserve the right to update this Framework at any time in our sole discretion. None of Alcoa, its subsidiaries or any of its affiliates assume any responsibility or obligation to update or revise the statements contained in this Framework, regardless of whether those statements are affected by the results of new information, future events or otherwise. This Framework represents current Alcoa policy and intent and is not intended to, nor can it be relied on, to create legal relations, rights or obligations.

This Framework is intended to provide non-exhaustive, general information. This Framework may contain or incorporate by reference public information not separately reviewed, approved or endorsed by Alcoa and, accordingly, no representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by Alcoa as to the fairness, accuracy, reasonableness or completeness of such information.

This Framework includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 regarding our sustainability goals, commitments and strategies. All statements other than statements of historical or current facts, including statements regarding our plans, initiatives, projections, goals, commitments, expectations, or prospects, are forward-looking. Forward-looking statements are subject to risks and uncertainties, including those identified in our Annual Report on Form 10-K for the year ended December 31, 2023 and other filings with the Securities and Exchange Commission (the "SEC"), which could cause actual results to differ materially from such statements. In particular, future events or circumstances may change Alcoa's approach to this Framework or to Alcoa's ESG strategy. Thus, there can be no assurance that the financing for any Eligible Green Projects will be implemented in the manner set forth in this Framework or achieve the results or outcome (environmental, social or otherwise) originally expected or anticipated by Alcoa or as contemplated by this Framework. Words such as aims," "ambition," "anticipates," "believes," "could," "develop," "endeavors," "estimates," "expects," "forecasts," "goal," "intends," "may," "outlook," "potential," "plans," "projects," "reach," "seeks," "sees," "should," "strive," "targets," "will," "working," "would," and other similar words that can be used to describe future events and trends are intended to identify forwardlooking statements. Our actual results could differ materially from our expectations due to a variety of factors, including assumptions not being realized, scientific or technological developments, geopolitical events, fluctuations in cost and availability of raw materials, evolving sustainability strategies, regulatory changes or other risks and uncertainties. The above list of factors is not exhaustive or necessarily in order of importance. Additional information concerning factors that could cause actual results to differ materially from those projected in the forward-looking statements is contained in Alcoa Corporation's filings with the Securities and Exchange Commission. We caution you that any risk factors described in our Annual Report on Form 10-K for the year ended December 31, 2023 and other filings with the SEC are not exclusive. None of the future plans, initiatives, projections, goals, commitments, expectations, or prospects in this document should be taken as forecasts or promises nor should they be taken as implying any indication, assurance or guarantee that the assumptions on which such future plans, initiatives, projections, goals, commitments, expectations, or prospects have been prepared are correct or exhaustive or, in the case of assumptions, fully stated in the Framework. There may also be other risks that we are unable to predict at this time that may cause actual results to differ materially from those in forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. We disclaim 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.

Information concerning important factors that could cause actual events or results to be materially different from the forward-looking statements can be found in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2023 and in our other filings with the SEC. Although we believe the expectations reflected in the applicable forward-looking statements are based upon reasonable assumptions, it is not possible to foresee or identify all factors that could have a material and negative impact on our future performance. The forward-looking statements contained in this Framework are made on the basis of management's assumptions and analyses, as of the time the statements are made, in light of their experience and perception of historical conditions, expected future developments and other factors believed to be appropriate under the circumstances.

No representation is made as to the suitability of any Green Finance Instrument or Eligible Green Project to fulfill environmental and sustainability criteria required by potential investors. Each potential investor should determine for itself the relevance of information contained or referred to in this Framework or the relevant Green Finance Instrument documentation regarding the use of net proceeds and its purchase should be based on investigation as it deems necessary. Each potential investor should be aware that any Eligible Green Project may not satisfy the investor's expectations concerning environmental or sustainability benefits, and may result in adverse impacts.

This Framework is provided for information purposes only and does not constitute a recommendation regarding the purchase, sale, subscription or other acquisition or disposal of any debt or other securities of Alcoa or any of its subsidiaries ("securities"). This Framework is not and is not intended to be, and does not form part of or contain

an offer to sell or an invitation to buy, or a solicitation of any offer or invitation to buy, any securities issued by Alcoa or any of its subsidiaries. If any such offer or invitation is made, it will be done so pursuant to separate and distinct documentation, including any documents incorporated by reference therein (any such documents, collectively, the "Offering Documents") and any decision to purchase or subscribe for any securities pursuant to such offer or invitation should be made solely on the basis of such Offering Documents and not these materials. In particular, investors should pay special attention to any sections of the Offering Documents describing any risk factors. The merits or suitability of any securities or any transaction described in such materials to a particular person's situation should be independently determined by such person. Any such determination should involve, inter alia, an assessment of the legal, tax, accounting, regulatory, financial, credit or other related aspects of the securities or such transaction and prospective investors are required to make their own independent investment decisions.

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