

Second-Party Opinion

Alcoa Green Finance Framework



Evaluation Summary

Sustainalytics is of the opinion that the Alcoa Green Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the Green Loan Principles 2023. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products; Renewable Energy; Pollution Prevention and Control; and Water and Wastewater Management – are aligned with those recognized by the Green Bond Principles and Green Loan Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 9 and 12.



PROJECT EVALUATION AND SELECTION Alcoa’s Green Finance Committee is responsible for overseeing the project evaluation and selection process. The Company has established internal processes to identify and mitigate material environmental and social risks associated with the eligible projects. Sustainalytics considers the project selection process to be in line with market practice.



MANAGEMENT OF PROCEEDS Alcoa will track proceeds using a Green Bond Register, which will be maintained by the Green Finance Committee. Alcoa is committed to allocating bond proceeds within 36 months of the settlement date. Unallocated proceeds will be managed according to Alcoa’s regular treasury operations, which includes holding in cash, deposits or money market instruments, and used for the repayment of existing debt. This is in line with market practice.



REPORTING Alcoa commits to report on the allocation of proceeds and, on a best-effort basis, the relevant impacts on its website on an annual basis until full allocation. Allocation reporting will include the amounts allocated to eligible projects, the balance of proceeds outstanding and the amount or percentage of new financing and refinancing. Sustainalytics views Alcoa’s allocation and impact reporting as aligned with market practice.

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Introduction

Alcoa Corporation (“Alcoa” or the “Company”) is an upstream aluminium company with three business segments that are involved in bauxite mining, alumina refining, smelting and aluminium casting. Headquartered in Pittsburgh, United States, Alcoa has direct and indirect ownership of facilities in 27 locations across nine countries and employs more than 13,000 employees as of 2022.¹

Alcoa has developed the Alcoa Green Finance Framework dated February 2024 (the “Framework”), under which it intends to issue green bonds, private placements,² commercial papers, loans and other financial instruments,³ and use the proceeds to finance or refinance, in whole or in part, existing or future projects that are expected to support the clean energy transition. The Framework defines eligibility criteria in four areas:

1. Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products
2. Renewable Energy
3. Pollution Prevention and Control
4. Water and Wastewater Management

Alcoa engaged Sustainalytics to review the Framework and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)⁴ and Green Loan Principles 2023 (GLP).⁵ The Framework will be published in a separate document.⁶

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁷ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA; and the Green Loan Principles 2023, as administered by LMA, APLMA and LSTA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.15, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Alcoa’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. Alcoa representatives have confirmed (1) they understand it is the sole responsibility of Alcoa to ensure that the information provided is complete, accurate and up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Alcoa.

Sustainalytics’ Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant

¹ Alcoa, “Annual Report”, (2022), at: https://s29.q4cdn.com/945634774/files/doc_financials/2022/ar/Alcoa-Corp-2022-Annual-Report-Final-Bookmarked.pdf

² The issuer has confirmed to Sustainalytics that the sale of stock shares to investors will be excluded from private placement transactions under the Framework.

³ Sustainalytics has reviewed just those financial instruments that are specified in the Framework.

⁴ The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

⁵ The Green Loan Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association and are available at <https://www.lsta.org/content/green-loan-principles/>

⁶ The Alcoa Green Finance Framework is available on Alcoa’s website at: <https://www.alcoa.com/sustainability>

⁷ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Alcoa has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Alcoa Green Finance Framework

Sustainalytics is of the opinion that the Alcoa Green Finance Framework is credible and impactful and aligns with the four core components of the GBP and GLP. Sustainalytics highlights the following elements of the Framework:

- Use of Proceeds:
 - The eligible categories – Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products; Renewable Energy; Pollution Prevention and Control; and Water and Wastewater Management – are aligned with those recognized by the GBP.
 - Alcoa has defined a look-back period of 24 months from the time of issuance for refinancing capital expenditures, operational expenditures, research and development, acquisitions and loans. Investments may include direct and indirect venture capital investments.
 - Alcoa may finance the acquisition of, investments in, loans to or joint ventures related to entities that derive at least 90% of their revenue from activities that comply with the eligibility criteria set in the Framework. Sustainalytics recognizes that the GBP require project-based lending and financing, which provide more transparency than non-project-based lending in general. Nevertheless, Sustainalytics recognizes that the financing of pure play companies through green debt instruments is commonly accepted as an approach that can generate positive impacts. Sustainalytics considers this to be in line with market expectations.
 - Under Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products, Alcoa may finance: i) expenditures related to the sourcing of pre- and post-consumer scrap metal, ii) costs related to obtaining certification for Alcoa's products by the Aluminium Stewardship Initiative;⁸ and iii) expenditures related to the acquisition, design, R&D of secondary aluminium recycling manufacturing processes, technologies and/or infrastructure, including the installation of induction furnaces for scrap aluminium recycling. Sustainalytics considers this to be in line with market expectations.
 - Under the Renewable Energy category, the Company may finance expenditures related to the acquisition, development, operation and maintenance of renewable power generation from wind and solar photovoltaic (PV) sources. Expenditures may also include the procurement of power through long-term power purchase agreements (PPAs) or virtual PPAs for wind, solar PV and hydro projects. Alcoa will ensure that such contracts have a tenor of at least five years. Sustainalytics considers this to be in line with market expectations.
 - Under the Pollution Prevention and Control category, Alcoa may finance the following:
 - Expenditures related to sites that are dedicated to the manufacturing of alumina with an average emissions intensity no greater than 0.6 tCO₂e/tonne, including scope 1 and 2 emissions from bauxite mining and alumina refining;⁹
 - Expenditures related to sites that are dedicated to the manufacturing of aluminium with a maximum emissions intensity of 4 tCO₂e/tonne, including scope 1 and 2

⁸ Aluminium Stewardship Initiative: <https://aluminium-stewardship.org/>

⁹ Sustainalytics notes that Alcoa's emissions threshold for eligible alumina refining is substantially lower than the global average emissions intensity of 1.87 tCO₂e/t (including emissions from alumina refining and bauxite mining).

European Aluminium, "Net-Zero by 2050: Science-based Decarbonisation Pathways for the European Aluminium Industry", (2023), at: https://european-aluminium.eu/wp-content/uploads/2023/11/23-11-14-Net-Zero-by-2050-Science-based-Decarbonisation-Pathways-for-the-European-Aluminium-Industry_FULL-REPORT.pdf

- emissions from bauxite mining, alumina refining, aluminium smelting and casting;¹⁰
- Expenditures related to sites that manufacture primary aluminium with a current GHG emissions intensity not exceeding 4.35 tCO₂e/tonne of aluminium manufactured and expected GHG emissions intensities following the Transition Pathway Initiative's (TPI) 2 Degrees scenario;¹¹
 - Expenditures related to the design, R&D of carbon-free aluminium manufacturing processes, technologies and/or infrastructure, including carbon-free smelting technology and electric calcination that is powered by renewable energy; and
 - Expenditures related to the reduction of environmental pollutants from Alcoa's operations, such as sulphur dioxide, nitrogen oxide, fluoride mercury and volatile organic compounds, using emission-reduction and monitoring technologies. Financed project may also include carbon capture.
 - Sustainalytics considers the monitoring and mitigation of pollutants such as NO_x and SO_x to be a baseline expectation and encourages Alcoa to report on how its expenditures in this area will go beyond business-as-usual activities.
- Under the Water and Wastewater Management category, the Company may finance expenditures related to water efficiency, recycling, reuse and conservation projects in Alcoa's operations, including conversion to closed loop systems, technologies that minimize evaporative losses and water treatment and reuse. Sustainalytics considers this to be in line with market expectations.
 - Additional considerations and commentary on use of proceeds:
 - Sustainalytics recognizes that the aluminium sector is well suited for transition finance as it is carbon-intensive and important for the economy and human needs, and it faces technological barriers to decarbonization.
 - Sustainalytics notes that the financing of aluminium production and alumina refining will be limited to facilities that are expected to adhere to credible decarbonization trajectories, including TPI's well-below 2°C scenario benchmark value for the aluminium sector.¹² Where the use of proceeds are limited to these assets, the financing is expected to contribute to substantial climate change mitigation and is likely to avoid a lock-in of carbon-intensive assets.
 - For certain eligible expenditures (e.g., carbon capture, renewable energy procurement, water efficiency and recycling), Sustainalytics notes that financing will not be limited to facilities adhering to such decarbonization trajectories. In Sustainalytics opinion, investments are most impactful when allocated to facilities adhering to credible decarbonization trajectories and when they address the most carbon-intensive aspects of those facilities. Nevertheless, due to the nature of these expenditures and their focus on efficient use of resources and pollution reduction, Sustainalytics recognizes that these investments are likely to support Alcoa's overall decarbonization targets, which are in line with the TPI's 2°C scenario.
 - Project Evaluation and Selection:
 - Alcoa's Green Finance Committee (the "Committee") is responsible for overseeing the project evaluation and selection process in line with eligibility criteria under the Framework. The Committee is made up of representatives from the Company's Legal, Treasury, Accounting, Sustainability, Environment and Investor Relations teams.
 - The Committee is also responsible for ensuring that eligible green projects adhere to local, national and international standards and are in accordance with Alcoa's environmental and social policies. Alcoa also assesses associated environmental and social impacts from the green eligible projects and mitigate them through its due diligence process.
 - Sustainalytics considers these processes to be in line with market practice.
 - Management of Proceeds:
 - Alcoa will track and manage the use of proceeds using a Green Bond Register, which will be maintained by the Green Finance Committee.
 - Alcoa has committed to allocating bond proceeds within 36 months of the settlement date. Any unallocated proceeds will be managed according to Alcoa's regular treasury operations,

¹⁰ Sustainalytics notes that Alcoa's emissions threshold for eligible aluminium production is substantially lower than the global average emissions intensity of 14.83 tCO₂e/t (including emissions from aluminium smelting, alumina refining and bauxite mining).

European Aluminium, "Net-Zero by 2050: Science-based Decarbonisation Pathways for the European Aluminium Industry", (2023), at: https://european-aluminium.eu/wp-content/uploads/2023/11/23-11-14-Net-Zero-by-2050-Science-based-Decarbonisation-Pathways-for-the-European-Aluminium-Industry_FULL-REPORT.pdf

¹¹ TPI, "Carbon Performance Assessment of aluminium producers: note on methodology", (2020), at:

<https://www.transitionpathwayinitiative.org/publications/uploads/2021-carbon-performance-assessment-of-aluminium-note-on-methodology-2021>

¹² TPI, "Aluminium", at: <https://www.transitionpathwayinitiative.org/sectors/aluminium>

- which includes using cash, deposits or money market instruments for the repayment of existing debt.
- The Company will exclude the refinancing of existing debt directly associated with carbon-intensive activities, including coal-related activities and the procurement of other fossil fuel energy, from its temporary use of proceeds.
 - Alcoa has communicated to Sustainalytics that instruments issued under the Framework may include multi-tranche loan facilities. Alcoa intends to label only those tranches of such facilities whose proceeds will be allocated according to the eligibility criteria in the Framework.
 - Based on the measures in place to track and manage proceeds, Sustainalytics considers these processes to be in line with market practice.
- Reporting:
 - Alcoa commits to report on the allocation and impacts of proceeds on an annual basis until full allocation. The reporting will be publicly available on the Company's website.
 - Alcoa has communicated to Sustainalytics that if it obtains revolving credit facilities under the Framework, it will report on allocation until loan maturity.
 - Allocation reporting will include the amounts allocated to eligible projects, the balance of proceeds outstanding and the amount or percentage of new financing and refinancing.
 - The Company also intends to report on impact metrics on a best-effort basis. Metrics may include quantity of recycled content used in Sustana products (in tonnes), renewable electricity capacity consumed or generated (in MWh), GHG emissions avoided (in tonnes of CO₂e). For a full list of impact indicators, please refer to the Framework.¹³
 - Based on Alcoa's commitments to allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2021 and the Green Loan Principles 2023

Sustainalytics has determined that the Alcoa Green Finance Framework aligns with the four core components of the GBP and the GLP.

Section 2: Sustainability Strategy of Alcoa

Contribution to Alcoa's sustainability and transition strategy

Sustainalytics is of the opinion that Alcoa demonstrates a commitment to sustainability with a focus on its three centers of excellence (CoEs): i) creating sustainable value where the Company partners with local communities to minimize any negative impacts of its operations and promoting economic growth; ii) enhancing product value by offering a range of lower-carbon products; and iii) reducing carbon footprint by developing and adapting technologies to minimize negative environmental impacts.¹⁴ In 2022, Alcoa formed the Sustainability Governance Board to provide a forum to focus on Alcoa's CoEs while promoting its approach on social sustainability, biodiversity and other material issues related to its sustainability strategy.¹⁵

Alcoa has also established a climate strategy that focuses on a hierarchy of GHG mitigation: i) elimination through decarbonization technology; ii) GHG reduction through renewable energy and fuels; iii) substitution through recycling and lower-carbon products; and iv) reducing carbon impacts with high integrity carbon offsets.¹⁶ The strategy outlines the Company's mid- and long-term goals, where Alcoa aims to align its GHG emissions intensity target with a 2°C decarbonization pathway by reducing GHG intensity by 30% by 2025 and 50% by 2030 from a 2015 baseline.^{17,18} The Company has a long-term ambition to achieve net-zero GHG emissions across its global operations by 2050 for scope 1 and 2 emissions.¹⁹ To achieve these targets, Alcoa commits to implementing decarbonization technology by inventing and innovating in lower-carbon technologies through R&D projects that emphasize eliminating emissions in Alcoa's alumina refining and smelting operations.²⁰ In the first half of 2023, the Company has also completed its initial stages of exploring decarbonization in its mining operations²¹ and has started producing a range of lower-carbon products.²² Alcoa's board of directors oversees strategic planning, decarbonization strategy and risks related to climate change.²³ The Company annually reports

¹³ The Alcoa Green Finance Framework is available on Alcoa's website at: <https://www.alcoa.com/sustainability>

¹⁴ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=17>

¹⁵ Ibid.

¹⁶ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=78>

¹⁷ In which scope 1 and 2 are linked with its refining and smelting operations

¹⁸ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=17>

¹⁹ Ibid.

²⁰ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf>

²¹ Ibid.

²² Ibid.

²³ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf>

on its climate change strategy, initiatives and goals in its annual sustainability reports and adheres to reporting guidelines of the following disclosure platforms: i) the Global Reporting Initiative; ii) the Sustainability Accounting Standards Board; and iii) the International Council on Mining Metals (ICMM) Principles.²⁴ Alcoa is also a member of the ICMM and Aluminium Stewardship Initiative.²⁵

In terms of renewable energy, Alcoa signed two long-term wind power purchase agreements in 2022, aiming to create nearly 1.7 gigawatts of new wind generation capacity in Galicia, Spain.²⁶ The Company also aims to achieve 85% of electricity from renewable sources for its smelters by 2025.²⁷ For water usage, Alcoa-defined water-scarce locations consumed 32.6 million m³ of water in 2022, a 4% decrease compared to 2021; these locations recycled or reused 114.6 million m³ of water in 2022. The Company has set goals to reduce the intensity of its total water usage from water-scarce locations by 5% by 2025 and 10% by 2030 from a 2015 baseline.²⁸ For waste reduction and circular economy, Alcoa has sold 310,699 tonnes of secondary minerals in 2022 and it is focusing on minimizing landfilled waste by 15% by 2025 and 25% by 2030.²⁹

Sustainalytics is of the opinion that the Alcoa Green Finance Framework is aligned with the Company's overall sustainability strategy and initiatives and will further the Company's actions on its key environmental priorities.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the net proceeds from the green financing issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impacts. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects may include issues involving: i) emissions, effluents and waste generated in construction; ii) land use and loss of biodiversity associated with large-scale infrastructure development; iii) occupational health and safety (OH&S); iv) community relations; and v) supply chain.

Sustainalytics notes the following regarding Alcoa's management and mitigation practices related to project-level risks:

- To address risks related to emissions, effluents and waste management, Alcoa has implemented a number of processes. Regarding water, Alcoa's water discharges are managed in accordance with location standards and regulatory requirements and the Company's water stewardship policy supports sustainable management of water in and around its facilities.³⁰ Alcoa encourages its facilities to reduce water consumption and discharge, enhance reuse and recycling, and preserve the quality of water resources in its catchments.³¹ The Company has also aligned its internal standard with the ICMM position statement on water stewardship.³² For waste management, the Company has standards in place which require all of its sites to implement waste management plans that incorporate: i) waste minimization strategies, ii) an inventory of all generated waste streams; iii) on-site waste storage areas that meet all local regulatory requirements; and iv) a comprehensive waste training programme and a tracking system of non-hazardous and hazardous waste metrics.³³ Alcoa also has a waste minimization hierarchy which describes the Company's most to least preferred methods to minimize waste, where Alcoa's most preferred method is to reduce the volume and toxicity of the waste at the source through industrial processes, segregation and sustainable procurement practices.³⁴ To prevent and manage spills, Alcoa has mitigation measures to handle exposure risks associated with a variety of materials, including through secondary containment, inspection practices, enhanced work practices and technology-based leak detection systems.³⁵ Additionally, all of Alcoa's sites are required to have emergency response plans to protect people and the environment in case of any spill.³⁶
- To mitigate risks related to land use and biodiversity, Alcoa has in place processes for limiting environmental impacts and increasing sustainable land use at its sites. For new sites and major expansion projects, the Company aims to achieve no net loss of biodiversity.³⁷ To accomplish this, Alcoa implements a consecutive process of avoidance, minimization, mitigation through

²⁴ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=2>

²⁵ Ibid.

²⁶ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf>

²⁷ Ibid.

²⁸ Ibid.

²⁹ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=17>

³⁰ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=104>

³¹ Alcoa, "Water Stewardship Policy", at: <https://www.alcoa.com/global/en/who-we-are/ethics-compliance/water-stewardship-policy>

³² Ibid.

³³ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=111>

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=95>

restoration, and offsets during all lifecycle stages of its operations. The Company also conducts ongoing biodiversity surveys at existing operations to determine the effectiveness of its management actions.³⁸ It complies with international standards related to biodiversity protection, aligns with the ICMM Principles and prevents developments of new operations in protected areas recognized under International Union for Conservation of Nature categories Ia, Ib, II or III.^{39,40} Furthermore, the Company undertakes mine rehabilitation to prevent deforestation by restoring forest ecosystems that are impacted by its mining operations.⁴¹

- Regarding occupational health and safety, the Company has an EHS policy⁴² in place to prevent injuries and environmental incidents throughout its global operations. The policy is applicable to its employees, customers, suppliers, contractors and the communities where it operates. The policy requires the Company to comply with all applicable environmental, health and safety laws and regulations.⁴³ Additionally, the Company commits to continually enhance its EHS systems and processes to achieve zero environmental, fatal or serious injuries, and life-threatening incidents.⁴⁴
- To address risks related to community relations, Alcoa conducts stakeholder engagement through surveys and regular interactions, which include employees, customers, communities and investors that are directly impacted by Alcoa activities.⁴⁵ Alcoa has implemented a social management system, SP360, which aims to mitigate negative impacts from its operations and manage social risks.⁴⁶ The Company has additionally adopted an Indigenous Peoples Policy⁴⁷ through which it commits to complying with applicable laws and regulations, along with the principle of Free, Prior, and Informed Consent and other tenets of International Labour Organization Convention No. 169 on Indigenous and Tribal Peoples and the United Nations Declaration on the Rights of Indigenous Peoples. Additionally, the Company engages with Indigenous communities that are affected by its activities. This commitment and process of engagement is detailed in Alcoa's Indigenous and Land Connected Peoples Policy and Standard, and is carried out to understand the direct and indirect impacts of the Company's activities, and to find solutions that are mutually beneficial throughout the lifecycle of Alcoa's operations.⁴⁸
- To mitigate supply chain risks, Alcoa has established Supplier Standards,⁴⁹ under which its suppliers are expected to comply with local, national and international laws regarding the environment, OH&S, human rights, anti-trust and anti-corruption. Additionally, the Company's Sourcing Programme provides a framework through which Alcoa assesses its supply chain and supply chain source material against ESG risks, and conducts audits and due diligence to ensure that its suppliers are delivering on the commitments.⁵⁰
- Sustainalytics notes that the Company has been exposed to controversies associated with its emissions, effluent and waste, as well as land use and biodiversity, and has faced subsequent environmental liabilities related to wildlife habitat contamination and inadequate rehabilitation of ecosystems, particularly at its Portland Smelter site.⁵¹ While the frequency of total environmental violation allegations has declined in recent years, gaps remain, and certain controversies remain unresolved. Sustainalytics encourages Alcoa to ensure the implementation of the above-mentioned mitigation measures at all of its sites.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Alcoa has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

³⁸ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=95>

³⁹ Alcoa, "Biodiversity Policy", (2021), at: <https://www.alcoa.com/global/en/who-we-are/ethics-compliance/biodiversity-policy>

⁴⁰ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=95>

⁴¹ Ibid.

⁴² Alcoa, "EHS Vision, Values, Mission, and Policy", (2022), at: <https://www.alcoa.com/global/en/who-we-are/ethics-compliance/pdf/ehs-policy/EHS-Vision-Values-Mission-and-Policy-EN.pdf>

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Alcoa, "Stakeholder Engagement", at: <https://www.alcoa.com/sustainability/social/stakeholder-engagement>

⁴⁶ Alcoa, "Sustainability Report", (2022), at: <https://www.alcoa.com/sustainability/pdf/2022-Sustainability-Report.pdf#page=15>

⁴⁷ Alcoa, "Indigenous Peoples Policy", (2021), at: <https://www.alcoa.com/global/en/who-we-are/ethics-compliance/indigenous-peoples-policy>

⁴⁸ Ibid.

⁴⁹ Alcoa, "Supplier Standards", (2020), at: https://www.alcoa.com/global/en/who-we-are/ethics-compliance/pdf/supplier-standards/Supplier_Standards.pdf

⁵⁰ Ibid.

⁵¹ Sustainalytics, "Controversy Report: Alcoa Corp.", at: https://globalaccess.sustainalytics.com/#/ga/research/company/Alcoa_Corp_46cadcd4-fa66-46b3-8df3-81965d2059c5/overview

Section 3: Impact of Use of Proceeds

All four use of proceeds categories are aligned with those recognized by the GBP and GLP. Sustainalytics has focused on three below where the impact is specifically relevant in the local context.

Importance of decarbonizing the aluminium sector

The aluminium sector emitted approximately 270 tCO₂ in 2022, accounting for 3% of the world's direct industrial CO₂ emissions.⁵² Despite reductions in the sector's direct emissions intensity over the last decade, its total direct emissions have nevertheless risen alongside increasing production volumes.⁵³ The aluminium sector's growth is expected to increase at an annual rate of 6% over the next decade due to high demand in the packing, electrical and aerospace industries.⁵⁴ For the sector to decarbonize in line with the IEA's 2050 Net Zero Emissions Scenario, the emissions from its primary production need to be reduced by increasing the share of recycled production from post-consumer scrap, enhancing the share of renewable energy in the industry's electrical supply, and incorporating near-zero emissions technologies into the production processes.⁵⁵

The production of recycled aluminium is 94% less emission-intensive than production relying on virgin materials.⁵⁶ However, with the global share of recycled production at 36% in 2022, the full potential for emissions savings is yet to be realized.⁵⁷ The Net Zero Emissions Scenario anticipates that recycled production will account for more than 40% of the sector's total production by 2030.⁵⁸ Alongside national and international policies to encourage higher rates of recycling, the IEA anticipates that this growth may be met by technological improvements in both the sorting and processing of scrap.⁵⁹

Technological innovations are also expected to play an important role in reducing the aluminium sector's emissions. Besides increasing the supply of renewable energy, producers have also started focusing on improving energy efficiency through the introduction of automation, robotics and real-time monitoring of various stages of production.⁶⁰ Several companies have successfully launched new smelting techniques, replacing the carbon-intensive Hall-Héroult process with new techniques that only emit oxygen.^{61,62,63} Other energy-intensive elements of production, including the production of steam and the calcination process, are being redesigned to use electricity from renewable sources.⁶⁴

Based on the above, Sustainalytics is of the opinion that Alcoa's proposed investments in recycling, renewable energy and innovation have the potential to contribute meaningfully to the decarbonization of the aluminium industry.

⁵² IEA, "Aluminium", (2023), at: <https://www.iea.org/energy-system/industry/aluminium>

⁵³ Ibid.

⁵⁴ Precedence Research, "Aluminum Market", (2023), at: <https://www.precedenceresearch.com/aluminum-market>

⁵⁵ IEA, "Aluminium", (2023), at: <https://www.iea.org/energy-system/industry/aluminium>

⁵⁶ The Aluminum Association, "The Environmental Footprint of Semi-Fabricated Aluminum Products in North America", (2022), at: https://www.aluminum.org/sites/default/files/2022-01/2022_Semi-Fab_LCA_Report.pdf

⁵⁷ IEA, "Aluminium", (2023), at: <https://www.iea.org/energy-system/industry/aluminium>

⁵⁸ Ibid.

⁵⁹ Reinsch, W.A. et al. (2022), "Decarbonizing Aluminum: Rolling Out a More Sustainable Sector", Center for Strategic and International Studies, at: <https://www.csis.org/analysis/decarbonizing-aluminum-rolling-out-more-sustainable-sector>

⁶⁰ AL Circle, "Technology revolutionizing the future of the aluminium industry", (2023), at: <https://www.alcircle.com/news/technology-revolutionizing-the-future-of-the-aluminium-industry-95184>

⁶¹ IEA, "Aluminium", (2023), at: <https://www.iea.org/energy-system/industry/aluminium>

⁶² Alcoa, "The world's first carbon-free smelting technology", at: <https://www.alcoa.com/products/elysis>

⁶³ Hydro, "HalZero – Pioneering zero-emission aluminium", at: <https://www.hydro.com/en/media/on-the-agenda/hydros-roadmap-to-zero-emission-aluminium-production/halzero-zero-emission-electrolysis-from-hydro/#:~:text=HalZero%20is%20based%20on%20converting,CO2%20and%20emitting%20oxygen%20instead.>

⁶⁴ IEA, "Aluminium", (2023), at: <https://www.iea.org/energy-system/industry/aluminium>

Contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The instruments issued under the Alcoa Green Finance Framework are expected to advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Circular Economy Adapted Products, Production Technologies and Processes and/or Certified Eco-efficient Products	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Renewable Energy	7. Affordable and clean energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Pollution Prevention and Control	9. Industry, Innovation and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Water and Wastewater Management	6. Clean water and Sanitation	6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Conclusion

Alcoa has developed the Alcoa Green Finance Framework under which it may issue green bonds, private placements, commercial paper, loans, and other financial instruments, and use the proceeds to finance and refinance, in whole or in part, existing and future projects that are expected to support the clean energy transition. Sustainalytics considers that the eligible projects are expected to provide positive environmental impacts.

The Alcoa Green Finance Framework outlines processes for tracking, allocation and management of proceeds, and makes commitments for Alcoa to report on allocation and impact. Sustainalytics considers that the Framework is aligned with Alcoa's overall sustainability strategy and that the use of proceeds will contribute to the advancement of the UN Sustainable Development Goals 6, 7, 9 and 12. Additionally, Sustainalytics considers that Alcoa has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is confident that Alcoa is well positioned to issue green bonds and that the Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2023.

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