

Alumina Limited 2020 Sustainability Update

Attached is a copy of Alumina Limited's 2020 Sustainability Update.

Alumina Limited acknowledges its role in understanding the sustainability risks and opportunities of its investment in the AWAC joint venture and is committed to providing relevant and transparent ESG reporting. Sustainability continues to be an area of focus.

We are pleased that key metrics continue to trend in a favourable direction.

Refinery emission intensity has continued to decrease and currently average 0.51 tonnes of CO₂ per tonne of alumina produced. The AWAC refineries are first quartile on the refinery global emissions curve.

At Portland, emissions intensity at the smelter decreased by 11% since 2019 to 13.8 tonnes of CO₂ per tonne of aluminium, placing Portland as second quartile on the global smelter emissions curve. The smelter continues to benefit from the growth in renewable generation in Victoria.

The 2020 Sustainability Update provides a comprehensive picture of AWAC's sustainability performance.

The 2020 Sustainability Update and an associated Sustainability Data Pack is available on the Company web site at <https://www.aluminalimited.com/>

This ASX announcement was approved and authorised for release by Mike Ferraro, Chief Executive Officer.

Summary Information

*This Sustainability Update contains summary information about the current activities of Alumina Limited (ACN 004 820 419) (**Alumina**) and its subsidiaries as at the date of this Sustainability Update. The information in this Sustainability Update should not be considered to be comprehensive nor to comprise all the information that a reader may require in order to make an investment decision regarding Alumina securities. This Sustainability Update should be read in conjunction with Alumina's other periodic and continuous disclosure announcements lodged with the ASX, which are available at www.asx.com.au.*

Forward-looking statements

Neither Alumina Limited nor any other person warrants or guarantees the future performance of Alumina Limited or any return on any investment made in Alumina Limited securities. This document may contain certain forward-looking statements, including forward-looking statements within the meaning of the US Private Securities Litigation Reform Act of 1995. The words "anticipate", "aim", "believe", "expect", "project", "estimate", "forecast", "intend", "likely", "should", "could", "will", "may", "target", "plan" and other similar expressions (including indications of "objectives") are intended to identify forward-looking statements. Indications of, and guidance on, future financial position and performance and distributions, and statements regarding Alumina Limited's future developments and the market outlook, are also forward-looking statements.

Any forward-looking statements contained in this document are not guarantees of future performance. Such forward-looking statements involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Alumina Limited and its directors, officers, employees and agents that may cause actual results to differ materially from those expressed or implied in such statements. Those risks, uncertainties and other factors include (without limitation): (a) material adverse changes in global economic conditions, alumina or aluminium industry conditions or the markets served by AWAC; (b) changes in production or development costs, production levels or sales agreements; (c) changes in laws, regulations or policies; (d) changes in alumina or aluminium prices or currency exchange rates; (e) Alumina Limited does not hold a majority interest in AWAC and decisions made by majority vote may not be in the best interests of Alumina Limited; and (f) the other risk factors summarised in Alumina Limited's Annual Report 2020. Readers should not place undue reliance on forward-looking statements. Except as required by law, Alumina Limited disclaims any responsibility to update or revise any forward-looking statements to reflect any new information or any change in the events, conditions or circumstances on which a statement is based or to which it relates.



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ALUMINA
LIMITED

SUSTAINABILITY UPDATE 2020

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ABOUT THIS REPORT

This report covers Alumina Limited's ("Alumina", "we", "our") environmental, social and governance performance for the calendar year 1 January 2020 to 31 December 2020. Alumina Limited is engaged in a global joint venture (JV) with Alcoa Corporation, who are the manager and operator of our joint Alcoa World Alumina and Chemicals (AWAC) operations.



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This report is focused on the sustainability impacts of Alumina Limited as a business, and the impacts of the AWAC joint venture business and operations.

This includes assets wholly owned by AWAC and assets in which AWAC holds less than 100% equity interest, but which are managed by Alcoa. AWAC directly operates or has equity in 13 sites and holds a non-operator interest in the Ma'aden alumina refinery in Saudi Arabia and bauxite mine, MRN bauxite mine in Brazil, and CBG bauxite mine in Guinea. These sites are excluded from performance information in this report. Further detail and a map of all AWAC operations and facilities (both AWAC operated and non-AWAC operated) can be found on page 10.

For the purposes of this report, references to 'AWAC' describe:

- the physical assets, interests and operations that form the basis of the joint venture (e.g. AWAC's Huntly bauxite mine)
- the outcomes and performance levels from the operation of these assets (e.g. AWAC's production levels, AWAC's revenue, emissions, resource usage, market position, risks & opportunities)
- the governance procedures and frameworks that determine the strategic directions, investments and acquisitions of the enterprise (e.g. the AWAC Strategic Council).

Unless otherwise noted, data presented about AWAC is on an 'AWAC basis', i.e. it represents the whole of AWAC (which is operated by Alcoa), rather than our proportionate 40% holding of AWAC, or on a full facility basis (includes equity interest of minority owners).

All financial data in this report is expressed in US dollars, and environmental data is metric. Restatements of data from our 2019 report are noted where applicable. Alumina Limited's previous Sustainability Report was released on 15 September 2020.

The material topics, structure and preliminary content of this report were reviewed by the Sustainability Committee and the Board of Alumina Limited, and the final content was approved by the Alumina Limited CEO.

This report references the Global Reporting Initiative (GRI) Standards 2016, (see index page 85), and the Sustainability Accounting Standards Board (SASB) Metals & Mining Standard (see index page 92). We have also drawn on elements of the International Integrated Reporting Framework.

Limitations of this report

Disclosures of management approach for AWAC operations are directly based on Alcoa's 2020 Sustainability Report, which is overseen by senior leaders of Alcoa.

Alcoa obtained limited assurance over its 2020 Sustainability Report, including over some of the metrics included in this report. The assurance statement can be seen on page 133 of their report.

All data pertaining to Alumina Limited has been prepared by our own organisation. As Alumina Limited is the non-operating joint venture partner in AWAC, we were dependent on Alcoa to provide AWAC performance data contained in this report. As the AWAC assets are a subset of Alcoa's business operations, some information gaps may appear due to the difficulty in separating out AWAC-specific information. We have indicated throughout whether information pertains to Alcoa or AWAC. The apportionment of AWAC data has not been subject to assurance.

We value your constructive feedback on Alumina Limited's 2020 Sustainability Report and performance. To provide feedback or for any questions regarding this report, please contact:

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Further information on prior reports can be found here: aluminalimited.com/sustainability-report/

CHAIRMAN AND CEO OVERVIEW

Welcome to Alumina Limited's 2020 Sustainability Update. 2020 marked a significant development in the company's sustainability governance and stewardship of sustainability practices.

In 2020 Alumina Limited's board formed a Sustainability Committee with the brief to assist and advise the Board in exercising its responsibility in relation to sustainability matters including climate change, health and safety, environment, social and community matters.

The Committee recognised that the continued success of the AWAC joint venture required enhanced monitoring and oversight of sustainability practices. By the conclusion of 2020, senior management had developed, and the Committee had endorsed, a road map for greater focus and application on sustainability.

Alumina Limited's new Sustainability team structure consists of four members tasked with managerial responsibility for development and monitoring of the key sustainability areas of Governance and Reporting, Risk Management, Metrics and Targets and Strategy. The Team is further assisted in executing its responsibilities by engaging independent external experts in fields such as climate change, impoundment management, sustainability disclosure and governance.

A short-term aim is to move towards compliance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This 2020 Sustainability Update is another step towards TCFD compliance with an ambition of being totally compliant by the end of 2022.

Other areas of focus for the Sustainability Committee in 2020 were:

- Sustainability governance including defining the scope and responsibility of the Sustainability Committee
- Approval of a sustainability workplan
- An update of the 2019 materiality assessment noting Alumina Limited's most significant environmental, social and governance risks and opportunities
- Review of AWAC's greenhouse gas emissions and reporting
- Benchmarking review of Alumina Limited and AWAC's compliance to TCFD disclosure recommendations and the pathway towards compliance



In 2020 Alumina Limited's board formed a Sustainability Committee with the brief to assist and advise the Board in exercising its responsibility in relation to sustainability matters including climate change, health and safety, environment, social and community matters.

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- Review and approval of the 2019 Sustainability Update Report
- Review of AWAC's safety program and performance
- Overview and understanding of Alcoa's climate change workplan and the longer-term impacts from climate change
- Climate risk maturity assessment

Also in 2020, to ensure that the Board of Alumina Limited were abreast of pressing global climate change related matters, the Board undertook third party training on:

- Climate science
- National and international policy developments
- Carbon pricing scenarios
- Industry association climate positions
- Climate risk peer benchmarking and
- Updated energy and emissions abatement issues and opportunities

Quarterly meetings are held between the sustainability teams of Alumina Limited and Alcoa Corporation to discuss developments and progress on matters that impact AWAC operations on climate-related and sustainability strategies, progress, and outcomes. These meetings provide a forum for the exchange of ideas and information on a range of sustainability related initiatives, environmental, social and governance practices, risks and opportunities. We believe this open and constructive dialogue has already and will further assist in continuing development of robust sustainability strategies and actions.

Performance

Crucially in 2020, there were no fatalities at AWAC managed facilities. There were however twelve reportable Fatal or Serious Injury Potential incidents, none resulting in serious injury. All safety related incidents are investigated and where applicable, new controls and guidelines are developed to eliminate hazards and mitigate the risk of any similar event occurring.

AWAC's global facilities experienced significant health, economic and logistical challenges as a result of the COVID-19 pandemic. AWAC responded swiftly to the threat by identifying and mitigating potential risks to employees and operations. As a result, the negative impacts of the pandemic on employees were limited and production maintained. The impact of the global pandemic did however have a negative impact on the price of alumina in 2020 although AWAC maintained a positive alumina margin. Alumina Limited recorded a net profit after tax of \$146.6 million for 2020.

In 2020 AWAC continued to record incremental reduction in its absolute emissions of greenhouse gas (GHG), decreasing 3.2 per cent from the level recorded in 2019 and 19.9 per cent from 2015 (from mining, refining, and smelting emissions in aggregate). Measured on an GHG intensity basis for AWAC's refining operations, a year-on-year reduction of 4.6 per cent was achieved with an absolute reduction of 2.5 per cent. We are also pleased to note that AWAC, on a proportional equity basis, has reduced its absolute GHG emissions by 42% since 2010, through closure of high cost, high emission assets, efficiency projects, and the greening of the Victorian electricity grid.

Advancements were made in developing further a decarbonisation pathway. There has been an increasing utilisation of renewable energy (especially at the Portland aluminium

smelter) and proposed energy switching options are being assessed. It is nevertheless acknowledged that GHG reductions in alumina refining is a technological challenge. Accordingly, AWAC is researching and trialling new technologies such as mechanical vapour recompression (MVR). MVR has the potential to displace a significant amount of fossil-fuel currently required in steam production and process heat and could be applied toward potential innovative projects that could contribute to reducing AWAC's carbon footprint. Alumina Limited and Alcoa have teams focussing on climate strategy initiatives such as these.

In 2020, AWAC introduced a Global Impoundment Policy for the management of tailings residue facilities and impoundments. The Policy is designed to ensure that management of impoundments conforms to internal policies developed by Alcoa following a detailed review of existing policy, procedures and process and consistent with international standards. AWAC is committed to adherence to the Global Industry Standard on Tailings Management, an initiative Co-convened by the International Council on Mining and Metals (ICMM), United Nations Environment Programme (UNEP) and Principles for Responsible Investment (PRI).

Also, included in this year's report, for the first time, is a qualitative assessment of climate-related risks and opportunities. Another first for this edition of the Sustainability Update is the availability of data tables in an excel spreadsheet to assist users in data extraction and analysis.

More detailed information is available in the various sections of this report. We trust that this report provides relevant insight into key sustainability matters for Alumina Limited and the AWAC joint venture. We are aiming to progress our sustainability reporting and welcome your constructive feedback.



Detailed 5-year comparison of performance results are detailed on pages 75 to 84 of this report.

W Peter Day
Chairman

Mike Ferraro
Chief Executive Officer

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Alumina Limited is a leading Australian company listed on the Australian Securities Exchange (ASX) and the OTC Markets in the United States. Our sole investment is in the Alcoa World Alumina and Chemicals (AWAC) joint venture whose assets comprise globally leading bauxite mines (located in Australia, Brazil, Saudi Arabia and Guinea), alumina refineries (located in Australia, Brazil, Spain, and Saudi Arabia), and the Portland aluminium smelter (Australia). We offer investors relatively undiluted exposure to bauxite and alumina markets through our 40% ownership of AWAC. Our partner Alcoa Corporation owns the remaining 60% and manages AWAC's day-to-day global operations.

Alumina Limited's purpose is to deliver long-term value to our shareholders through our investment in AWAC. Our strategy focuses on:

- being a resilient, robust and responsible business
- maintaining AWAC's low position on the bauxite and alumina cost curves
- remaining a focused bauxite and alumina investor
- maintaining low financial leverage and strong, clean balance sheet
- capitalising on AWAC's low-carbon position relative to the alumina industry
- contributing as an active, informed and engaged joint venture partner.

You can read more about our strategy in our [2020 Annual Report](#).

Our small, focused team, based in Melbourne, is guided by our Board of Directors. We employ one team member in Brazil who acts on behalf of Alumina Limited as an officer on two Brazilian registered companies in which AWAC holds an interest.

There were no significant changes to Alumina Limited's organisational structure or supply chain during 2020.

What we do

As co-owner of the AWAC joint venture, our role is to be an active investor. We engage with Alcoa to help maximise AWAC's performance, manage long-term risks and optimise the value delivered to our shareholders.

The value Alumina Limited brings to the partnership is at the strategic and policy level. We aim to bring informed opinions and have regular, open conversations with our partner to support strategic decision making. Our focus is on understanding the industry, business and markets we operate in, and the drivers of business success for AWAC – including the sustainability aspects that are the focus of this report. We watch our markets closely, looking at the future prospects for bauxite, alumina and aluminium to strategically influence how to price and sell our commodities, and when to invest or divest.

Alumina Limited acts in the interests of our shareholders by bringing to the joint venture a different set of perspectives, backed by deep expertise. We commission independent

research to understand long-term risks (such as tailings or climate impacts) and opportunities and have regular conversations with our partner to support strategic decision making. This enables us to provide constructive challenge for Alcoa, which contributes to AWAC being guided by robust decisions.

We also engage with government to represent our shareholders' interests, through membership of industry associations.

Sustainability is critical to AWAC's operations. By creating a safe work environment, supporting our communities and protecting the natural environment, we safeguard AWAC's licence to operate. Alumina works with Alcoa on implementing its sustainability strategy by reviewing AWAC's long-term strategies and objectives; supporting the sustainability policies and practices implemented by AWAC; and reviewing performance in human rights, environmental and labour practices.

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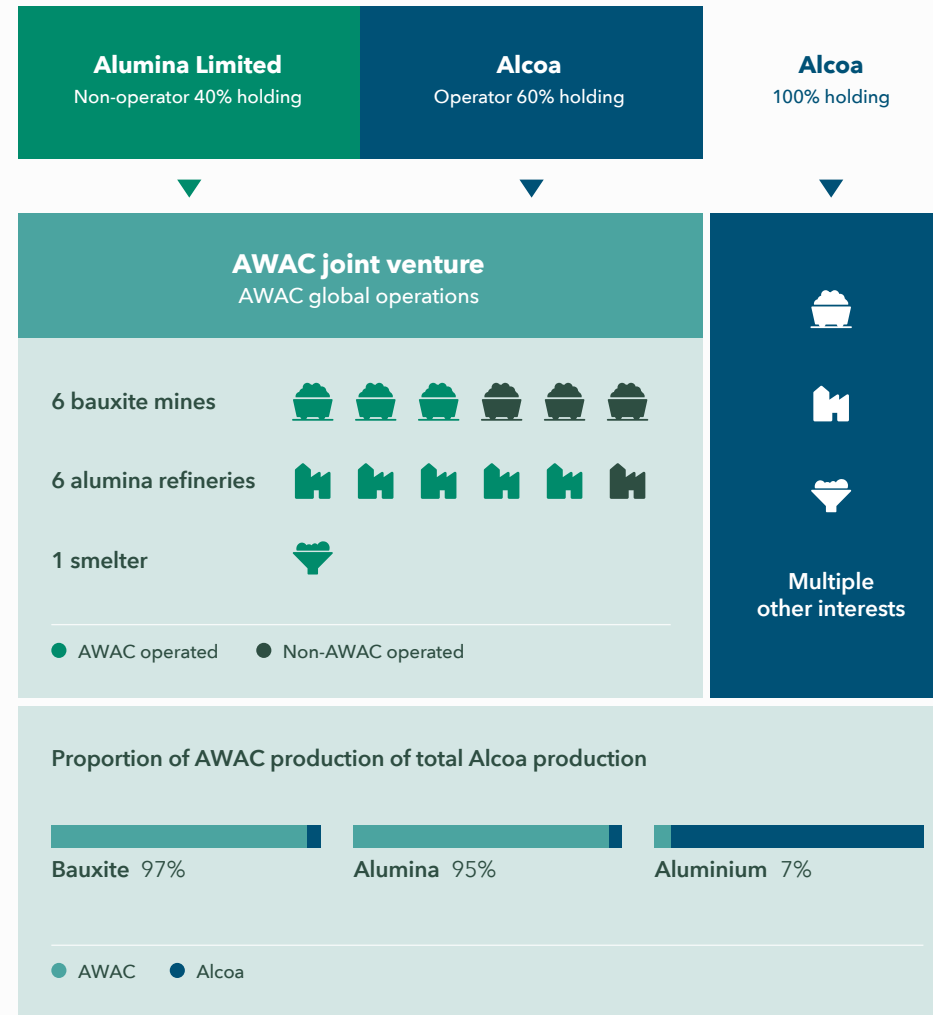
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AWAC

AWAC is one of the world's largest producers of alumina. Its assets include low-cost, long-life bauxite mines and alumina refineries and operations located in Australia, Brazil, Spain, and a 55% interest in the Portland aluminium smelter in Victoria, Australia. Alcoa is the operator of all these AWAC assets; AWAC comprises the majority of Alcoa's bauxite mining and alumina refinery operations, but a minority of its aluminium smelting operations (see figure 1 opposite). AWAC also has non-operator interests in Brazil, Saudi Arabia and Guinea. For further detail see table on page 9.



AWAC is structured as an unincorporated joint venture based on Agreements between Alumina Limited and Alcoa Corporation. AWAC's headquarters are Alcoa's headquarters in Pittsburgh, Pennsylvania, USA.

AWAC is comprised of the following active entities and their respective subsidiaries:

Entity	Alumina Limited ownership
Alcoa of Australia Limited (Australia)	40%
Alcoa World Alumina Brasil Ltda. (Brazil)	40%
Alcoa World Alumina LLC (USA)	40%
Alúmina Española S.A. (Spain)	40%
AWA Saudi Limited (Hong Kong)	40%

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Asset	Commodity	Location	Operator	AWAC ownership	Ownership / Entity
Kwinana refinery	Alumina	Australia	Alcoa	100%	Alcoa of Australia Ltd
Pinjarra refinery	Alumina	Australia	Alcoa	100%	Alcoa of Australia Ltd
Wagerup refinery	Alumina	Australia	Alcoa	100%	Alcoa of Australia Ltd
Huntly bauxite mine	Bauxite	Australia	Alcoa	100%	Alcoa of Australia Ltd
Willowdale bauxite mine	Bauxite	Australia	Alcoa	100%	Alcoa of Australia Ltd
Portland smelter	Aluminium	Australia	Alcoa	55%	Alcoa of Australia Ltd
San Ciprian refinery	Alumina	Spain	Alcoa	100%	Alúmina Española S.A.
Juruti bauxite mine	Bauxite	Brazil	Alcoa	100%	Alcoa World Alumina Brasil Ltda.
Alumar refinery	Alumina	Brazil	Alcoa	39.96%	Alcoa World Alumina LLC
MRN*	Bauxite	Brazil	Mineração Rio do Norte S.A.	9.62%	Alcoa World Alumina LLC, Alcoa World Alumina Brasil Ltda.
Ma'aden*	Bauxite & Alumina	Saudi Arabia	Ma'aden	25.1%	AWA Saudi Ltd
CBG bauxite mine*	Bauxite	Guinea	Compagnie des Bauxites de Guinee	22.95%	Alcoa World Alumina LLC

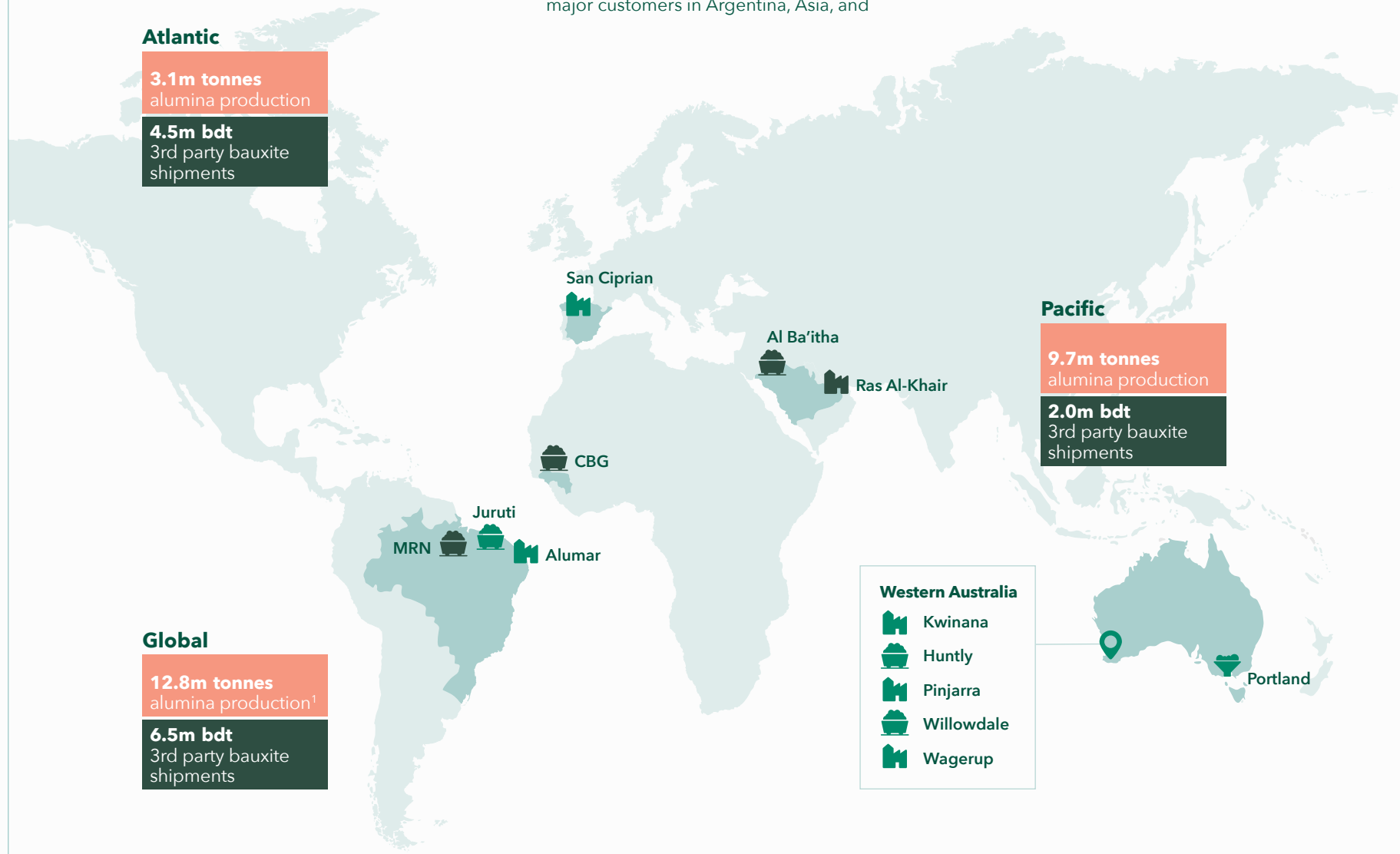
* Performance data throughout this report pertaining to AWAC does not include these assets unless otherwise noted.

MAP OF OPERATIONS

AWAC employs 5,596 personnel across its global operations, including employees that have roles that include both AWAC and non-AWAC-related work.

AWAC's products – bauxite, alumina and aluminium – are sold globally. AWAC has major customers in Argentina, Asia, and

the Middle East, and Alcoa itself is also a major buyer for its smelting operations. Some bauxite is sold to China. AWAC maintains a spread of customers across a portfolio of countries and regions to minimise concentration risk.



- AWAC operated**
- Bauxite mine
 - Smelter
 - Refinery
 - Location
- Non-AWAC operated**
- Bauxite mine
 - Refinery

1. Excludes alumina production from the Ras Al-Khair refinery

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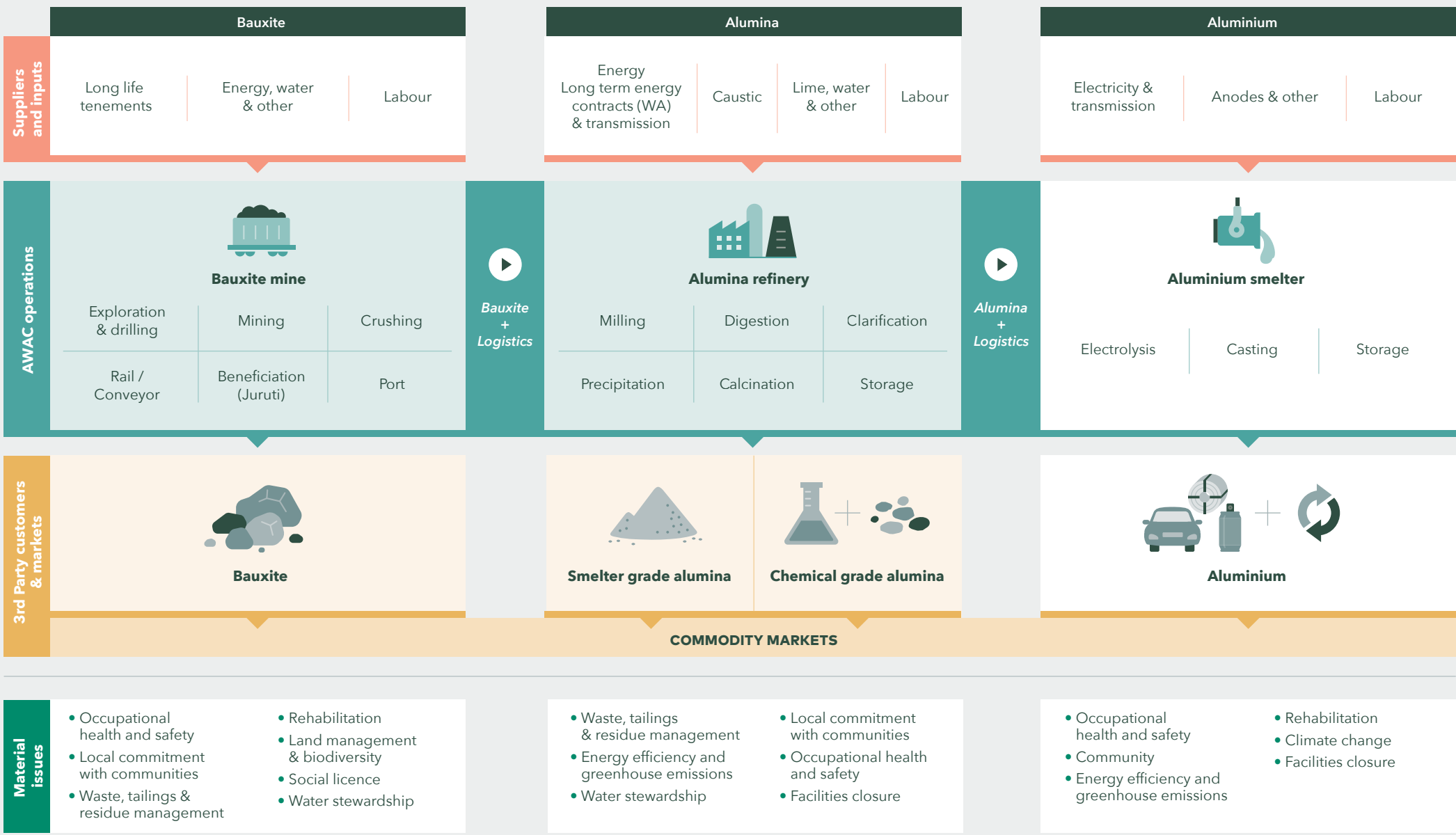
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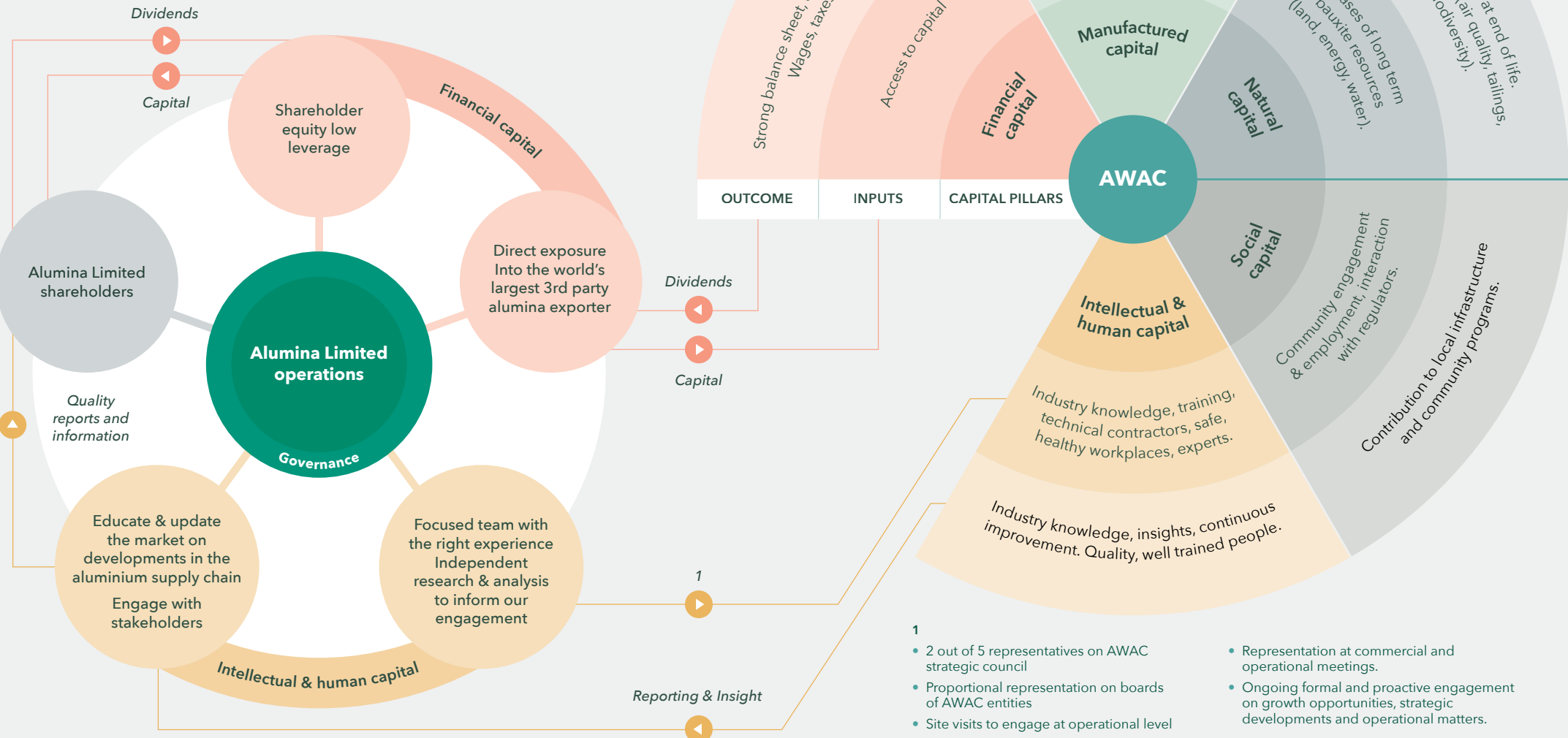
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HOW WE CREATE VALUE



AWAC

The joint venture's ability to create value is a result of the interrelationship between its capital pillars.

For example, AWAC's foundations begun with pioneer geologists exploring the Darling Ranges. With seed capital, the support of the government and the community, AWAC has been able to employ locals, mine its long term bauxite tenement, be a cornerstone customer for the WA gas industry, produce high quality alumina, pay royalties and taxes, and return capital to shareholders.

At the end of a mine pit or an asset's life, we focus on rehabilitating the area to the highest standard, ensuring no loss of biodiversity.

AWAC Joint Venture

Alumina Limited

Owns 40% of AWAC.

We offer investors a unique relatively undiluted exposure to the alumina market.



Alcoa

Owns 60% of AWAC.

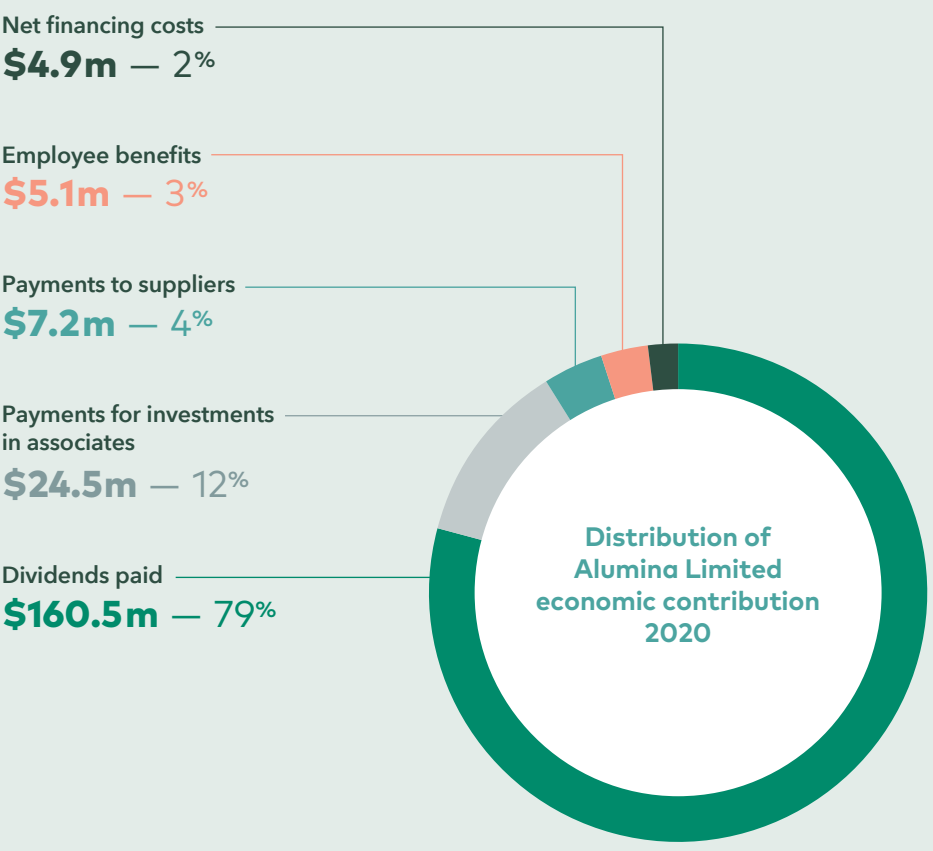
Manager & day-to-day operator of AWAC's global operations.

ALUMINA LIMITED'S FINANCIAL PERFORMANCE IN 2020

Alumina Limited delivered resilient financial performance in 2020 despite the continued decline in the Alumina Price Index (API). The COVID-19 pandemic drove a decline in primary aluminium demand in the first half of 2020; however, demand for aluminium, and in turn for alumina, recovered in the second half of the year.

Record production at AWAC's tier 1 low cost refineries also allowed the Company to deliver positive margins and returns, leading to another year of healthy dividends to shareholders.

As at 31 December 2020	
Market capitalisation (A\$m)	5,325
Market capitalisation (US\$m)	4,104
Borrowings (US\$m)	60
Contributed equity (US\$m)	2,707



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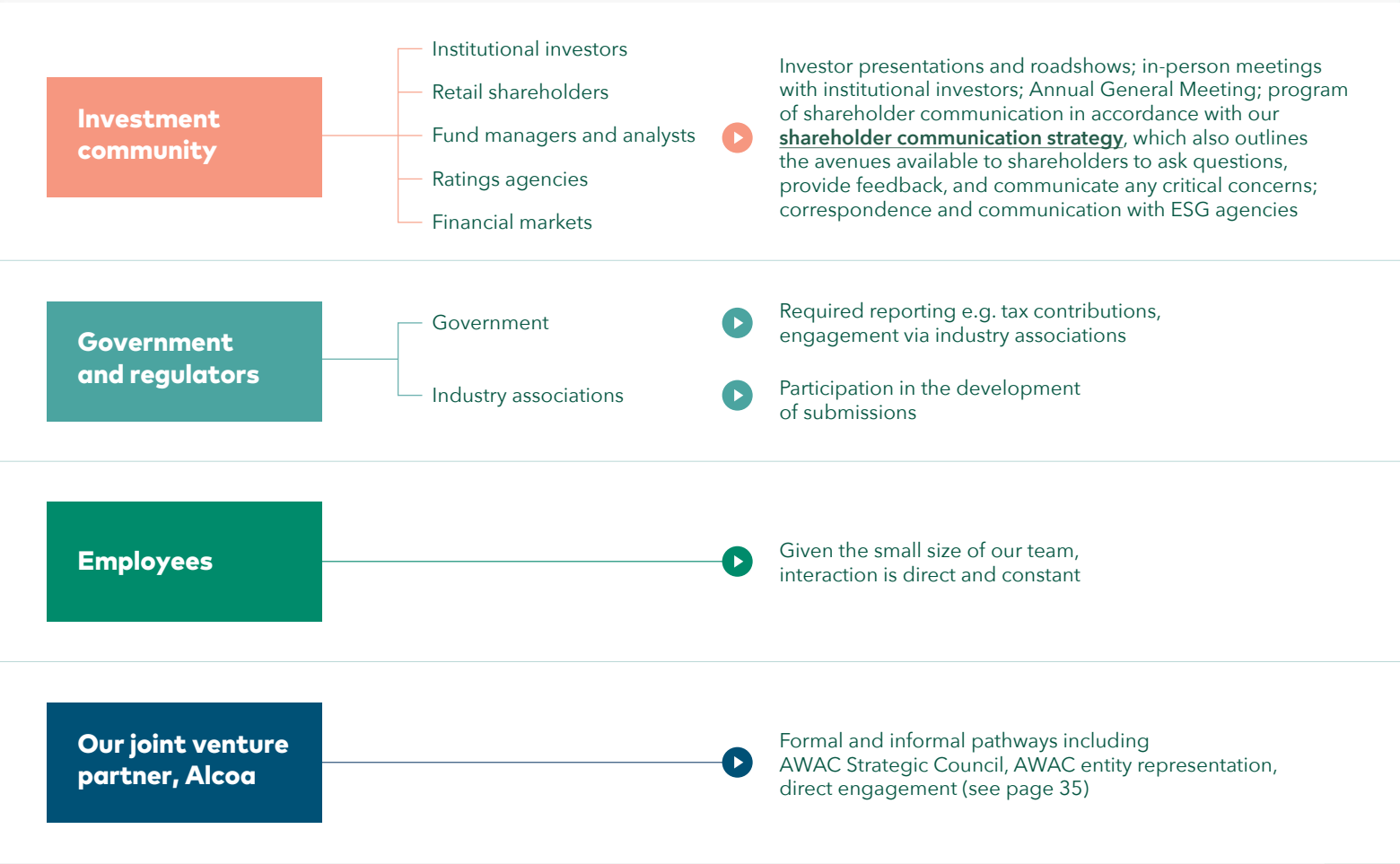
OUR STAKEHOLDERS AND MATERIAL TOPICS

Our success depends on respecting and responding to the interests of our direct stakeholders as well as AWAC's multiple stakeholders. Our material topics reflect a commitment to employees, the communities where we operate, and the environment, as well as regulators and other stakeholders that interact with our business.



Alumina Limited’s stakeholders

We engage with our direct and indirect stakeholders as follows:



No critical concerns from stakeholders were communicated to Alumina Limited during 2020.

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AWAC's stakeholders

Alcoa's definition of stakeholders includes any person or organisation that directly impacts, or is impacted by, its activities. AWAC's stakeholders, as identified by Alcoa, include customers, suppliers, employees, lenders, local community members, the media, public agencies that regulate its enterprises and non-governmental organisation (NGOs) that are interested in AWAC's activities.

AWAC typically has formalised channels of engagement with customers, suppliers, governments, employees and stockholders. Engagement with community groups and NGOs occurs through a more informal channel, guided by Alcoa's Stakeholder Engagement Framework. Alcoa utilises the framework to gather feedback from communities where they operate to manage risks and opportunities associated with community rights and interest. The framework provides a systematic process to actively engage appropriate stakeholders to achieve mutual success. More detail on the framework is provided on page 50.

Alumina Limited and AWAC stakeholders

● Alumina Limited ● AWAC



For more detail on how Alcoa engages with its stakeholders, see the [Alcoa Sustainability Report](#) page 45.

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Our material topics

Alumina Limited conducted a comprehensive materiality assessment in 2018, principally guided by the Global Reporting Initiatives Standards 2016 (GRI), which identified material topics under four major themes: governance, community, environment and people. This assessment was updated in 2019 based on desktop analyses and Alcoa's own materiality assessments of its bauxite and alumina divisions.

In 2020, Alcoa engaged AWAC stakeholders in a materiality assessment to determine the impact of the COVID-19 pandemic on material topics. The outcomes of this assessment have led Alumina Limited to make the following adjustments to its own material topics:

- Expand Modern Slavery to Modern slavery and human rights.
- Elevate Land management and biodiversity.
- Decrease the importance of Facilities closure.

With the approval of the Executive team and Sustainability Committee, the results of this process have been used to inform the direction of Alumina Limited's commitments and approach towards sustainability, the development of this 2020 Sustainability Report, and engagement with Alcoa.

AWAC's material topics are shown opposite, arranged by priority under the four themes. While most of these topics are managed directly by Alcoa, we have identified those topics that are also material specifically in the context of Alumina Limited itself (indicated by  symbol); we address these in the first chapters of this report.

Importance to Alumina Limited and stakeholders	High	Medium	Low	UN Sustainability Development Goals (SDGs) linkage
Governance	Business integrity 	Government compliance and engagement  Industry relations  Tax transparency  Supply chain Modern Slavery and human rights	Cybersecurity Executive remuneration 	 
Community	Local commitment with communities	Economic contribution		 
Environment	Climate change Energy efficiency and greenhouse emissions Waste, tailings and residue management Water stewardship Land management and biodiversity	Facilities closure Energy access and affordability Air quality		    
People	Occupational health and safety	Diversity and inclusion  Labour relations	Employee development and engagement 	 

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The definition and boundaries of our material topics are outlined on the adjacent table and page 19.

The UN Sustainable Development Goals

The 17 interrelated Sustainability Development Goals (SDGs), agreed by the UN in 2015, aim to address some of the world's most pressing economic, environmental and social issues.

To understand our actual and potential impacts through AWAC, we have mapped our material topics to the SDGs through:

- 1 SDG linkage – alignment of Alumina Limited's material topic definitions with relevant SDGs, based on the associated SDG targets and indicators.**
- 2 SDG impact – a high-level qualitative analysis of the potential positive and negative impact of our operations on the achievement of the relevant SDGs.**

The resulting associated SDGs are identified in the diagram on page 17.

Material Topic	Definition	Boundary
Governance		
Business integrity	Ensuring appropriate governance mechanisms are in place to adhere to the highest level of integrity and transparency throughout operations.	Alumina Limited AWAC
Government compliance and engagement	Engaging with government in all operating countries to generate transparent discourse, and participation in the development of public policy.	Alumina Limited AWAC
Industry relations	Approach to managing legislative change, geopolitical risk, and government and industry expectations.	Alumina Limited AWAC
Tax transparency	Transparency relating to payments to governments in the regions that operations are located in.	Alumina Limited AWAC
Supply chain	Governance and transparency in management of social and environmental supply chain impacts and risks.	AWAC and supply chain
Modern slavery and human rights	Human rights considerations in the direct actions of AWAC, focusing on modern slavery compliance within the supply chain, and within our own operations.	AWAC and supply chain
Cybersecurity	Developing strong practices to manage risks from the increasing role of technology in the business.	Alumina Limited AWAC
Executive remuneration	Managing the executive remuneration framework and its link to performance and KPIs.	Alumina Limited AWAC
Community		
Local commitment with communities	Commitment to the management of the economic, social, cultural, and environmental impacts on local communities. This includes the protection, respect and remediation of human rights impacts, managing health and safety implications, and engagement with and investment in local communities.	AWAC
Economic contribution	Broader economic value generated and distributed in the form of taxes, spend on suppliers, as well as local employment and wages and benefits paid.	Alumina Limited AWAC
Environment		
Climate change	Managing physical and transition risks from climate change, including the management of the impacts of climate change through adaptation and mitigation.	AWAC
Energy efficiency and greenhouse emissions	Effective management of energy consumption and associated greenhouse emissions from operations.	AWAC

The UN Sustainable Development Goals
(continued)

Material Topic	Definition	Boundary
Waste, tailings and residue management	Managing waste products associated with operations, the most significant being tailings storage facilities, bauxite residue stored in impoundments, spent pot lining, and used water storage from refining and tailings.	AWAC
Water stewardship	Managing withdrawal, storage, and consumption of water used in mining and refining operations. Ensuring access to water and managing impacts of water use on local communities and environments, including maintaining water quality.	AWAC
Land management and biodiversity	Managing the progressive rehabilitation of operational sites, and the management of impacts of operations on biodiversity, habitat protection and restoration.	AWAC
Facilities closure	Managing mine closure and stranded assets and land holdings (including impacts on the community) including relinquishment and provisioning for closure.	AWAC
Energy access and affordability	Access to, and reliability and affordability of energy, including consideration of the transition towards cleaner energy sources.	AWAC
Air quality	Managing air quality through dust suppression, and mitigation of process emissions.	AWAC
People		
Occupational health and safety	Managing health and safety risks including promoting a culture committed to continuous improvement and disclosure on safety performance and promoting the wellbeing and support of our people.	AWAC
Diversity and inclusion	Advancing diversity and equal opportunity among employees and governance bodies, including gender and cultural diversity, and women in leadership roles.	Alumina Limited AWAC
Labour relations	Consultative practices with employees and its representatives, including the approach to communicating significant operational changes, freedom of association and collective bargaining.	AWAC
Employee development and engagement	Approach to attraction and retention related practices, training and investing in developing employee skills, and performance and career development reviews.	Alumina Limited AWAC

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Coronavirus pandemic response

In 2020, we experienced the volatility and uncertainty of the coronavirus (COVID-19) pandemic. A key focus was on ensuring the health and safety of our Alumina Limited and AWAC workforce while enabling business continuity. The Alumina Limited management team implemented strict protocols across the business including working from home and travel suspension.

AWAC implemented quick and decisive measures that minimised the risk of exposure across all facilities including:

- modified occupational health and industrial hygiene protocols to reduce exposure risk
- employee education on good hygiene and mental health practices
- ban on non-essential business travel
- acceleration of a global work-from-home policy for employees who could perform their work remotely
- advocacy with governments to ensure operations were deemed essential
- deployment of trigger action response plans at each location.

These measures allowed AWAC assets to remain operational whilst protecting the workforce, suppliers, customers and communities. None of AWAC's operating locations had to fully or partially close, with zero missed or delayed customer shipments due to the pandemic.

As with many industries, COVID-19 came as a shock to the alumina market, causing declines in aluminium consumption and falls in aluminium and alumina prices. We regularly considered the strategic implications for AWAC's assets. Our joint venture undertook a number of cash preservation actions to combat the uncertain impact on commodity prices. These included a review of non-critical maintenance activities, deferral of selected sustaining and growth capital expenditure projects and reduction of operational overheads. Despite these measures, our alumina refineries achieved an annual production record of 12.8 million tonnes during 2020. Underpinning this is AWAC's focus on health and safety, protecting the workforce, and safeguarding our long-life low-cost alumina and bauxite assets. Our resilience and AWAC's position as a low-cost refiner enable Alumina Limited to continue to provide shareholders with consistent dividends, whilst maintaining a strong balance sheet.



For more detail on AWAC's approach to COVID-19, see page 71.

ALUMINA

The following chapters address topics that are material for Alumina Limited itself and describes how we manage them.



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PEOPLE

Our effectiveness as an active investor in the AWAC joint venture depends on the diverse skills, experience and viewpoints of our small team, which bring robust oversight and challenge to the partnership.

The Alumina Limited team

Our small team of 14 employees brings a variety of capabilities that contribute to our informed oversight of AWAC. Their skills and experience encompass an understanding of markets, unique insight into business strategy, sustainability understanding, and a combination of legal, financial and regulatory expertise that allows us to contribute to the joint venture. An ability to communicate and build relationships with our joint venture partner is also critical.

Where needed, we engage independent specialists to provide the additional depth of expertise required to drive well-informed opinions.

	Female	Male
Full-time employees	2.0	8.0
Part-time employees	1.0	3.0
Permanent full-time equivalent (FTE)	2.6	10
Contractor	0	1

Our people work autonomously, are well-informed and are able to make a meaningful contribution to the business. Given our small size, all employees have access to the leadership team, including exposure to the Board. We encourage an open and collaborative working environment. This strong culture, together with the rewards of working for an ASX100 company, keep our turnover low.

All employees have individually negotiated contracts, but retain the right to freely associate and collectively bargain, in line with our **Human Rights policy**.

Our **Environment Health and Safety Policy** outlines our approach to managing the health, safety and wellbeing of our people. As an office-based business, incidents are rare. When site visits are required, we conduct advance checks of health and safety requirements and personal safety issues and provide access to emergency assistance. During the reporting period, Alumina Limited reported no work-related injuries or hazards.



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Diversity and inclusion

Why this matters

Diversity in thought, experience and skills add to the strength of the Alumina Limited team, and the value that we bring to the AWAC joint venture. Our approach to diversity is designed to ensure that we offer an attractive and challenging work environment to secure and retain our employees.

How we manage this

Our understanding of diversity includes gender, age, culture (ethnicity), language, religious beliefs and disabilities. Our **Diversity Policy** sets out our commitments and actions to promote equal opportunity, diversity and inclusion. It focuses on the recruitment process, providing working arrangements conducive to work/life balance, and encouraging diversity at a board level. The policy includes a commitment by the Board of Directors to establishing measurable objectives.

Alumina Limited's diversity objectives are outlined below:

To engage consultants who support and promote the Company's diversity policy, including assisting to identify additional suitably qualified external female candidates.

To ensure that candidate lists for permanent employee positions are recognisably diverse by age, sex or ethnicity.

To ensure that in the interview process for position there is at least one appropriately qualified female candidate and at least one female on the interview panel.

To consider diversity when reviewing board succession plans with the aim to improve gender representation and diversity.

New for 2021

To set a target for the Company's Board of Directors of 40:40:20 being a target minimum of 40% male and 40% female respectively, with 20% open to either, recognising the limits posed by reason of a small sized Board.

Have flexible and part-time work arrangements where employees can balance work/life commitments and pursue career development.

New for 2021

Aim to maintain engagement scores for identified employee groups that are not less than the whole-of-company engagement scores.

New for 2021

Implement leadership programs that assist in the development of a diverse pool of skilled and experienced employees, and that prepare them for senior management.

All these were achieved for 2020. Whilst we operate in accordance with these objectives, our diversity is constrained in practice due to our size, low turnover, and a historically male-dominated industry. As at 31 December 2020,

21% of Alumina Limited's thirteen full-time equivalent employees were women and 50% of non-executive directors were women. Further information about Board composition can be found on page 26.

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GOVERNANCE

As a non-operator of the joint venture, our role is to provide informed guidance to AWAC while protecting the interests of our shareholders and stakeholders. Fulfilling this role well depends on strong and ethical governance practices, supported by an experienced leadership team that is aligned to our values and principles.

As a key topic, governance is addressed across various sections of this report:

- this chapter covers Alumina Limited's governance structures and process
- 'Our approach to sustainability' (page 29) gives more detail on governance of sustainability specifically
- 'How we engage with Alcoa and AWAC' (page 35) details our formal and informal roles in the governance of AWAC
- 'AWAC governance' (page 44) details Alcoa's approach to governance, as operator of AWAC.

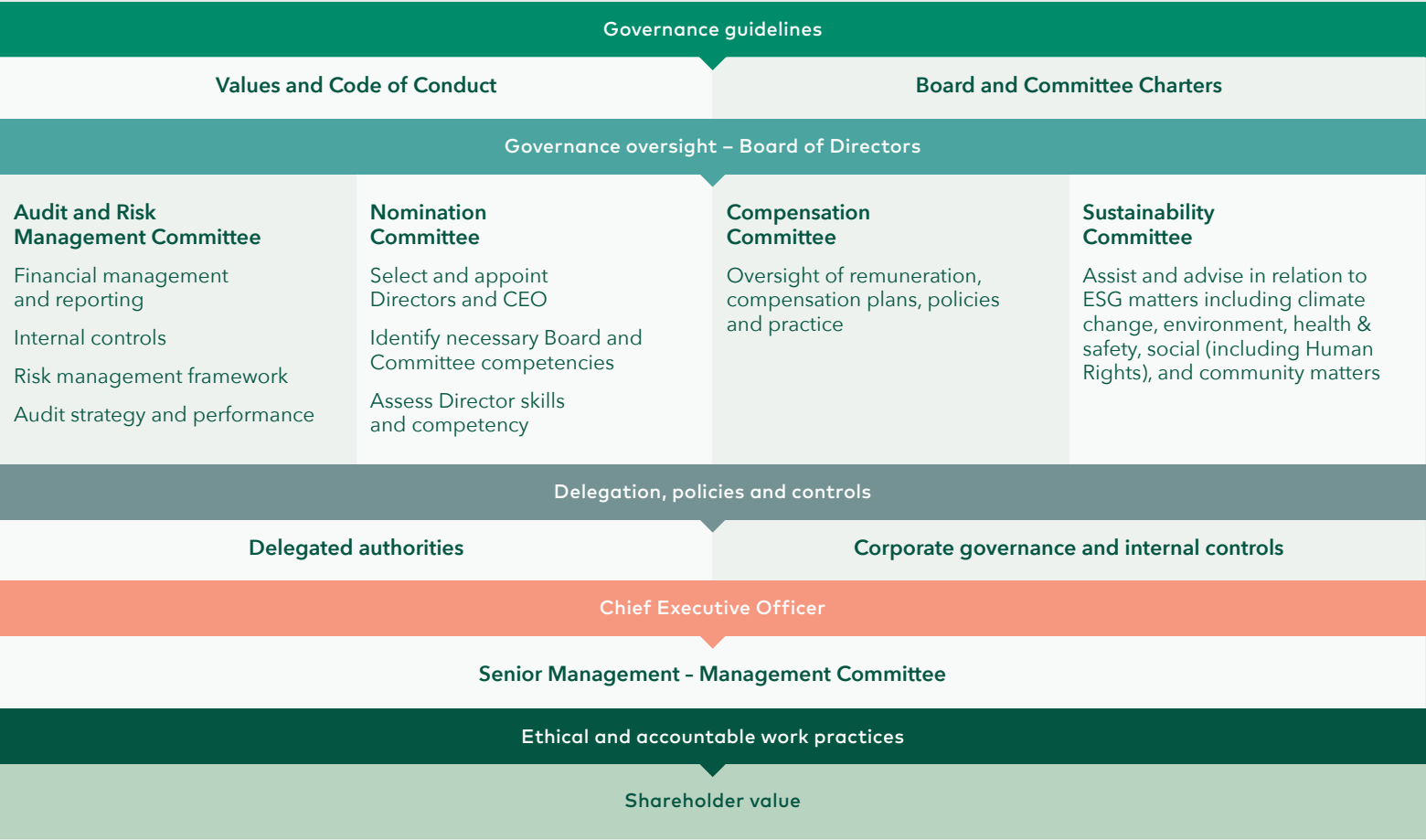
We consider our corporate governance responsibilities when making decisions on behalf of our shareholders and organisation. These include:

- analysing and adopting best practice governance principles and practices
- overlaying business philosophy and practices with our ethical values and principles
- prudent delegation of responsibilities
- appropriate monitoring systems, processes and authorities, responsible delegation of duties and authorities and internal controls.

The Board and executive also consider sustainability issues when making business and investment decisions, and exercising rights under the AWAC joint venture agreements.



Governance framework



Promoting ethical conduct and behaviour

Alumina Limited’s Corporate Governance Framework is underpinned by its corporate values and Code of Conduct. The Code defines the ethical boundaries of the Company which influence the Company’s corporate culture. The Code applies to the Company’s directors, Chief Executive Officer (CEO), senior executives and other employees. Training on the Code of Conduct is conducted online and directors, the CEO, senior executives and other employees are required to certify that they understand and agree to conform with these workplace principles.

All employees undertake annual training to ensure they understand the Company’s key policies and obligations, and their role in fulfilling them. Training includes, Continuous Disclosure provisions, Anti-corruption and anti-bribery, Conflicts of Interest, Whistle blowing, Anti-discrimination and harassment, Data Privacy and Protection and Anti-Money Laundering.

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Board of Directors

Our focused team of directors brings an appropriate mix of functional skills and international experience from the alumina industry and other relevant backgrounds (see further detail on page 8 of our [2020 Corporate Governance Statement](#)). The Board Committees are also selected based on their relevant experience and expertise.

Director	Board status	Date of appointment
Mr Peter Day	Chairman, Independent Non-Executive Director	1 January 2014
Ms Emma Stein	Independent Non-Executive Director (ceased to be a director on 25 May 2021)	3 February 2011
Mr Chen Zeng	Non-Executive Director	15 March 2012
Mr Michael Ferraro	Executive Director	5 February 2014
Ms Deborah O'Toole	Independent Non-Executive Director	1 December 2017
Mr John Bevan	Independent Non-Executive Director	1 January 2018
Ms Shirley In't Veld	Independent Non-Executive Director	3 August 2020

We recognise the value that diversity brings to board performance. The expansion of the ranks of Non-Executive Directors with the appointment of Ms Shirley In't Veld in 2020 shifted the board composition. During the reporting period, 50% of Non-Executive directors and approximately 42.9% of the full board (including CEO) were female.

During 2019, we commissioned an external review of the Board that found a strong range of capabilities. The review (conducted prior to the establishment of the Sustainability Committee) suggested systematically

strengthening knowledge of environmental, social and governance (ESG) topics. The Board undertook climate training in 2020 (see further page 30).

In 2020 the Board undertook an annual self-assessment process that links outcomes to key performance criteria. This allows us to track and improve the performance of our Board each year.

In January 2021, one of the world's leading governance rating agencies awarded a score of 2 to Alumina Limited, on a scale of 1 to 10 from lowest to highest governance risk.



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Business integrity

Why this matters

Our stakeholders expect that Alumina Limited's actions and decisions are transparent and reflect our values. This is key to maintaining our reputation and demonstrating our ability to deliver on commitments to all stakeholders.

How we manage this

We adhere to the highest level of ethics and transparency throughout all our actions and operations, including the disclosure of associated processes, performance and business risks to shareholders.

We act in accordance with our values in all that we do:

Respect	We will respect each other and Company property
+	
Integrity	We will stand by our word ensuring a reputation as a highly professional team delivering on commitments to all stakeholders
+	
Honesty	We will be open, honest and fair in our dealings with people based on a clear set of ethical standards
+	
Personal commitment	We will be personally responsible for acting in accordance with the law, Alumina Limited's Values, Code of Conduct and Company policies, and be accountable for expected results
+	
High performance	We will be energised by the excitement and fulfilment of raising the bar in everything we do



Alumina Limited's policies, strategies and codes provide the framework for us to translate our values into practice. They can be found on our website:

- [Board performance evaluation](#)
- [Board succession planning](#)
- [Compliance with the Law](#)
- [Continuous Disclosure Policy](#)
- [Corruption & Money Laundering Policy](#)
- [Directors Seeking Independent Advice Policy](#)
- [Diversity Policy](#)
- [Environment Health & Safety](#)
- [Equal Opportunity & Non-discrimination](#)
- [External Auditor Selection and Rotation Policy](#)
- [Human Rights Policy](#)
- [Policy on Director Independence](#)
- [Privacy Policy](#)
- [Remuneration Policy](#)
- [Share Trading Policy](#)
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Government compliance and engagement

Why this matters

AWAC's operations span a broad range of legal, regulatory and political systems. Therefore, it is critical that we remain cognisant of relevant regulation and maintain robust compliance processes to manage the impact of new or increasingly stringent requirements on AWAC's – and thus Alumina Limited's – performance.

How we manage this

AWAC compliance sits with Alcoa as the AWAC operator (see page 44). Our participation in the boards of the AWAC entities and the Strategic Council (see page 36) is the primary mechanism for Alumina Limited to monitor and oversee AWAC's compliance.

We seek to inform discussion around the regulation of our industry through participation in industry associations, with a focus on energy and greenhouse gas policies. During 2020, Alumina Limited was a member of the following organisations:

- Australian Aluminium Council
- International Aluminium Institute
- Business Council of Australia
- Manufacturing Australia (from FY21).

We use these platforms to stay up to date with changes to industry regulation and policy. They allow us to expand our knowledge, learn from peers, share insights and challenge our thinking. Our participation in these forums enables collaboration on ESG and other matters that are important to our industry, catalysing opportunities for innovation.

In addition, during 2021, Alumina Limited also became a "general supporter" of the Aluminium Stewardship Initiative (ASI). The ASI seeks to maximise the contribution of aluminium to sustainable society, through recognising and collaboratively fostering responsible production, sourcing and stewardship of aluminium. More information can be found at <https://aluminium-stewardship.org/>.

In line with Alumina Limited's Code of Conduct and Anti-Corruption Policy, Alumina Limited does not donate to any political party or aligned interest group.

We actively monitor our own compliance. Alumina Limited is not required to report under the *Modern Slavery Act 2018*, but Alcoa of Australia (the entity covering AWAC's Australian operations) will submit a statement (see further page 48).

Tax transparency

Why this matters

AWAC operations create value in a number of locations around the globe. As an Australian listed business, we have a responsibility to comply with all applicable tax requirements and report on these transparently.

How we manage this

We manage our tax requirements by carefully following our financial and ethical policies and guidelines. For details of Alumina Limited's income tax payments during FY20 please refer to the **2020 Annual Report**, page 43. We monitor AWAC tax payments primarily through our participation in the boards of the AWAC entities (see page 88).

As previously reported, the Australian Taxation Office (ATO) has undertaken a transfer pricing examination in respect of certain historical third-party alumina sales made by Alcoa of Australia Limited over a 20 year period. The results and implications of this examination are discussed in the Alumina Limited 2020 Annual Report in note 2d.

Executive remuneration

Why this matters

Our small, focused team plays an important role in Alumina Limited's success. Our executive remuneration structure helps us to attract and retain the right talent and incentivise our team to deliver ongoing strong performance in line with our values and goals as a business.

How we manage this

Alumina Limited's remuneration strategy and policy has been developed in recognition of the unique nature of the Company, the complexities of managing a significant but non-controlling interest in a global joint venture and the significance of external factors' influence on the sector and the Company's performance. The process for determining remuneration, and stakeholder involvement in the remuneration process, can be found in further detail in **Alumina Limited's Remuneration Policy**.

The FY20 Remuneration Report reviews Alumina Limited's remuneration strategy, policy and outcomes, including full details of the CEO and Senior Executives' objectives, and an assessment of performance against those objectives. The report can be found on page 24 of the **2020 Annual Report**.

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OUR APPROACH TO SUSTAINABILITY

This chapter builds on Alumina Limited's broader approach to governance, outlined in the previous chapter on page 24.

Why this matters

Sustainability topics are increasingly seen as a business issue by both Alumina Limited and our investors and other stakeholders. Recent years have seen high-profile incidents in the mining and extractive minerals industry in relation to tailings management and indigenous heritage; climate change has become a ubiquitous focus; and new legislation has directed attention to modern slavery, among other issues.

Although Alumina Limited does not have operational control of AWAC, our social licence to operate is directly linked to AWAC's performance in these areas. We share in the success of positive impacts and bear the cost of negative impacts if AWAC fails to meet societal expectations.

By contributing to local economies, preventing environmental harm and protecting the wellbeing of employees and communities, AWAC can create value for all its stakeholders and increase the value derived by shareholders.

Alumina Limited has a significant role to play in understanding AWAC's sustainability risks and opportunities and guiding good outcomes through our governance of AWAC.

How we manage this

Our Board has ultimate responsibility over all sustainability matters at Alumina Limited and are involved in the development and integration of Alumina Limited's values, policies, and goals.

Effective governance is key to driving improvement in any area of business. In 2020, we strengthened Alumina Limited's sustainability governance and strategy through the formation of a dedicated Sustainability Committee comprising five Non-Executive Directors with experience and knowledge in environment, health and safety, and sustainability.

The **Sustainability Committee Charter** sets out the roles and responsibilities of the committee. It meets at least quarterly to assist and provide recommendations to the Board in relation to ESG matters including:

- reviewing and approving relevant sustainability strategies, policies and position statements including on climate change, health and safety, environment and social and community matters and issues
- monitoring performance against health and safety, climate change and sustainability targets

- reviewing and providing advice on proposed long-term targets and aspirations for environmental, social and governance performance
- consideration of the appropriateness of health, safety and environment frameworks and management systems
- reviewing and approving sustainability reports
- considering community, climate change and broader sustainability concerns.

The Sustainability Committee met four times during 2020 and carried out the following activities:

- review of the joint venture emissions and energy data
- assessment of material sustainability topics
- progress on climate risk and climate strategy
- review and approval of the sustainability report
- review of safety results and indicators
- gap analysis against Task Force on Climate-related Financial Disclosures.



You can read more about the approach to managing sustainability for AWAC on page 43.

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The Committee members and the senior management received targeted climate change and ESG training from independent third-party specialists. In 2020, the training included an update on climate science, the implications of national and international policy developments, carbon pricing, Task Force on Climate-Related Financial Disclosure (TCFD) and energy and emissions issues and opportunities.

Our other Board Committees also consider ESG matters where relevant; for example, the Audit and Risk Management Committee assess potential sustainability risks and opportunities for shareholders through the Risk Management Framework (RMF). Alumina Limited's RMF encompasses a risk appetite statement and a risk profile, both of which have specific risks that relate to sustainability and climate change. The Sustainability Committee is responsible for oversight and advising the Board in relation to sustainability matters including climate change. The Executive is responsible for the day to day management of risks, including sustainability and climate change risks. The Sustainability Team collectively identifies, prioritises, and determines an appropriate strategy to manage sustainability and climate change risks, and reports to the Sustainability Committee and the Audit and Risk Management Committee.

Executive-level responsibility for economic, environmental, and social topics sits with our CEO, who is briefed monthly on key metrics and current issues. In response to the growing importance of sustainability topics, Alumina Limited has increased the internal resources devoted to this area. In January 2021 (after the reporting period), we established an expanded multidisciplinary sustainability team of four, led by our General Counsel. This includes specialisms in markets and strategy (with a focus on energy and climate transition pathways), governance, human rights, indigenous peoples, metrics, disclosure and external affairs.

In 2019, Alcoa renewed its commitment to sustainability by:

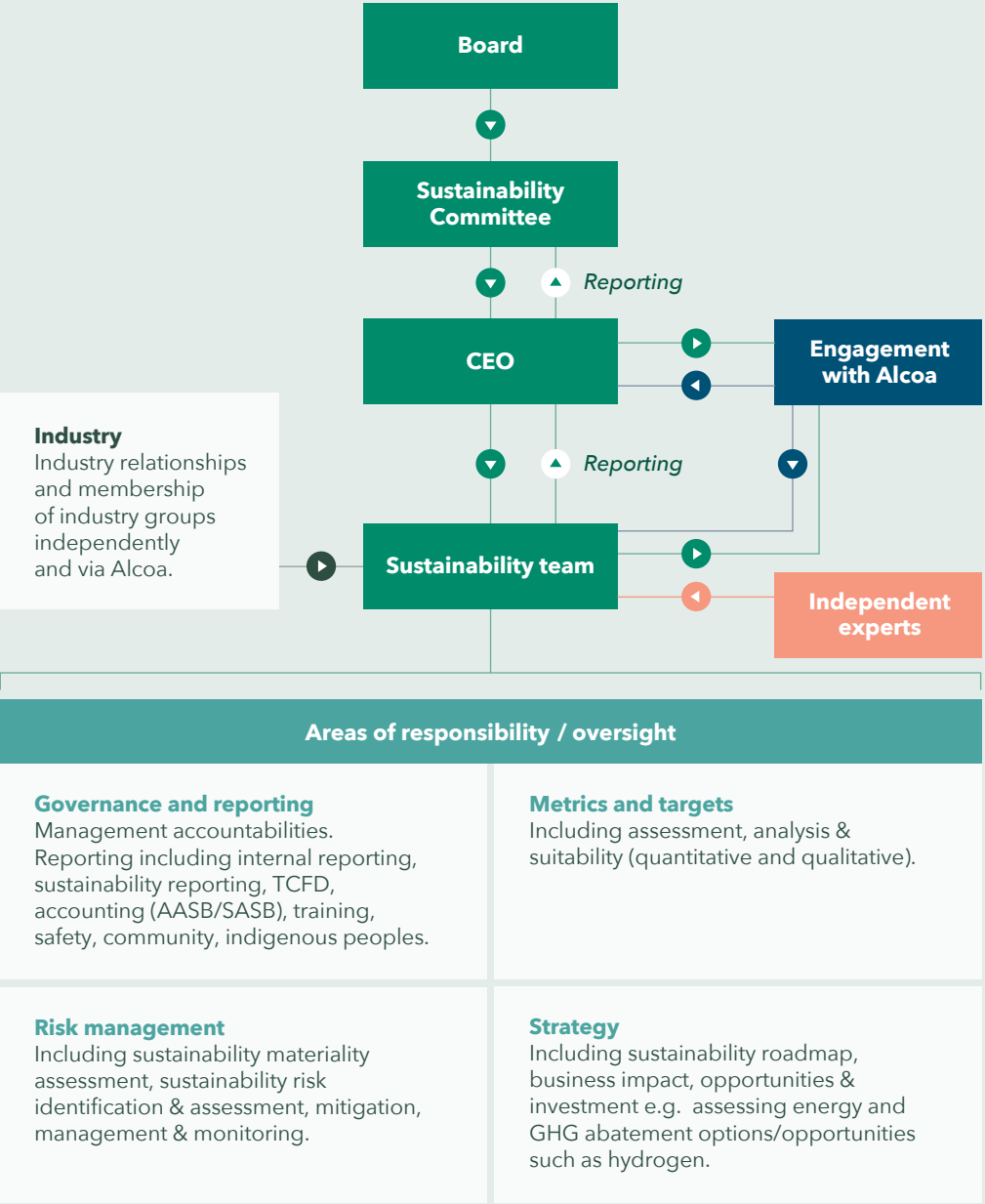
- enshrining 'Advance sustainably' as one of the company's three strategic priorities
- joining the International Council on Mining and Metals (ICMM), which is focused on enhancing the industry's contribution to society with safe, fair and sustainable practices.
- establishing a Greenhouse Gas Strategy Group.

In 2020, we saw this translate into new targets, standards and initiatives for AWAC, including:

- new biodiversity standards and the biodiversity action plans implemented at AWAC sites
- increased focus on water stewardship at water scarce areas such as AWAC's Western Australian operations, including a new target to reduce water intensity by 5% by 2025 and 10% by 2030, from a base year of 2015
- reuse of bauxite residue and a new target to reduce bauxite residue storage land requirements per tonne of alumina produced by 15% by 2030 using a base year of 2015
- new carbon reduction targets specific to AWAC refineries (see further page 57)
- launch of the world's first low-carbon Alumina brand, EcoSource as a separate product available to customers.

We look forward to enhanced engagement with Alcoa and continued improvement of sustainability performance over the coming years.

Sustainability governance structure



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Climate risk
Why this matters

Climate change poses both risks and opportunities to our business, the broader economy and society. As a partner in an energy- and emissions-intensive business, Alumina Limited has significant role to play in supporting the transition to a zero-carbon economy and preparing AWAC for the physical impacts of climate change.

How this is managed

Governance

The Board has oversight of Alumina Limited’s approach to climate change, through the Sustainability Committee, which monitors climate change issues and risks. For more information on our governance structures, see page 24 of this report, and our Corporate Governance Statement.

In 2020, Sustainability Committee members and senior management received tailored climate change and ESG training from independent third-party specialists, including an update on climate science, the implications of national and international policy developments, carbon pricing, the Task Force on Climate-Related Financial Disclosures (TCFD) and energy and emissions issues and opportunities.

Climate and energy are key topics for our formal and informal engagement channels with Alcoa, which are detailed below on page 35.

Strategy

Our commitment to limiting the negative impacts of climate change is formally outlined in our [Climate Change Position Statement](#).

We conduct independent analysis to support our engagement with Alcoa in relation to AWAC’s climate strategy. In FY20 we undertook work to:

- Formulate appropriate GHG emission targets for AWAC.
- Assess our climate disclosures against the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD).
- Explore possible decarbonisation pathways for AWAC, including looking at energy efficiency, onsite and offsite renewable energy sources, innovative technologies, and carbon offsets.
- Explore carbon pricing under different climate scenarios and consider how an internal carbon price could be used in our investment projects and strategic decision-making processes.
- Help prepare our business for regulatory changes.

While preparing our business for risks, we are also looking at opportunities for our products to support climate transition.

You can read more about AWAC’s approach to climate change on page 59.

Risk management

In 2021 (after the reporting period), Alumina Limited conducted a qualitative assessment of climate-related risks and opportunities for our business in alignment with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). We identified 28 risks and five opportunities and assessed these against three climate change scenarios consistent with RCP¹ 2.6, RCP 4.5 and RCP 8.5 in the short (2021), medium (2022–30) and long term (2031–50). This scenario-based climate risk analysis represents our initial screening, and provides us with a preliminary understanding of potential climate change impacts in order to help us better manage them.

The table on pages 32 and 33 presents 15 material climate-related risks and four opportunities for our business. Other risks analysed, but deemed to be less material, included those arising from higher annual rainfall, increased intensity and duration of extreme heat, sea level rise and unsuccessful investment, as well as opportunities such as carbon market participation. The impacts shown reflect the most extreme scenario

for stress testing purposes. For transition risks and opportunities, this is RCP 2.6 and for physical risks and opportunities this is RCP 8.5. We have not presented RCP 4.5 in the following table as the study did not indicate any notably different impacts from the extreme scenarios, which showed the same directional impacts but to a more pronounced extent. Green columns reflect positive impacts, and red columns reflect adverse impacts. Looking ahead, we will continue to refine our analysis iteratively, and seek to manage these risks and capitalise on the opportunities.

Metrics and targets

AWAC’s climate-related metrics targets can be found on page 57. In FY20, a new carbon reduction target was established specific to AWAC refineries, to reduce refinery emissions intensity from current levels by approximately 4% by 2025 and 12% by 2030.

¹ A Representative Concentration Pathway (RCP) is a greenhouse gas concentration trajectory adopted by the IPCC, corresponding to different levels of global temperature rise. RCP 2.6 corresponds to keeping global temperature rise below 2°C by 2100, RCP 4.5 is aligned to between 2°C and 3°C, and RCP 8.5 corresponds to greater than 3°C warming. Implicit in these trajectories is the level of global action on climate change, with the least effort in RCP 8.5 and the most in RCP 2.6.

Alumina climate risks and opportunities²

Type	Type	Risk	Description	Short term impact	Medium term impact	Long term impact
Risk	Physical	Acute; Chronic	Increased frequency and severity of extreme precipitation events and higher annual rainfall across some sites (e.g. in South America) may result in more stringent tailings and water dam design criteria which may result in capital expenditure to meet the new criteria			
		Acute; Chronic	Increased frequency and severity of extreme precipitation events and higher annual rainfall across some sites (e.g. in South America) may cause water management structures to fail resulting in significant capital and operational expenditure as well as lower revenue due to site shut downs			
		Acute	Increased frequency and severity of extreme precipitation events may cause water management systems to exceed capacity resulting in discharge which may result in additional capital and operational expenditure			
		Chronic	Increased average temperatures, lower annual rainfall and increased frequency and period of drought may increase water stress at our water-intensive alumina refining operations which may result in lower revenue due to production ramp downs and additional capital and operational expenditure			
		Chronic	Conflict over water resources arising from physical risks of climate change may impact on our social licence to operate			
		Acute	Increased frequency and severity of bushfires may cause disruptions resulting in loss of revenue from down time and additional capital and operational expenditure			
		Acute	Increased frequency and severity of high wind events may cause disruptions resulting in loss of revenue from down time and additional operational expenditure			
	Transition	Policy and legal	Higher standards and increased regulatory scrutiny may impact on our ability to obtain licences and increase operational expenditure			
		Market	Materials substitution in key markets (e.g. automotive, construction, packaging, power infrastructure) may have adverse impacts on revenue			
		Technology	Failure to respond to customer preferences and demand for low carbon branded aluminium products may have adverse impacts on revenue			

² This analysis was qualitative in nature. The impact is directional and limited to relative magnitude. There are inherent limitations with scenario analysis given it is forward-looking and encompasses many unknowns. This analysis is based on assumptions we made which may or may not prove to be correct. Additionally, there may be factors we have not considered as part of this analysis.

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Type	Type	Risk	Description	Short term impact	Medium term impact	Long term impact
Risk	Transition	Policy and legal	Exposure to carbon pricing may increase operational expenditure and may result in higher costs for purchased goods and services if passed on by suppliers	<div></div>	<div></div>	<div></div>
		Reputation	Reputational damage due to inaction on climate change may impact our capacity to secure capital, cost of capital, insurance and approvals, and affect ability to retain or attract skilled staff	<div></div>	<div></div>	<div></div>
		Market	Decreased demand from substitution of primary production with secondary production	<div></div>	<div></div>	<div></div>
		Technology	Transitioning to lower-emission technology may result in increased capital and operational expenditure	<div></div>	<div></div>	<div></div>
		Policy and legal	Policy uncertainty may limit our capacity to prepare for a structured transition resulting in increased costs and disruption to the business	<div></div>	<div></div>	<div></div>
Opportunity	Transition	Products and services	Increased demand from expansion of low-carbon branded aluminium products to capitalise on customer demand for “green metals”	<div></div>	<div></div>	<div></div>
		Markets	Increased demand from technology shifts as part of the clean energy transition and product substitution towards aluminium	<div></div>	<div></div>	<div></div>
		Energy source	Increased uptake of lower-emission sources of energy may reduce operational expenditure	<div></div>	<div></div>	<div></div>
	Physical	Resilience to physical climate risks	Increased resilience to physical climate-related risks may minimise disruptions to operations and lower expenditure	<div></div>	<div></div>	<div></div>

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Tailings

Why this matters

The responsible management of tailings facilities continues to be a focus for our investors and other stakeholders, following major incidents involving other mining operators in recent years. Mismanagement of tailings facilities can result in serious social and environmental harms, which in turn pose a reputational risk for Alumina Limited, even as the non-operator. This risk applies to both operational sites and those in closure.

How this is managed

Our executive team and Board take seriously their due diligence responsibilities in relation to tailings. Tailings dam safety management is a standing agenda item for each Alumina Limited board meeting.

We engaged third-party experts to conduct detailed technical and management system reviews on an ongoing basis and advise us on tailings management governance and processes being put in place by Alcoa.

This includes a review of Alcoa's Impoundment Lead Team monthly reports and other correspondence; requests for additional information as necessary; and site visits (these were prevented in 2020 due to COVID-19). This independent analysis informs our engagement with Alcoa at the Strategic Council and other forums (see page 35 below), enabling us to provide challenge and guidance.

AWAC has made significant refinements in its management of tailings facilities in recent years. As a requirement of its recent membership of the (ICMM), Alcoa has committed to implement the new Global Industry Standard on Tailings Management across its operations.

In response to the **Investor Mining and Tailings Safety Initiative**, a listing of AWAC impoundments can be found on the **Alcoa** and **Alumina Limited** websites.



You can read more about AWAC's approach to waste, tailings and residue management on page 63 and on the [Alcoa website](#).

HOW WE ENGAGE WITH ALCOA AND AWAC

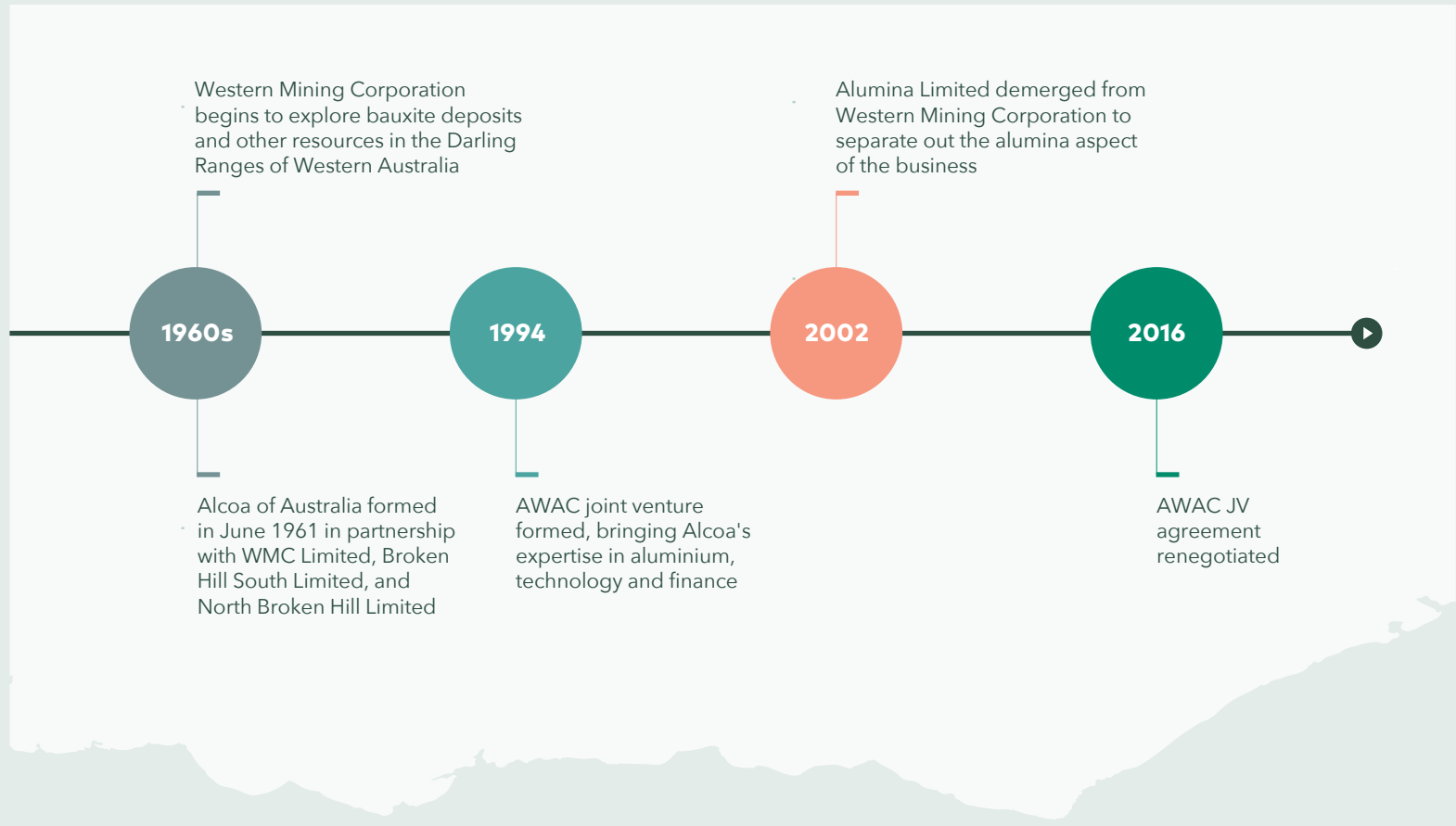
Why this matters

As a non-operating joint venture partner, our role is to bring informed and useful views that contribute to AWAC's strategic direction and support the management of key risks and opportunities.

Our position as a non-operating partner exposes us to both the successes and failures of AWAC. We carry this risk despite our limited ability to control AWAC's performance. We rely on thorough governance, strong relationships and ongoing engagement to understand, influence and ultimately manage the risks and opportunities at AWAC for the benefit of our shareholders.

Our shared history

Our relationship with Alcoa began in early 1960s when Western Mining Corporation (now called Alumina Limited) began to explore bauxite deposits and other resources in the Darling Ranges of Western Australia. Alcoa Inc. was invited to join the project to provide technology, aluminium expertise and finance. The growth of the venture led to the formation of Alcoa World Alumina and Chemicals (AWAC) in 1995 and the subsequent creation of Alumina Limited in December 2002. Alumina Limited and Alcoa negotiated the current joint venture agreement in 2016.



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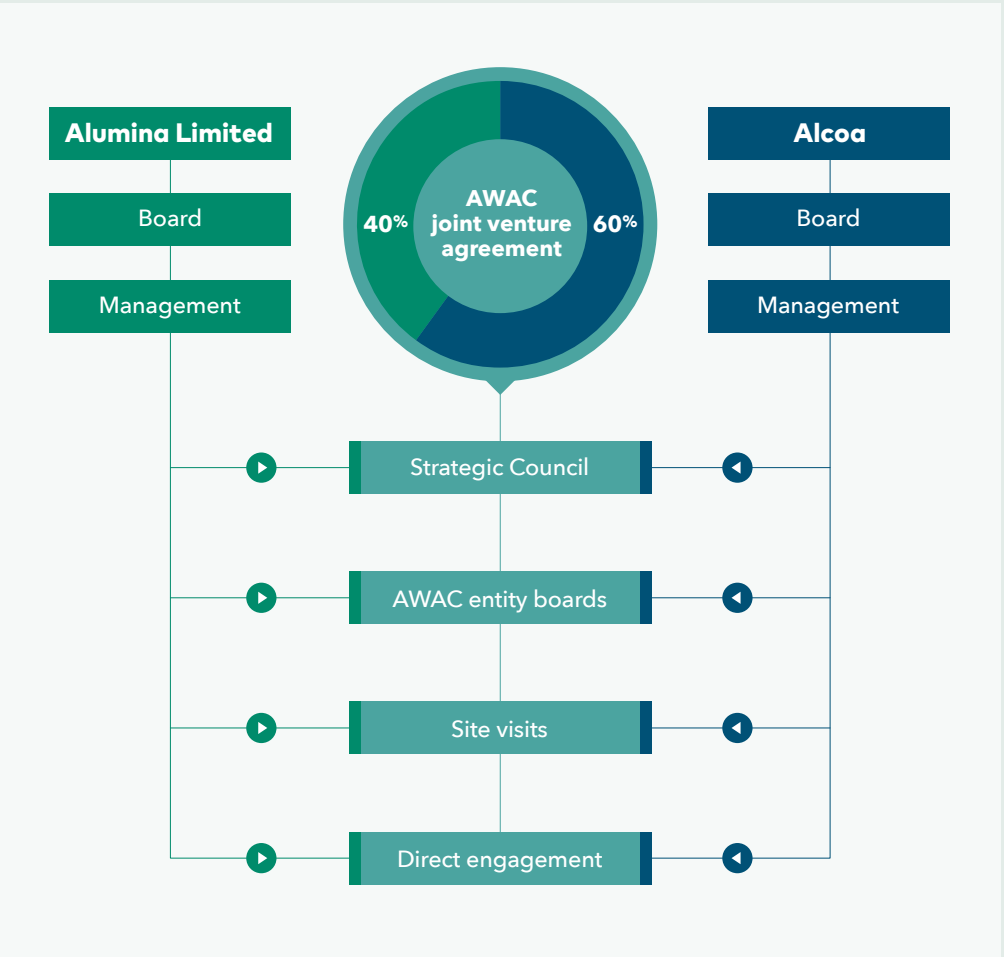
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How we manage this

Alumina Limited engages with Alcoa and AWAC via several formal and informal channels throughout the year (see diagram below). Our approach is guided by our risk management and governance structures, outlined on page 31.



Strategic Council

Alumina Limited provides direction and counsel to the Enterprise Companies within AWAC through participation on the AWAC Strategic Council. This is AWAC’s leading governing body, and the principal forum through which matters concerning strategy, policy and sustainability are discussed. The Council comprises Alcoa and Alumina Limited representatives, in proportion to ownership interests:

Alcoa		Alumina Limited	
Position	Held in 2020 by	Position	Held in 2020 by
Chief Executive Officer	Roy Harvey (Chair)	Chief Executive Officer and Deputy Chair	Mike Ferraro
Chief Financial Officer	William Oplinger	Chief Financial Officer	Grant Dempsey
Chief Operating Officer	John Slaven		

The Council meets bi-annually. Discussion focuses on substantive questions of strategy or policy (for example investment and divestment), and key risks and opportunities. Agenda items can be put forward by either party; as of June 2020, Alumina Limited has requested at least annual discussion of environmental, social and governance topics, including climate strategy. Alumina Limited may commission independent analysis and advice to inform Council discussions.

The Council acts as a consultative forum more than a decision-making body. A key function is to assess and update AWAC’s risk management system and the risks facing each of AWAC’s enterprises. These are reviewed based on impact vs likelihood and vulnerability vs velocity, if not mitigated

by the appropriate controls. Where needed, the Strategic Council may engage the assistance and advice of experts and advisors from Alcoa or Alumina Limited to provide input on specific issues.

The Strategic Council principally looks to the operating management of the Enterprise Companies for information about the businesses. However, at the request of the Chairman or Deputy Chairman, the Strategic Council can also form advisory committees of representatives of both Alcoa and Alumina Limited to assist the Strategic Council. As the operator, Alcoa is responsible for communicating, delegating and following up on actions resulting from Strategic Council meetings.

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AWAC entity representation

Alumina Limited has proportional representation on the certain AWAC enterprise companies (see page 8). Each board comprises two Alumina Limited and three Alcoa members; we are represented by our CEO and CFO.

Alumina Limited participates in quarterly meetings of the Alcoa of Australia board, discussing entity-level performance, and governance and compliance matters including risk management and ESG topics. Similarly, we have regular meetings with the management of Alcoa World Alumina Brasil.

Site visits

Alumina Limited normally aims to send representatives to a selection of AWAC operations on an annual basis to engage with site management, review operations and hold meetings with representatives of local communities. These visits help us build relationships with key managers and to deepen our understanding of operations. Due to COVID-19, there were no site visits in 2020.

Direct engagement

Alumina Limited engages directly with Alcoa through various formal and informal channels:

- A quarterly meeting with the Alcoa Chief Operations Officer, attended by several executives from both organisations. These meetings have a strong focus on operations, and cover ESG topics including environmental impacts and health and safety. They are primarily an opportunity for Alumina Limited to gather information and ask questions.
- A quarterly meeting with Alcoa's Chief Commercial Officer, attended by several Alumina Limited employees. These meetings are focused on the sale and marketing of our commodities, and on the cost of key inputs (chiefly caustic soda and energy). These discussions also are primarily an opportunity for Alumina Limited to gather information and inform our view of markets, risks and exposures.

- Alumina Limited's sustainability team (see page 30 above) and CEO meet quarterly with senior Alcoa sustainability representatives. The standing agenda for this meeting includes tracking key metrics and strategies for our material topics, climate plans and actions, and any common questions in relation to external affairs issues.
- Monthly meetings are also conducted with AWAC's heads of commercial and operations to discuss topical operational matters.
- The CEO of Alumina Limited speaks regularly with the CEOs of Alcoa Corporation and Alcoa of Australia to discuss current topics.
- Issue-specific engagement directly between the most relevant personnel from each organisation, including on sustainability.



LIGHT WEIGHT ALUMINIUM CONTRIBUTING TO A LOW CARBON FUTURE

Aluminium has the valuable attribute of being a light weight metal. The lightness of aluminium is central to the transition to a low carbon world. This is nowhere more evident than in cars and trucks.

Every kilo of aluminium in a car displaces 2 kilos of steel. Weight reduction leads to a proportionate reduction in energy consumption because the energy required to move a car is directly proportional to its mass. Reduced fuel consumption means reduced CO₂ is emitted in powering the vehicle.

In 2019, for example, the average aluminium content in European cars had already reached 179kg³, giving the European automotive industry world leadership in light-weighting.

Reduction of Tailpipe CO₂ Emission – VW Golf VI 90 KW TSI Engine

	Direct weight savings - 100kg	Direct + Indirect* weight savings - 150kg
Primary fuel savings	3.6g/km	5.4g/km
Primary + secondary fuel savings	8.4g/km	12.7g/km

Source: "Aluminium in Cars – Unlocking the Light-weighting Potential" – European Aluminium Association

* Additional weight reduction by downsizing certain components to keep vehicle performance at the same level.

3 DuckerFrontier- Aluminium Content in European Passenger Cars, October 2019

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It is estimated that from 2019, Europe’s light-weighted fleet was set to save roughly 50 million tonnes of CO₂⁴ over the life of the cars being built that year. This saving in tonnes of CO₂ is repeated each year for the fleet of cars produced in **that year**.

Of course, aluminium smelted in Europe or imported or recycled, inevitably carries some carbon footprint and its size can be definitively calculated. In 2019 the emissions released in making the aluminium built into Europe’s cars that year amounted to roughly 17 million tonnes of CO₂⁵.

That is nearly a 3 to 1 ratio of carbon saved compared to carbon emitted in the production of aluminium.

The average aluminium content in European cars is on track to reach almost 200kg by 2025, so aluminium’s role in reducing emissions will increase on that score alone and every automotive sector in the world is following Europe’s lead. Similar analysis has been conducted in other jurisdictions, and similar saving levels have been identified.

4 <https://european-aluminium.eu/about-aluminium/aluminium-in-use/automotive-and-transport/>
5 Estimated Carbon Footprint of Aluminium Used in Europe’s Car Industry (2019)

	Unit	Volume
Aluminium per car	kg	179.2
Total aluminium demand	Million t	2.99
Source of aluminium		
Primary production		34%
Imported primary		30%
Recycled		36%
Carbon intensity		
Primary production	t CO ₂ e/t	6.7
Imported primary	t CO ₂ e/t	10.6
Recycled	t CO ₂ e/t	0.5
Carbon footprint		
Primary production	Million t	6.8
Imported primary	Million t	9.5
Recycled	Million t	0.5
Total carbon footprint	Million t	16.8

Source: Ducker Study (October 2019), “Circular Aluminium Action Plan” – European Aluminium Association



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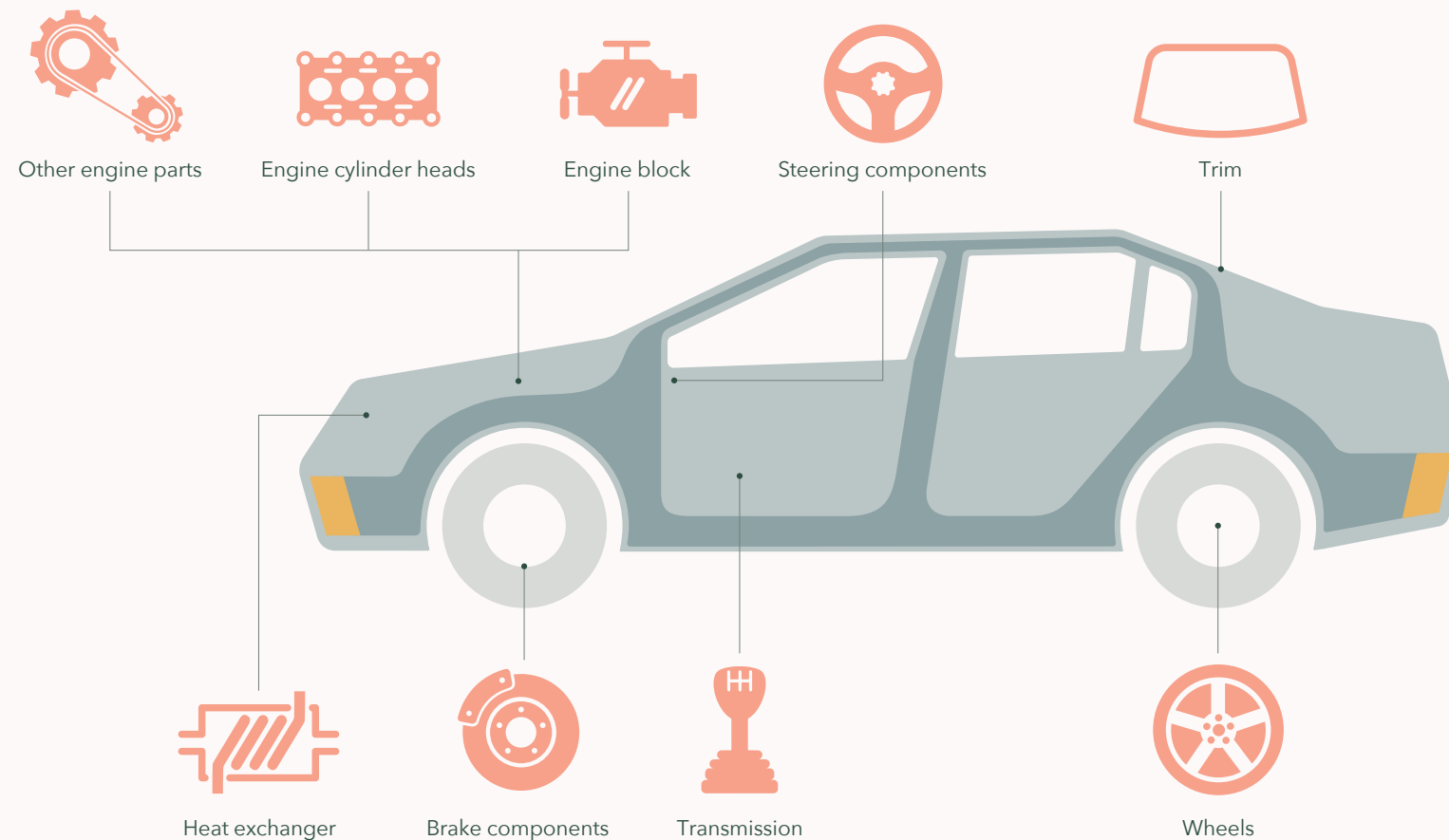
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The potential of aluminium applications

Sustainability is about making optimal economic and environmental choices. What delivers prosperity and environmental health now must also deliver for future generations as well.



A low carbon world will look for all ways that metals can contribute to further carbon reductions, while at the same time delivering modern standards of living and environmental health both now and in the future.

In parallel, light-weighting with aluminium is enabling a more fundamental step change to a low carbon future as progressively more electric cars are joining car fleets all over the world. The lighter the car, the longer the range on the same charge. Aluminium is the perfect material for many of the components that electric vehicles use. Cooling solutions, battery frames and cables are now routinely fabricated from aluminium.

Aluminium, the light weight metal, is central to the history of aviation. Its role in the transition to a low carbon world is following the same road.

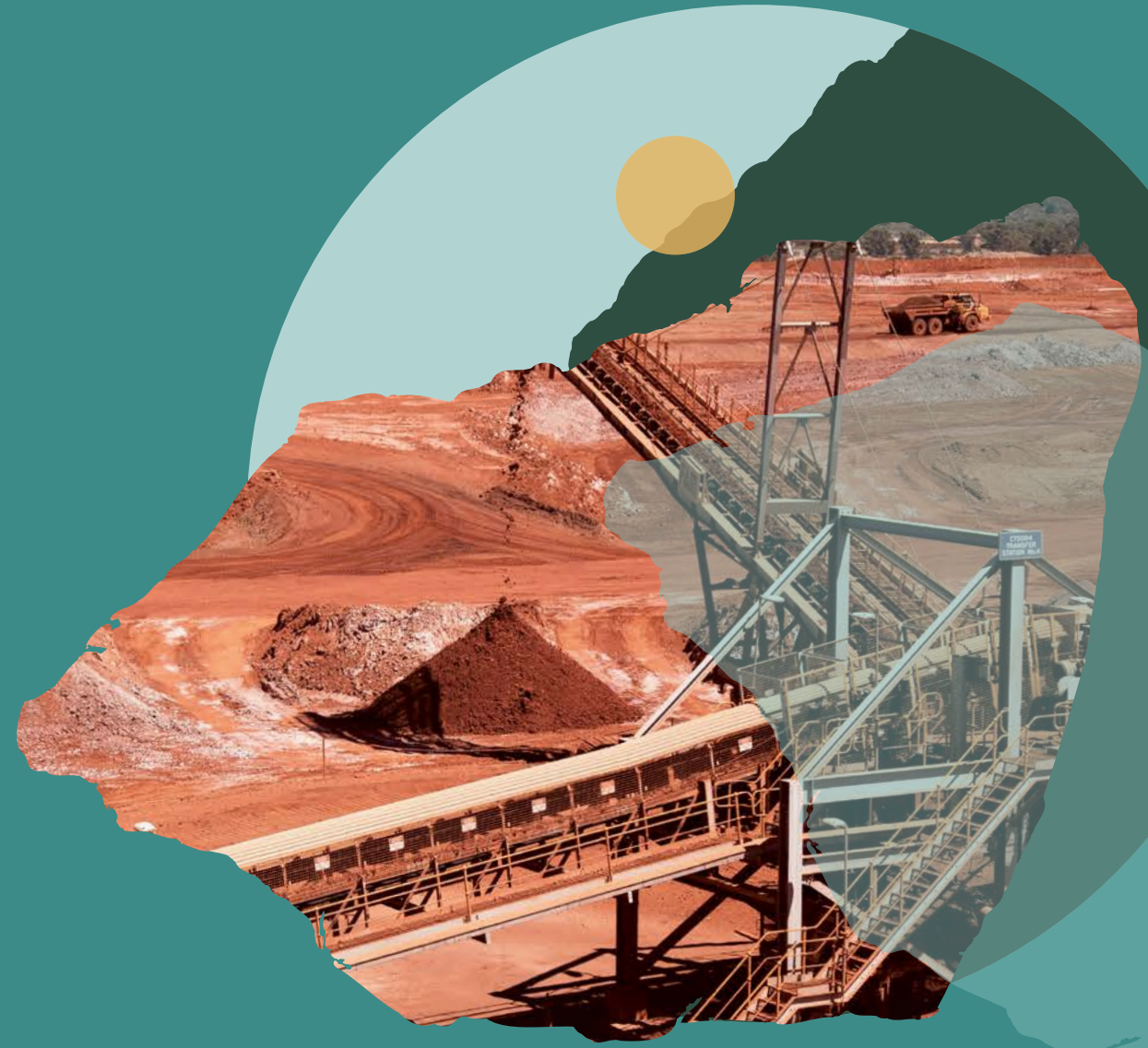
- Structural frame and components
- Exterior hang-on panels:
 - Roof
 - Hood/bonnet
 - Wings/fenders
 - Liftgate/Boot lid
 - Side walls
 - Doors
- Crash management system

AWAC

This section of the report addresses how Alcoa, as operator of AWAC, manages topics that Alumina Limited has identified as material.

Alcoa’s management approach is consistent across all its operations and is not differentiated for AWAC. However, where relevant, we have identified any aspects that are specific to AWAC. Further detail on Alcoa’s approach and performance can be found in its 2020 Sustainability Report.

Performance data in these chapter and in the data tables at the end of this report relate to AWAC only, on a ‘full facility’ basis, except where otherwise noted.



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AWAC PERFORMANCE SNAPSHOT 2020

	Metric	2020	% change from 2019	
AWAC	Revenue (\$ million)	4,329.5	(17.0)	▼
	Bauxite mined (million tonnes on wet basis [^])	45.0	0.9	▲
	Alumina produced (million tonnes)	12.8	1.6	▲
	Aluminium produced ('000 tonnes)	160	(0.6)	▼
	GHG (CO ₂ -e '000 tonnes)	9.1	(2.2)	▼
	GHG intensity (per tonne of production)	14.8	(10.3)	▼
	Energy intensity (GJ per tonne of production)	72.9	1.1	▲
	Freshwater intensity (per tonne of Aluminium production) [†]	4.29	1.7	▲
Full facility	Employees [#]	5,596	(0.9%)	▼
	Lost work days [~]	0.344	21.6	▲
	Days away [`]	0.737	0.6	▲
	Total Recordable Injury Rate	1.320	(2.8)	▼

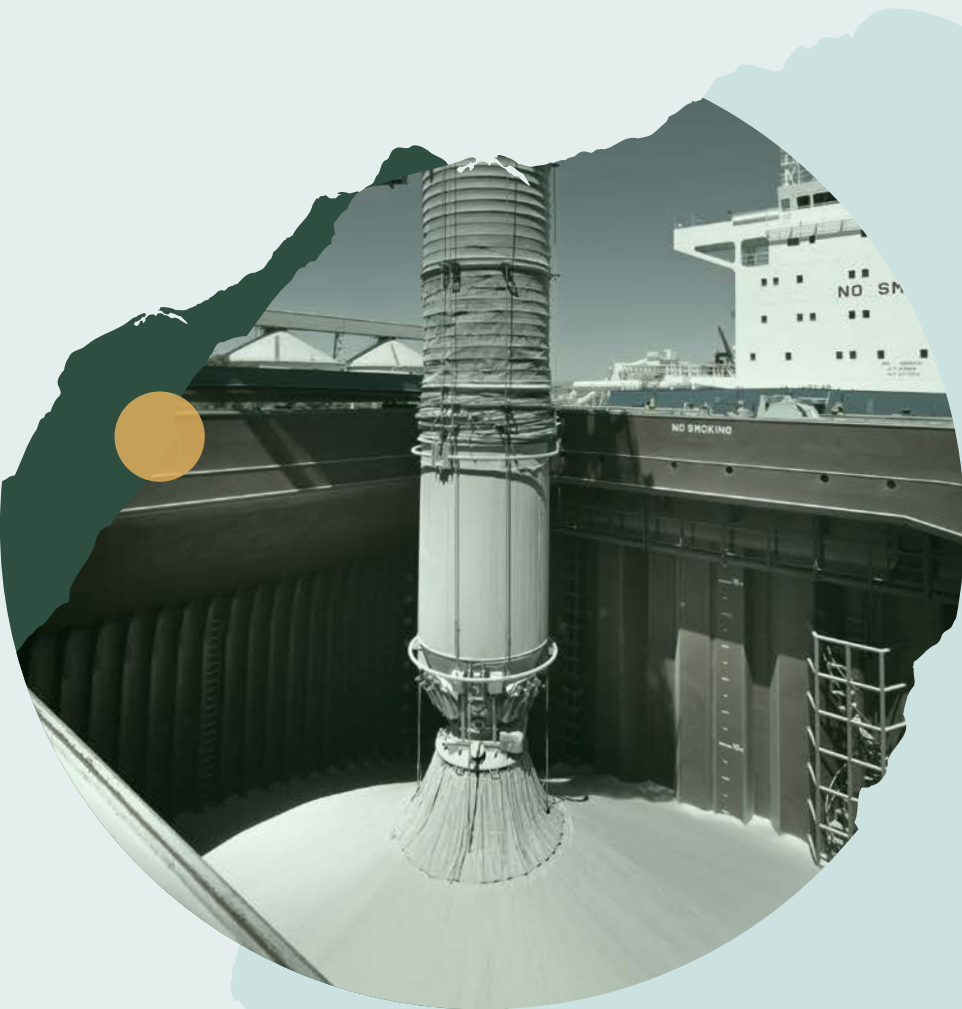
[^] Including moisture content (as opposed to 'bone dry' weight).

[†] Alcoa calculates intensity measures based on unit of aluminium production. To adjust for the alumina part of the value chain, refining is included at a ratio of 1.9 metric tons of alumina produced to 1.0 metric tons of aluminium produced.

[#] AWAC employees for 2019 was previous reported as 5,106. This figure has been revised to 5,648 employees to align with statistics used for health and safety. The employee figures provided for 2020 may include employees at Alcoa of Australia Headquarters whose roles include both AWAC and non-AWAC-related work.

[~] The number of injuries and illnesses resulting in one or more days away from work per 100 full-time workers.

[`] The number of recordable injuries and illnesses per 100 full-time employees resulting in a day away from work.



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AWAC'S APPROACH TO SUSTAINABILITY

AWAC's commitment to sustainability drives it to minimise negative impacts and maximise value across its global operations to contribute to a better society. Guiding its decision-making are Alcoa's three Strategic Priorities: reduce complexity, drive returns and advance sustainably. These strategic priorities are supported through the three pillars of AWAC's sustainability strategy:

- Sustain operations, preserve the license to operate and grow assets, creating sustainable value for the communities in which it operates.
- Enhance the value of AWAC's products through differentiation to improve profitability.
- Reduce risk, minimise negative environmental impacts, and improve health and safety performance.

Helping guide the strategy is a set of long-term sustainability goals, which address key material issues for AWAC and its stakeholders covering the environment, employees and the communities in which it operates:

- Alcoa has targeted AWAC's refining operations to improve direct and indirect emissions intensity by 4 per cent by 2025, and 12 per cent by 2030, from a 2015 base.

Alumina Limited believes that AWAC can achieve a 50% decrease in absolute emissions by 2030 from a 2010 baseline (15.8 million tonnes of CO₂e)
- From a 2015 baseline, reduce the intensity of total **water use** from water-scarce locations by 5% by 2025 and 10% by 2030.
- From a 2015 baseline, reduce landfilled **waste** by 15% by 2025 and 25% by 2030.
- From a 2015 baseline, reduce **bauxite residue** land requirements per metric ton of alumina produced by 15% by 2030.
- 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**.
- **Zero fatalities and serious injuries** (life-threatening or life-altering injuries and illnesses).
- Attain an **inclusive everyone culture** that reflects the diversity of the communities in which it operates.
- By 2022, implement a **social management system** at all locations, including the definition of performance metrics and long-term goals to be accomplished by 2025 and 2030.

In 2019, AWAC, through Alcoa, became a member of the International Council on Mining & Metals' (ICMM), committing to meet the 10 Principles, eight Position Statements and all associated performance expectations. The associated reporting and verification requirements apply for the 2021 reporting year.

AWAC is also committed to contributing to the United Nations Sustainable Development Goals (SDGs), in alignment with the SDG linkages identified by the European Aluminium initiative.

Risk management

In 2020, Alcoa linked its sustainability materiality assessment to its corporate risk management process, ensuring that sustainability-related matters follow the same process to determine their potential impact and to establish the appropriate management measures. The risk management process is structured around the Integrated Framework for Enterprise Risk Management from the Committee of Sponsoring Organisations of the Treadway Commission and uses the International Organization for Standardisation's ISO 31000 (risk management) as a guideline.

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GOVERNANCE

Strong, dynamic and diverse leadership is essential to maintaining a social licence to operate with internal and external stakeholders. It provides the foundation for organisational culture and financial performance through robust decision making, strategy and risk management.

This section provides an overview of Alcoa's own governance functions, as operator of AWAC. See page 24 for information about Alumina Limited's governance structures, and page 35 for information about how Alumina Limited engages with Alcoa.

Alcoa's values

Alcoa's corporate values have always been a foundation of the company. They govern the way Alcoa's directors, officers and employees act, operate and interact with customers, communities and each other.

Values: Act with Integrity. Operate with Excellence. Care for People.

Acting with integrity is a cornerstone of Alcoa's values. Employees are expected to be open, honest and accountable and to adhere to the company codes and policies that guide their behaviour.

Business integrity

Why this matters

AWAC's stakeholders need to have confidence that high levels of ethics and transparency are applied to its actions and decisions, and that these are taken in accordance with its values.

How this is managed

In 2020, Alcoa's Ethics and Compliance (E&C) organisation conducted a review of the process for creating and maintaining corporate policies and procedures, and improved the governance, format and content of the existing ones.

Alcoa's Code of Conduct is AWAC's roadmap for professional conduct. It applies to all AWAC staff, and details the parameters within which the organisation operates, defining AWAC's culture, values and expectations. The Code of Conduct is provided in eight languages and made available to each employee, along with broader policies relating to AWAC, through the company intranet.

All employees complete the Code of Conduct training annually. This covers specific topics of importance which are updated on a regular basis. Due to the COVID-19 pandemic,

a combination of online training methods and information packets were used to deliver training and reinforce key messages about the Code of Conduct.

In addition, all salaried employees complete anti-bribery training and the annual Business Conduct Survey. Employees whose specific roles put them at a higher risk complete two further virtual courses: anti-corruption and respect in the workplace. Five ethics and compliance training courses were rolled out in 2020, two of which were mandatory for all salaried employees.

Reporting and investigating

Alcoa's stockholders and employees can communicate critical concerns to Alcoa's Board of Directors through a variety of channels including by phone or mail, through stockholder engagement, and through union representation or work councils.

Alcoa maintains a confidential Integrity Line accessible in multiple languages, 24 hours a day, seven days a week, which is widely publicised internally and externally. An independent company receives all issues and concerns reported through the Integrity Line and directs them to the E&C organisation.



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In 2020, the Integrity Line fielded 184 submissions. Of these, 21% resulted in disciplinary action, and 47% were inquiries or other matters that did not require investigation or substantial follow-up. The majority of submissions (65%) were employment related, with the remainder related to business integrity, health and safety, trade, human rights and general inquiries.⁴

Other governance policies that drive ethical and responsible business practice at AWAC include:

- Alcoa's Corporate Governance Guidelines
- Anti-Corruption Policy
- Human Rights Policy
- International Trade Compliance Policy.

Tracking and auditing

Each year, AWAC locations worldwide use the Alcoa Self-Assessment Tool (ASAT) to validate that internal controls are in place and functioning as designed to protect the company from risks, including ethics and compliance. Alcoa's internal audit team also evaluates E&C implementation and effectiveness as part of its standard audit protocols when conducting full audits of AWAC locations.

Anti-corruption program

Alcoa takes a strong stance against bribery, consistent with the anti-bribery laws around the world that apply to it. Alcoa's anti-corruption program is tailored to its risk profile to meet or exceed applicable law and demonstrate the hallmarks of an effective compliance program as articulated by the US Department of Justice.

Government compliance and engagement

Why this matters

AWAC's operations span a broad set of geographies, each with specific requirements and policies pertaining to AWAC's operations, compliance and conduct within its communities. Compliance processes implemented by AWAC need to reflect the varying requirements of these communities. This protects the business from regulatory risks and ensures AWAC positively contributes to the communities in which it operates by meeting relevant requirements.

How this is managed

Effective and transparent engagement with relevant governments and regulators enables AWAC to understand current and emerging regulatory and policy impacts. AWAC's legal risk and compliance is managed by Alcoa's general counsel and its Legal Department, who are qualified and experienced in the primary jurisdictions of Alcoa's operations. They work closely with other functions responsible for monitoring compliance

to identify and maintain relevant information in specific areas, such as environmental, health and safety; human resources; and ethics and compliance. When needed, external counsel is engaged to address specific areas of expertise or jurisdictions.

Alcoa actively engages in regulatory processes at all levels of government, through advocacy via regional aluminium associations and industry partnerships on shared issues, and through direct communication with community stakeholders. All government engagement conducted by AWAC is guided by the Alcoa Stakeholder Engagement Framework. Recent engagement has focused on tax penalties, environmental assessments and strategies, mine rehabilitation and energy supply. Through Alcoa, AWAC engages with stakeholders including elected officials, government agencies and NGOs, to ensure fair and effective policies and regulations.

Political contributions

Alcoa's Political Contributions Policy prohibits the use of company funds, property, services or other items of value for political purposes. Rare exceptions may be made, such as favouring or opposing a ballot or referendum vote that can impact Alcoa. Alcoa Corporation did not make any direct donations to the election campaigns of politicians in 2020.



For more information on the Anti-corruption program, see [Alcoa Sustainability Report](#) page 12-13.

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Industry relations

Why this matters

Industry associations provide a critical forum for dialogue and influence towards a sustainable, resilient aluminium, alumina and bauxite industry. Membership in these associations provides AWAC the ability to collectively advocate on behalf of the industry and promote leading practices and innovations.

How this is managed

Alcoa maintains membership and participates in a range of organisations that drive collaboration and engagement on issues important to the aluminium and mining industries. Alcoa was accepted as a member of the International Council on Mining & Metals (ICMM) in 2019, and works to meet a range of social, environmental and governance requirements to retain membership.

AWAC, via Alcoa, is a member or participant of the following organisations:

- Australian Aluminium Council
- Aluminium Stewardship Initiative
- Brazilian Aluminum Association
- Brazilian Council for Sustainable Development
- Center for Climate and Energy Solutions
- Eurometaux
- European Aluminium
- International Aluminium Institute
- ICMM
- The Aluminum Association.

For Alumina Limited's associations memberships, see page 28.

Tax transparency

Why this matters

AWAC's global operations create value in several geographies, which requires that it also contributes to these communities through tax payments. Tax transparency helps AWAC to build trust with local communities and governments in these locations and clearly identify the economic benefit flowing from AWAC's operations.

How this is managed

AWAC complies with all applicable tax laws and regulations in the jurisdictions where AWAC has a tax presence. AWAC works closely with local governments to ensure it operates with transparency and participates in current audit initiatives to shorten audit cycles and reduce tax risk.

AWAC maintains several tax procedures to ensure senior management understand the tax consequences of all material tax matters. The Company's tax strategy is applied to all corporate taxes, including corporate income tax, value-added tax, sales tax and property tax. AWAC's tax professionals partner with its businesses and resource units to satisfy all tax obligations; develop and implement tax strategies to support business goals and maximise stockholder value; mitigate tax risk; and develop sustainable, arms-length pricing on intercompany transactions.

Alcoa is a signatory to the Extractive Industries Transparency Initiative (EITI) and supports enhancing the transparency of mineral revenues. In Australia, Alcoa is a signatory to the government's Voluntary Tax Transparency Code, and publicly discloses Alcoa of Australia's tax payments via an annual **tax transparency report**. Alcoa of Australia tax transparency reports are published at alcoa.com/australia/en/sustainability/reports-publications.

As previously reported, the Australian Taxation Office (ATO) has undertaken a transfer pricing examination in respect of certain historical third-party alumina sales made by Alcoa of Australia Limited over a 20 year period. The results and implications of this examination are discussed in the Alumina Limited 2020 Annual Report in note 2d.

Supply chain

Why this matters

AWAC relies on a broad supplier base to provide it with the services and resources necessary for its global operation. The diversity and geographical spread of these suppliers brings an inherent degree of complexity in ensuring that they universally meet AWAC expectations around business conduct and sustainability.

How this is managed

AWAC seeks to establish strong, trusted relationships with each of its suppliers to encourage responsible behaviour. Alcoa's Supplier Standards clarify its expectations of suppliers, whilst its Global Supplier Sustainability Program, conducted in partnership with EcoVadis, provides insight into the sustainability performance of suppliers. The program also provides due diligence of, and insight into, the ESG performance of key suppliers, and a framework to advance sustainability practices.

The EcoVadis assessment scores suppliers against 21 criteria in four categories (see page 47). It provides feedback on improvement areas, which is used to create improvement plans, set key performance objectives and develop strategic partnerships to manage risk and create long- term value.



See also [Alcoa of Australia's Tax Transparency Report](#)

Ecovadis supplier assessment criteria

<div></div> <div>Environment Energy consumption and greenhouse gases Water Biodiversity Local and accidental pollution Materials, chemicals and waste Product use Product end of life Customer health and safety Environmental services and advocacy</div>	<div></div> <div>Labor and human rights Employee health and safety Working conditions Social dialogue Career management and training Child labour, forced labour and human trafficking Diversity, discrimination and harassment External stakeholder human right</div>
<div></div> <div>Ethics Corruption Anticompetitive practices Responsible information management</div>	<div></div> <div>Sustainable procurement Supplier environmental practices Supplier social practices</div>

Alcoa engages Trace International to conduct a separate due-diligence program and further manage its supply chain risks related to anti-bribery and corruption, trade compliance, child and slave labour, criminal history, human trafficking and conflict minerals. This program involves suppliers with an Alcoa expenditure higher than US\$50,000 per year that are based in a high-risk country and all suppliers with an Alcoa expenditure above US\$1 million per year. At the end of 2020, 1,326 corporate groups were participating in the program.⁵

AWAC participates in joint ventures that are not operated or managed by Alcoa and/or relies on supply chain partners. In these instances, Alcoa reviews and monitors the compliance programs of significant joint ventures to ensure those operations act responsibly and exercise ethical business practices in compliance with AWAC and Alcoa guidelines. These reviews are conducted in collaboration with the joint venture partner and focus on key compliance program components, including:

- commitment from senior management
- Code of Conduct, anti-corruption and other compliance policies and procedures
- ethics training, confidential reporting and investigations.

Performance over 2020

In 2020, more than 395 corporate groups covering nearly 650 suppliers (43% of Alcoa’s global supply base spend) participated in the Global Supplier Sustainability Program. Of these suppliers, 97% met Alcoa’s minimum requirements. The average overall score was 46.1 out of 100, which is 3% above the EcoVadis benchmark.⁸

Alcoa was awarded Gold supplier classification from EcoVadis for the 2019/2020 reporting period, putting it in the top 5% of companies in its industry and a leader in the sustainability categories of environment, labour practices, fair business practices and sustainable procurement.

Further information on how Alcoa delivers on ethical and responsible procurement practices can be found in the following policies and procedures:

- [Supplier Standards](#)
- [Ethics and Compliance](#)
- [Human Rights Policy](#)

Alcoa’s Global Supplier Sustainability Program and approach to anti-bribery due diligence provide the foundation of its responsible sourcing requirements that are essential to operating and maintaining certifications from the Aluminium Stewardship Initiative.

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Modern slavery and human rights

Why this matters

Treating all people with dignity is one of AWAC's core values and a vital consideration for AWAC's social licence to operate. Everyone that AWAC interacts with, whether employees, contractors, suppliers or local communities, should be treated with respect and protected from conditions of modern slavery.

How this is managed

AWAC's **Human Rights Policy** prohibits the use of all forms of forced labour, including prison labour, indentured labour, bonded labour, military labour, slave labour and any form of human trafficking. It incorporates AWAC's commitment to support the United Nations Guiding Principles for Business and Human Rights and the International Labour Organisation Core Conventions, and supports the ICMM Mining Principles, particularly Principle 3: Respect human rights and the interests, cultures, customs and values of employees and communities affected by our activities.⁶ The policy operates in conjunction with the following:

- the Code of Conduct and employee training, both of which cover human rights
- Supplier Standards, which explicitly indicate respect of human rights
- internal and third-party supplier assessment programs for new and existing suppliers
- Equal Employment Opportunity Policy
- Harassment and Bullying Free Workplace Policy
- Integrity Line for employees, suppliers and the general public to report potential violations or concerns.

The Alcoa Board Safety, Sustainability and Public Issues Committee, comprising four directors, provides governance on matters relating to human rights risk. The Alcoa Human Rights Council defines and implements management systems to support individual and collective human rights impacted by AWAC's operations. The 15-member council is sponsored at the executive level of Alcoa and includes representatives from each region and key resource unit. Sponsors provide oversight, review and approve recommended actions and provide periodic feedback to the Executive Team.

In 2020, the council added a program manager and increased human resource and regional representation. The structure of the meetings and the work plan were improved to better address the social component of sustainability. Training was provided to council members on human rights international regulations and standards as well as risks specific to the mining and metals industry. Alcoa's Vice President of Global Procurement and Transportation has responsibility for assessing and managing modern slavery risks within AWAC's supply chain and Alcoa's Chief Human Resource Officer is responsible for managing modern slavery risks within the business. Training on avoiding trafficked labour was rolled out in 2019 and by the end of 2020, 97% of Australian salaried employees had completed the online training.⁷

In 2020 a modern slavery supply chain risk assessment was undertaken for AWAC, which determined that AWAC's higher risk inputs are process chemicals, lubricants, alloying metals, lime, calcined coke and refractories, and AWAC's higher risk countries of origin are China, Qatar, Indonesia, Saudi Arabia and India.

Within AWAC's operations, AWAC complies with all local applicable laws and regulations and conforms with the ILO conventions in relation to child labour. AWAC's Australian operations do not employ people under the age of 18 or support the use of child labour.

During the year, a human rights risk assessment was completed at AWAC's San Ciprian refinery (Spain) following a methodology adapted from the Danish Institute for Human Rights. The assessment showed no areas of high concern but did identify a few opportunities for improvement in AWAC's contractor and key supplier onsite audits and questionnaires, which are being investigated.

In 2020, AWAC performed human rights due diligence, which is a more in-depth analysis and review of stakeholder engagement, at its Juruti bauxite mine. This was undertaken because of the higher intrinsic risks associated with operating in Brazil. Due diligence was previously completed at AWAC's Western Australia sites, due to their financial significance. AWAC has addressed the identified risks and impacts for all locations in an action plan that is overseen by the Alcoa Human Rights Council. Progress is reported to high-level management on a periodic basis.

For additional information on how AWAC manages human rights, see page 50 of this report, and the Alcoa 2020 Sustainability Report page 55-8.

Commitments and progress in 2020

AWAC's progress to date:

- Supplier Standards were updated to explicitly prohibit modern slavery.
- Joined the Western Australian Modern Slavery Collaborative to gain and share knowledge on the subject as well as to benchmark programs proven to be effective in addressing risks of modern slavery.
- Western Australian operations gained certification from the Aluminium Stewardship Initiative (ASI) after independent, third-party auditors verified its performance against ASI's responsible production, sourcing and stewardship standards.

In 2020, no incidents of modern slavery were identified in AWAC. Alcoa of Australia published its first Modern Slavery Statement on 5 July 2021, in accordance with the reporting requirements of the Australian *Modern Slavery Act (Cth)* 2018. The statement sets out the actions taken to identify and mitigate modern slavery risks in Alcoa of Australia's supply chain and operations, key future focus areas and its commitment to transparency and improvement.

⁶ <https://www.icmm.com/en-gb/about-us/member-requirements/mining-principles>

⁷ Alcoa-wide data

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Future plans

Important steps were taken to further strengthen AWAC's approach to managing human rights and modern slavery risks across its business and supply chains. However, it acknowledges that there is more work to be done across its operations and its industry. Looking ahead, AWAC is committed to collaborating with its partners and industry peers to keep building joint capacity for mitigating modern slavery risks. AWAC's priorities are to:

- Expand its Supplier Sustainability Program (SSP) to screen and monitor the entire supply chain.
- Verify the effectiveness of the SPP through contractual compliance audits or field verification.
- Incorporate human rights criteria into supplier audits.
- Adopt a victim-centred approach to incidents of modern slavery in AWAC operations and supply chains.
- Determine a way forward for high risk supplier audits once the risk of COVID-19 subsides.
- Collaborate with SSP partners and industry peers to identify opportunities for supplier training and capacity building to potentially mitigate future modern slavery risks.
- Investigate becoming signatories to the Neptune Declaration on Seafarer Wellbeing and Crew Change and the Sustainable Shipping Initiative to strengthen the approach to managing maritime modern slavery risks.

Executive remuneration

Why this matters

Talent attraction and retention at AWAC is influenced by the provision of competitive remuneration plans to all employees. Utilising a performance-based approach to remuneration enables AWAC to attract and retain high quality, motivated leaders and employees.

How this is managed

AWAC's compensation plans for the named executive officers (NEOs) were modified in 2020 to better reflect its focus on ESG matters, incorporating performance metrics around carbon emissions, safety and diversity. These plans were established prior to the onset of the COVID-19 pandemic and no modifications were made as a result of the pandemic.

AWAC's executive compensation is guided by four principles:

- 1. Motivational:** Plans are intended to be highly motivational, retentive, and critical to executive recruiting.
- 2. Targeted at median:** Total compensation is targeted at the median of the peer group, with cash and equity incentive opportunities that aim to motivate and reward exceptional performance if goals are achieved at higher than target levels.
- 3. Equity-dominant and aligned with stockholders:** Equity is the most significant portion of total compensation for NEOS in order to align the interests of NEOs with stockholders.
- 4. Diversified metrics:** Cash incentive (IC) and long-term incentive (LTI) metrics focus management's actions on the strategic priorities to Reduce Complexity, Drive Returns, and Advance Sustainably, and on achieving the greatest positive impact on financial performance without creating undue risk.

Cybersecurity

Why this matters

Cyber attacks and security breaches threaten the integrity of AWAC's intellectual property and other sensitive information. Cyber security risk management processes are integral to prevent disruption to operations, minimise AWAC's exposure to potential liability, and reduce the risk of reputational harm and other negative consequences.

How this is managed

AWAC adopts a range of policies and procedures to manage the cybersecurity of the organisation. It is also working to align the global security program with the ISO-27001 Information Security Management standard to strengthen these efforts. AWAC complies with the US-EU Privacy Shield Framework regarding the collection, use, and retention of Personal Data transferred from European Union member countries (see [privacyshield.gov/list](https://www.privacyshield.gov/list)). For more information, see [Alcoa's Online Privacy Notice](#) or other privacy notices published by the company.

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COMMUNITY

AWAC strives to create sustainable value for the communities in which it operates by mitigating any adverse impacts and delivering positive outcomes. It does this by systemically incorporating community rights and interests in its activities through its policies and community engagement processes.

Local commitment with communities

Why this matters

AWAC's operations coexist with local communities over long time horizons and may impact those communities in positive and negative ways during and after AWAC's presence. The impacts of mining operations on indigenous communities and cultural heritage has been highlighted by significant non-AWAC incidents in the past year.

Communities expect to be consulted and contribute to discussion about impacts on natural and cultural heritage, including environmental impacts on land use, water availability and climate change; community health and safety; economic contribution, including employment opportunities; and support for local initiatives in community development and education

How this is managed

AWAC strives to maintain transparent and regular communications with local communities to foster a mutual understanding of issues, concerns and opportunities.

The Alcoa Stakeholder Engagement Framework is used to gather feedback from communities. It provides a systematic process to ensure active interaction whilst managing risks and opportunities associated with community rights and interests. Under the framework, AWAC locations are encouraged to form community consultation forums comprising a cross-section of local stakeholders to enable regular two-way communication with community members.

The global Alcoa Foundation and Instituto Alcoa in Brazil are also used to engage with local communities and non-governmental organisations. The method of engagement varies by location, but the aim is to understand stakeholder needs and contribute to the social, economic and institutional development of AWAC's host communities.

Alcoa has set a long-term goal to implement a social management system at all locations by 2022, including the definition of performance metrics and long-term goals to be accomplished by 2025 and 2030.

AWAC's social management system road map involves three phases: defining intent and expectations of all employees and third parties; defining AWAC's performance imperatives; and detailing advice for implementation. This will be supported by the introduction a range of policies and management standards.

Human rights

AWAC's approach to human rights draws on the ICMM Principles, particularly Principle 3: Respect human rights and the interests, cultures, customs and values of employees and communities affected by our activities.⁸ AWAC's approach is codified in its **Human Rights Policy**.

Security can be one of the highest risks to the human rights of the communities in which AWAC operates, as host communities and employees may interface with private and public security providers who are in charge of local protection. To mitigate these risks, AWAC has a security standard, contracts with private providers and initiated a gap analysis to the **Voluntary Principles on Security and Human Rights** in 2020 with a 2021 action plan to close identified gaps. AWAC has no operations in areas of active conflict.



For additional information on AWAC's governance of human rights, see page 48.

⁸ <https://www.icmm.com/en-gb/about-us/member-requirements/mining-principles>

Performance over 2020

The following key issues were raised by, or discussed with, stakeholders in 2020.

2020 stakeholder issues		
Location	Issue	Action
Anglesea, Australia	Filling a mine void with water is a key enabler for the Anglesea Mine Rehabilitation and Closure Plan.	Alcoa of Australia prioritises consultation with stakeholders in the development and approval process for the mine’s rehabilitation and closure. The water-filling strategy has been a key topic for several years through Alcoa of Australia’s community engagement activities. In early 2020, Alcoa of Australia sought feedback from the community about the groundwater pumping test, with support shown for the activity. Alcoa of Australia regularly liaised with government regulators and authorities and continued to keep the community informed about the proposed test through monthly updates. Should the pumping test proceed, Alcoa of Australia will undertake extensive monitoring and provide monthly reports to regulatory and community stakeholders so that any concerns can be proactively addressed transparently.
	In May 2020, Alcoa of Australia applied to Southern Rural Water to amend its existing license conditions to undertake a pumping test of the Upper Eastern View Formation Aquifer.	
	The test will provide the technical basis to establish a sustainable pumping rate to ensure no long-term environmental impacts.	
	In October 2020, Alcoa of Australia received an amended license that permits the test. In November 2020, Alcoa of Australia sought approval from the Victorian government’s Earth Resources Regulation, which is the mine regulator, to allow the water to be used in the mine void.	
Kwinana, Australia	Alcoa of Australia aims to commence the pumping test in April 2021.	Alcoa of Australia supports compatible development in the Mandogalup area with adequate separation between industry and residential development. During 2020 and despite COVID-19 restrictions, Alcoa of Australia engaged via IP47 consultation forums and directly with regulators. Alcoa of Australia expects the IP47 improvement plan to be considered by the WAPC by mid-2021.
	Since the Western Australian Planning Commission (WAPC) adopted the Kwinana air-quality buffer in September 2010, there have been litigation and questions on the legitimacy of the buffer and land uses in the area. In April 2019, the Minister for Planning announced the IP47 improvement plan for the Mandogalup area near Kwinana. This process is ongoing.	

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2020 stakeholder issues

Location	Issue	Action
Pinjarra and Huntly, Australia	<p>To keep adding value to Western Australia and to meet contemporary expectations, Alcoa of Australia is seeking to modernise the environmental approvals for its Pinjarra alumina refinery and Huntly bauxite mine.</p> <p>Alcoa have submitted the following plans for environmental assessment:</p> <ul style="list-style-type: none"> • Increase alumina production at its Pinjarra refinery by 5% from 5 million metric tons per annum (mtpa) to 5.25 mtpa. • Transition the Huntly mine into the Myara North and Holyoake regions. • Increase the mining rate to supply up to 2.5 mtpa of bauxite for export. <p>These plans are being assessed under the State Environmental Protection Act 1986 and the Federal Environmental Protection Biodiversity Conservation Act 1999. The WA Environmental Protection Authority (EPA) has set the level of assessment at a public environmental review, which is the highest level possible and the level that Alcoa of Australia requested. The Federal Department of Agriculture, Water and the Environment's assessment will run in parallel.</p> <p>The studies will feed into Alcoa's final environmental review document, which the EPA is expected to release for an eight-week public review period in the second half of 2021. The entire assessment process is expected to be completed around the end of 2022.</p>	<p>Alcoa of Australia maintains stakeholder engagement in this project to keep the local community and other stakeholders informed of, and engaged in, Alcoa of Australia's plans and ensure that their feedback, interests and concerns are considered in decision-making.</p> <p>In August 2020, Alcoa held three information sessions to provide local community members from Jarrahdale, Dwellingup and Pinjarra with an opportunity to learn about the environmental assessment processes and its current and proposed future operations.</p> <p>Alcoa of Australia has also engaged with other stakeholders, including local governments, members of parliament, government departments, community, environmental and recreational interest groups, employees, business partners and media. These interactions occurred via face-to-face briefings, mailouts, fact sheets and the Alcoa of Australia website. For more information, visit alcoa.com/australia/en/sustainability/pinjarra-huntly-environmental-assessment</p>
Western Australia Mining Operations	<p>As part of AWAC's ongoing work to establish connection to, and create sustainable value for, the communities around its Huntly and Willowdale bauxite mines, it continued to consult with the local community to understand and address their concerns, where practical, relative to current and future mining and to demonstrate how its operations can coexist with other land uses.</p>	<p>As a key stakeholder in Dwellingup Futures, a consultation group comprising local and state government, industry and community group representatives, Alcoa of Australia participated in meetings and community forums and worked with specialist consultants to develop the Dwellingup Futures Road Map. The document assesses scenarios and future opportunities for Dwellingup.</p> <p>The Dwellingup Trails and Visitor Centre opened in September 2020 and was made possible through the support of Alcoa of Australia, along with government and the Peel Development Commission. An interactive Alcoa display at the centre highlights how its operations can coexist with other land uses, such as recreational tracks and trails that are near mining operations.</p> <p>As Willowdale mine prepares to move south to the new Larego area in 2021, Alcoa of Australia continued discussions with future neighbours and key stakeholders through the annual Five-Year Mine Plan consultation process, briefings, and community events and forums.</p>

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2020 stakeholder issues		
Location	Issue	Action
Juruti, Brazil	In November 2019, families with no title to the land in an area inside the Curumucuri Settlement blocked AWAC exploration activities that had already been authorised by Acoglec, which is the local community association.	After several negotiation sessions involving AWAC, Acoglec and Iterpa (the state land authority) in 2020, no formal agreement was established on the relocation of the families. The alternatives are still under evaluation.
Juruti, Brazil	Since 2018, the Federal Public Prosecution of Santarém and the Federal Court of Santarém prohibited AWAC from carrying out any mining and community relations activities in the Lago Grande region in Santarém. AWAC have not conducted any exploration activity in the area since 2008, and we suspended community relations activities in 2018.	In 2020, AWAC submitted to the Federal Public Prosecution a proposal for consultation based on ILO 169 to restart engagement with the region's communities to reach an agreement with them. AWAC did not receive approval to restart engagement in 2020 due to the pandemic. AWAC reiterated its request in early 2021.
Juruti, Brazil	Due to heavy rain and flooding, an earthen windrow at the top of a mining area at Juruti broke apart on 26 December 2020, sending soil and vegetation down the plateau and into the Jauari River. No one was injured. The material caused some increased turbidity in the water, which was a temporary situation that progressively improved. The sediment was not bauxite tailing residue, and no long-term or negative effects are expected.	AWAC worked with community representatives to conduct periodic testing of the river's water. It also strengthened the windrow and the access road to the area. AWAC remained in active communication with its stakeholders as it worked to mitigate any temporary negative impacts from the situation. As soon as the event happened, AWAC reached out to the 47 families to address any basic needs (water and food). A formal agreement, which includes financial compensation and provision for water and food until the affected environment recovers, is in the process of being finalised.
Juruti, Brazil	In October 2019, the Association of Communities of the Juruti Velho Region (Acorjuve) issued a letter preventing Alcoa from developing social activities in Juruti Velho and surrounding communities. This followed Acorjuve's decision to not follow an agreed-upon path to create a foundation to manage the royalties that AWAC pays to Acorjuve to ensure transparency and good governance. INCRA (federal land authority) has taken a firm position to complete the process to create a foundation and to allow AWAC to continue performing the environmental control activities in the area in the meantime.	AWAC continued to engage with public attorneys, INCRA, Acorjuve and the affected communities in 2020 regarding resuming activity in the region. The Term of Commitment and Social, Environmental and Economic Sustainability signed by AWAC, Acorjuve, INCRA and state and federal attorneys in 2018 consolidated the multiparty agreement between the company and the communities in favour of the shared use of land. The compensation and royalties to the Juruti Velho region were to be managed by a foundation (to be established in 2019) that would assure transparency and governance. The creation of this foundation is a new approach to community engagement, involving all the stakeholders in the decision-making process.
Juruti, Brazil	The Prudente community was concerned that one of its access roads would be blocked because of its location near AWAC's new authorised mining area. The community asked for support to build an alternative road.	AWAC signed an agreement with the city regarding the road's construction. Due to the pandemic, authorization for required fauna and flora management plans were delayed. AWAC is engaging with the community and authorities throughout the process, and construction is expected to begin in 2021.

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Indigenous peoples

AWAC recognises and respects the diversity, cultures, customs and values of Indigenous and other Land-Connected Peoples where it operates, and acknowledges their needs, concerns and aspirations regarding their heritage and traditions. AWAC currently operates in areas home to indigenous peoples including:

- Australia
- Suriname
- Brazil

In 2020, AWAC reflected on its approach to Indigenous and Land-Connected Peoples and strengthened its policies and formal commitments. Alcoa published the Alcoa Social Policy and updated its Indigenous Peoples Statement to an **Indigenous Peoples Policy** to incorporate community rights and interests in everyday activities in a systematic manner.

As part of the strategic long-term goal to implement a social management system at all locations by 2022, AWAC developed global standards for engaging with Indigenous and Land-Connected Peoples and managing cultural heritage. AWAC will use these standards to drive consistency in its approach and strengthen its practices to work more constructively with Indigenous and Land-Connected Peoples in alignment with ICMM's **Indigenous Peoples and Mining Position Statement**.

AWAC is also committed to acting in accordance with all applicable laws and regulations, the principle of free, prior and informed consent, and other tenets of the International Labour Organisation's **Indigenous and Tribal Peoples Convention** and the **United Nations Declaration on the Rights of Indigenous Peoples** (UNDRIP).

Australia

In Australia, AWAC launched its inaugural **Reconciliation Action Plan** (RAP) in February 2020 to guide its evolving approach to Aboriginal and Torres Strait Islander engagement. Actions taken Australia in 2020 included:

- raised the profile of reconciliation in the business
- updated internal processes and procedures to maintain an inclusive and respectful work environment to welcome more Aboriginal employees and businesses
- trained leadership teams on cultural awareness
- celebrated the history and culture of Australia's Traditional Owners at NAIDOC Week events across all Australian sites.

Juruti, Brazil

AWAC continues to engage with the traditional community of Juruti Velho, located at Vila Muirapinima. The Association of Communities of the Juruti Velho Region (ACORJUVE) is the formal organisation that represents the Juruti Velho community, including landowner rights.

ACORJUVE, the National Institute of Colonization and Agrarian Reform (INCRA) and AWAC have an established negotiation process on land use for mining and community. Following a comprehensive study to evaluate compensation for loss and damages, in February 2018, AWAC entered into an agreement with INCRA, ACORJUVE and federal and state prosecutors on common land use, shared value and sustainable mining in the Amazon region. This agreement required AWAC to pay US\$5.3 million in compensation for the 2006 to 2010 period, managed by a foundation to ensure transparency and good governance.

AWAC paid US\$25.1 million in royalties to ACORJUVE for the period covering mine start-up in October 2009 through to December 2019. In 2019, the representatives of ACORJUVE decided not to follow the agreed-upon path to transition proceeds to the foundation. In 2020, AWAC approached the association to return to the negotiation table and work toward the execution of the agreement, but the association declined. AWAC will continue to urge the association to engage in dialogue with the expectation of completing the foundation's by-laws in 2021.

Economic contribution

Why this matters

AWAC operations have the potential to contribute the economy in various ways, from providing local employment to supporting suppliers and paying taxes. Creating sustainable value for the communities where AWAC operates is one of the three pillars of Alcoa’s sustainability strategy.

How this is managed

AWAC aims to stimulate economic activity at the local and regional levels to enable improved quality of life for its employees and neighbours. This is done by providing stable, fair-paying jobs, procuring goods and services from local suppliers when possible, paying income and other taxes, and investing in community infrastructure and initiatives. The value created helps communities thrive and earns AWAC its license to operate in these communities. Alcoa’s economic value table is shown on the adjacent table.⁹

Value added	Australia	South America	Total
Labour costs (US\$ billion)*	0.5	0.1	0.6
Procurement spend (US\$ billion)	1.8	1.0	2.8
Income taxes (US\$ million) ^	149.5	12.4	161.9

* Labour costs include compensation and benefits for employee services rendered plus employee expenses for external training, transfer and relocation, expatriate costs, workers’ compensation, travel, recognition and rewards, medical expenses, meals, recruitment, transportation, education, work clothes and other employee-related expenses.

^ Income tax amounts are net of income tax refunds received and exclude various other taxes.

AWAC economic value	US\$ million
Accounts payable, trade	512.5
Accounts payable, related party	77.5
Accrued compensation and retirement costs	201.8
Taxes, including taxes on income	26.9

Community outreach

At the onset of the COVID-19 pandemic, Alcoa Foundation and Instituto Alcoa began diverting a significant portion of their annual corporate giving to assist its local communities with pandemic relief. More than US\$2.1 million in grants supported securement of equipment and services for hospitals and healthcare providers, food security, mental health and financial counselling, suicide prevention, victims of domestic violence and other pandemic-related needs that arose during the year. Examples of the wide array of grants include:

Country	Amount	Recipient	Purpose
Australia	US\$212,000	Anglicare WA	A range of products and services in low socio-economic areas, including food and essential supplies, mental health services, financial counselling and support for people experiencing domestic violence
Brazil	US\$375,000	various organisations	Social services, medical supplies and food
Spain	US\$218,000	Servizo Galego de Saúde	Medical supplies and hospital equipment, including beds to meet high demand

9 Alcoa-wide data

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ENVIRONMENT

In recent years, global initiatives such as the United Nations Sustainable Development Goals, the Task Force on Climate-related Financial Disclosures, the Paris Agreement and the ICMM Principles have highlighted corporations' accountability for their environmental practices. AWAC has strong environmental management and compliance systems in place to help drive positive outcomes and limit adverse impacts.

Energy efficiency and greenhouse emissions

Why this matters

The production of alumina and aluminium is energy intensive and produces significant greenhouse gas emissions. By effectively managing its energy use, AWAC can both mitigate its greenhouse gas emissions and protect its commercial viability through reduced costs.

How this is managed

In 2020, Alcoa published its Climate Change Policy, furthering its commitment to understanding and managing its climate risks and reducing its climate change impact through the development of a decarbonisation strategy, robust carbon accounting, advancing its low emissions technology, driving operational efficiency and developing low carbon products. Alumina Limited also has a Climate Change Position Statement.

Decarbonisation strategy

Through programs aimed at reducing specific GHG emissions, AWAC has made incremental progress in reducing its carbon footprint.

Several decarbonisation projects have been undertaken within AWAC. Including:

- Lowering its GHG footprint in aluminium smelting through process improvements and boosting the percentage of renewable energy to 32%.
- Working to increase the use of renewable energy sources by incorporating carbon exposure costs in economic models, considering current and potential future regulations and pricing mechanisms in place at operating locations.
- Developing a pathway to decarbonise the alumina refining process. The first step is demonstrating mechanical vapor recompression technology, which enables economic electrification of steam generation and reduced utilisation of fossil-fuelled boilers.
- AWAC's experts are examining the use of renewable energy to provide process heat to the Bayer process, displacing fossil fuels. In aluminium smelting, AWAC continues to invest in research and development to improve energy efficiency and reduce carbon dioxide emissions.
- Researching solar thermal as a means of providing process heat to displace fossil fuels.
- AWAC maintains an auditable inventory of carbon emissions to monitor progress against targets and report transparently. This inventory is developed using the management control and the location-based method defined in the Greenhouse Gas Protocol, which establishes calculation boundaries and accounts for mergers, acquisitions, divestitures, start-ups, curtailments and closures of operating facilities. The Intergovernmental Panel on Climate Change Guidelines and country-specific databases continue to serve as AWAC's source of data on the characteristics of electric power generation and heat content values for fuel sources.



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Operational efficiency

AWAC uses a variety of approaches to improve operational energy efficiency, including:

- Benchmarking to compare its operations against industry leaders.
- Collaborations to access the expertise at various universities around the world to develop solutions to AWAC's energy challenges.
- Best practice sharing through internal Centres of Excellence and transferring operational improvements throughout the company using numerous channels, including a network of experts who provide direction and training to plant technical staff and operators.

- AWAC sets and monitors energy efficiency targets for each location.

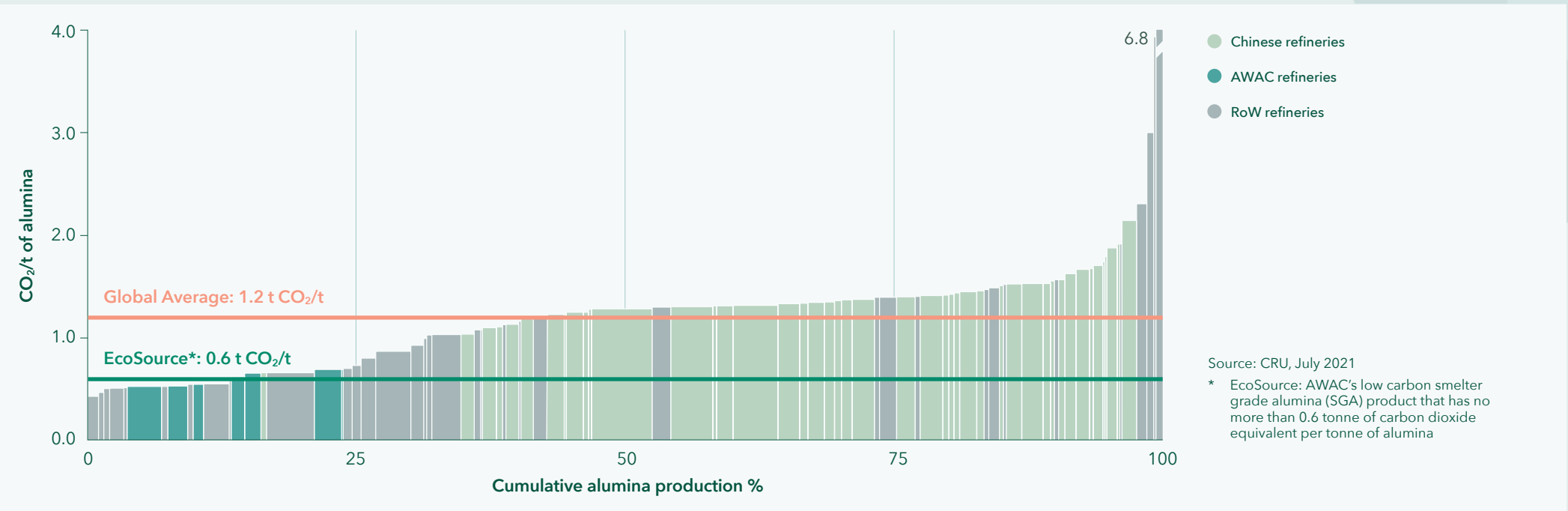
AWAC's refining operations have implemented significant process improvements over the past few years that focused primarily on process controls, heat transfer efficiency and maintenance improvements. AWAC's Portland smelter has realised efficiency improvements with the use of the SMART manufacturing platform, which displays process information so that employees can take action to conserve energy. AWAC is focused on identifying raw materials and design changes for the smelter that could lead to either more conductive or more efficient management of a smelting pot's heat balance.

Commitments

In 2020, AWAC implemented a new long-term goal to align its GHG emissions reduction targets with the below-2°C decarbonisation path defined in the Paris Climate Accord. Alcoa is committed to reducing its GHG emission intensity by 30% by 2025 and 50% by 2030 from a 2015 baseline. Additionally, Alcoa has set a target that AWAC's refining operations improve direct and indirect emissions intensity by 4 per cent by 2025, and 12 per cent by 2030, from a 2015 base.

Alumina Limited believes that AWAC can achieve a 50% decrease in absolute emissions by 2030 from a 2010 baseline (15.8 million tonnes of CO₂e). Refer to page 62 for further information.

AWAC is the lowest CO₂ emitter amongst major alumina producers (direct and indirect emissions, 2021 estimated)



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Performance in 2020¹⁰

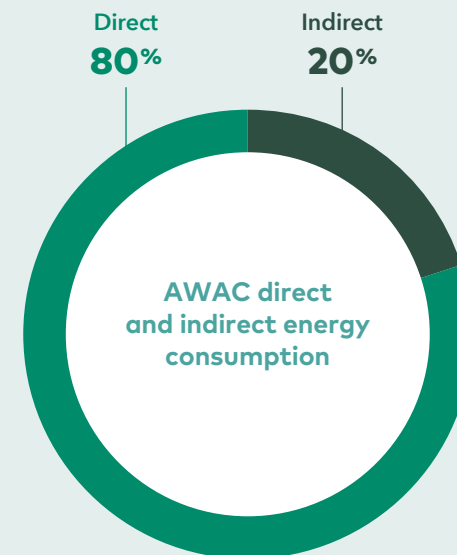
Carbon dioxide represents most of AWAC's GHG emissions, with the smelter and refineries being the largest emitters. In 2020, AWAC achieved a 19.9% reduction from the 2015 baseline. AWAC's total Scope 1 and 2 carbon dioxide equivalent (CO₂e) emissions decreased by 3.2% from 2019 to 2020, primarily driven by operational improvements within its smelting and refining operations.

AWAC's combined smelter and refinery greenhouse gas intensity decreased by 10.5% in 2020 compared to the prior year, its direct energy consumption increased by 2.05 million gigajoules, or 1.7%, in the same period, while its indirect energy consumption decreased by 0.11 million gigajoules, or 0.3%, in the same period. A key factor behind the performance was the additional production at AWAC's refineries.

AWAC's Scope 3 (supply chain) emissions in 2020 were 37.6 million metric tons of CO₂e for seven categories: purchased goods and services; fuels and energy-related activities; transportation and distribution (upstream); waste generated in operations (landfill only); business air travel; product transportation and distribution (downstream); and processing of intermediate products sold to customers (excluding emissions from further downstream processing of alumina from bauxite and aluminium from smelter-grade alumina). A significant majority of AWAC's Scope 3 emissions come from the latter category and correspond to the transformation of alumina into aluminium by its customers. Scope 3

emissions from purchased goods and services reflect 99% of the volume of raw material purchased. It is assumed that all goods obtained from suppliers and sent to customers were transported via a combination of sea, rail and road transport. ERM CVS provided limited third-party assurance over Alcoa's 2020 carbon emissions data.

At AWAC's Peel Regional Office in Pinjarra, Australia, 242 rooftop solar panels came online in March 2020 to support the 100-person office's daytime load. The 79-kilowatt solar power installation can reduce the amount of energy sourced from the electrical grid by up to 50%.



Energy access and affordability

Why this matters

AWAC's operations are energy-intensive, which has both commercial and environmental implications. The ability to secure reliable, cost competitive and long-term energy sources, while managing environmental impacts, is critical to AWAC's long-term strategy.

How this is managed

AWAC's approach to ensuring a continued supply of affordable energy involves managing the energy procurement and day-to-day demand response of AWAC's existing projects and incorporating energy demand into future project requirements.

Energy security

AWAC's energy team is responsible for purchasing approximately 265 terajoules of natural gas per day and supplementing AWAC's self-generated power with approximately 3.6 gigawatts of purchased electricity. AWAC secures approximately 40% of its natural gas and 60% of its electricity under arrangements that exceed 10 years. The portfolio of energy assets is composed of equity interests in consortia and wholly owned facilities.

Demand response initiatives

As renewable and intermittent energy grow into a higher percentage of overall generation in the electricity grid, demand response becomes an increasingly important tool. Demand response is a practice where customers are rewarded for adjusting their electrical load in response to a signal from a utility or the grid. By balancing electricity produced and consumed, this adjustment helps maintain stability in the electrical system and prevent blackouts and other system disruptions.

In Australia, AWAC has an electricity demand management program for its smelter and refineries. Demand is reduced for electricity at these facilities during the hottest days of the year, which generally coincide with the highest demand for electricity. This helps support efficient investment in electricity infrastructure and avoids additional costs of electricity generation to cover events that only occur a few times a year. When higher proportions of renewable energy enter the grid, there is often an excess of available renewable power. This sometimes leads to negative power prices. During these events, AWAC reduces its self-generation and maximises its import power, reducing costs and actual net GHG emissions.

AWAC's Portland facility had a four-year contract with energy supplier AGL that expired in July 2021. During 2020, AWAC sought an internationally competitive energy contract to secure a sustainable future for the smelter, and also engaged with other stakeholders, including federal, state and local governments, business partners, employees and union representatives, and the media.

In March 2021, Alcoa announced new five-year agreements with three energy generators that commenced on 1 August 2021. The Australian federal government and Victorian state government also have made commitments to support smelter operations in recognition of the value contribution it makes to the economy, including grid stability.

Future works

As part of AWAC's commitment to climate protection and its long-term goals, AWAC incorporates criteria for energy consumption and sources of energy into all proposed new projects or major expansions.

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Climate change

Why this matters

AWAC takes seriously its obligation to respond to the urgent global challenge of climate change. We are part of an energy intensive value chain, for which climate change presents both risks and opportunities. AWAC is committed to working with other stakeholders to minimise its contribution to climate change and address its climate risks.

How this is managed

Climate strategy

AWAC's climate strategy encompasses five pillars that reflect its challenges and opportunities: carbon accounting, carbon emissions regulation, decarbonisation strategy, products and advocacy. Details of AWAC's GHG reduction targets and initiatives are described above in the section *Energy efficiency and greenhouse gases*.

The Alcoa's Climate Strategy Team, which consists of cross-functional, senior-level employees, provides governance over AWAC's climate strategy.

In 2020, the Climate Change Policy was published to further AWAC's commitment to understanding and managing climate-related risks and opportunities. The policy addresses the following topics:

- Executive Team and Board oversight of the Climate Change Policy.
- Objectives and transparent reporting practices to ensure alignment with the below-2°C decarbonisation path included in the Paris Climate Accord.
- Integration of climate change considerations into decision-making processes, such as corporate development practices or capital expenditures. See the *Energy* section for more information.

- Enhancement of the resilience of AWAC's operations and communities through partnerships.
- Climate-related opportunities, including differentiated products, process efficiencies and innovative solutions.
- Advocacy to communicate AWAC's position in key areas, such as the need for a global price of carbon.

Climate risk

In 2019, Alcoa conducted the first analysis of AWAC's to align with the recommendations from the Task Force on Climate-related Financial Disclosures. With the help of an external consultant, AWAC assessed its climate-related transition and physical risks and opportunities to identify paths to improve its climate risk management and processes. Key findings included:

- Policy risk exposure is higher in Australia given the concentration of AWAC's operations in that country. This could be relevant depending on the future cost of carbon.
- AWAC is significantly exposed to the construction and automotive markets, and both are expected to be impacted by high carbon prices. Market risk exposure measures the changes in revenue mix and sources as a result of climate risk.
- Reputational risk exposure is low because of AWAC's significant GHG emissions reductions and public commitments to continue reducing emissions in alignment with the Paris Climate Accord.
- Technology risk exposure, the risk of substituting existing products and services with lower- emissions options, has been assessed as a moderate risk. Aluminium is considered part of the solution for the decarbonisation of society (e.g., aluminium enables lower emissions in transportation due to light weight), even if it is an energy-intensive industry.

- Physical risks from an increased severity of extreme weather events, like cyclones and floods, changes in precipitation patterns, and rising mean temperatures and sea levels, were classified as low level across AWAC's global portfolio. Some specific sites are exposed to water stress, wildfire and hurricane risk under different scenarios, such as precipitation and temperature changes.

Three separate physical risk studies were conducted in 2020 to understand the climate data at impoundment sites in Australia, Brazil and Spain. This included historical meteorological data (rainfall, temperature, wind, evaporation, etc.) from multiple external peer-reviewed sources that were typically over 100 years, or as far as independent location records exist. Climate change modelling scenarios were developed for 2050 and 2100 to serve as a guide on the likely impacts to the baseline historical climate data for AWAC's operating impoundment locations. The data and modelling scenarios support the master planning at AWAC locations and future impoundment designs and operational strategies by enabling the consideration of potential physical risk impacts. AWAC considers carbon-related impacts in its capital expenditure process when developing the business case for the financial model used in capital allocation decision-making. Projects that impact carbon emissions (positively or negatively) are considered throughout the project development and approval process.

Products

AWAC has developed carbon footprint calculations for most products to support the commercial opportunities for differentiation of low-carbon aluminium in the market and to help customers reduce the carbon footprint of their own products.

AWAC's refining portfolio is the lowest CO₂e emitter amongst major producers and positioned AWAC to launch the world's first low-carbon alumina brand, EcoSource,

in September 2020. EcoSource alumina is a smelter-grade alumina with no more than 0.6 metric tons of carbon dioxide equivalent per tonne of alumina produced, which is better than 90% of the other alumina refineries operating today.

Advocacy

Through industry associations and direct contact, AWAC engages with global stakeholders on the issue of GHGs to ensure fair and effective policies and regulations. These stakeholders include elected officials, government agencies and NGOs.

Countries around the world are moving at different speeds toward strengthening regulations on carbon emissions. In 2019, Australia updated the Safeguard Mechanism to move facilities onto emission-intensive baselines, encouraging decarbonisation and allowing efficient facilities to grow. AWAC was a long-time advocate of these changes and has been working with the federal government on the sections relevant to the aluminium industry, which continued to be developed and published in 2020. The Australian government also launched its Technology Investment Roadmap for Low Emissions in 2020. The roadmap provides significant co-funding incentives for industry, with a focus on the aluminium industry. The percentage of AWAC's Scope 1 GHG emissions that are covered under a program that is intended to limit or reduce emissions, such as cap-and-trade schemes, carbon tax/ fee systems and other emissions control systems, is 58%.

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AWAC's carbon footprint

Performance and targets – key summary:

- **Since 2010 AWAC has reduced its emissions by 42%**
- **Closures of high emission assets**
- **Further gains targeted from fuel substitution and greater grid renewables intensity would enable AWAC to reach a 50% reduction in emissions by 2030, from a baseline of 2010.**

A higher quality portfolio significantly reduces emissions

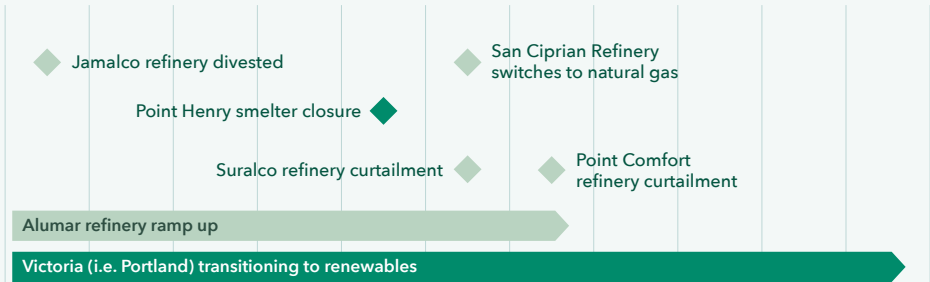
Since 2010 AWAC has sought to improve the quality of its portfolio of assets and reduce its reliance on coal and oil as an energy source. This has enabled AWAC to achieve significant reductions in its carbon emissions. A number of less competitive assets reliant on high emission fuels were closed or curtailed in the middle of the last decade as the commodity cycle moved against aluminium and its main inputs, alumina and bauxite. The Point Henry smelter was closed and the Suralco and Point Comfort refineries were curtailed and later closed. AWAC's financial performance improved owing to the better energy efficiency and greater competitiveness of its remaining core assets. By improving the quality of its portfolio, AWAC was able to reduce consumption of electricity generated from brown coal at Point Henry, consumption of fuel oil at Suralco and natural gas at Point Comfort. In 2010, AWAC's most inefficient assets contributed relatively more to its total portfolio emissions. Reducing the output of these assets has resulted in highly significant reduction of emissions over the current portfolio.

AWAC's historical emissions

AWAC Emissions Profile – CO₂e MT*



Event timeline:



* Scope 1 & 2 emissions. AWAC's equity share of facilities

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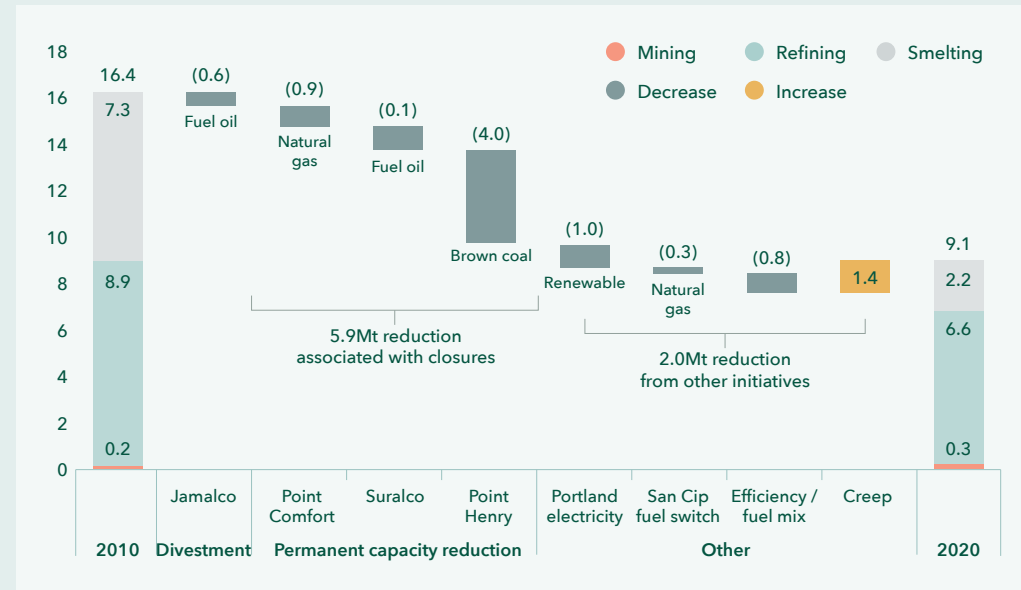
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Divestments, fuel substitution, renewals uptake and general efficiencies contribute

AWAC Emissions Bridge – CO₂e MT*



Consumption of fuel oil falls

Since 2010, AWAC's portfolio improvements have significantly reduced fuel oil consumption. In 2010 AWAC consumed 35.9PJ of fuel oil amounting to 25% of the portfolio fuel mix. This compares to just 4.4PJ, or 4% of the portfolio, in 2020. The sale of the Jamalco bauxite mine and refinery, the switch to gas from fuel oil at the San Ciprian refinery and the curtailment of the Suralco refinery contributed.

Reliance on lower carbon fuels rises

The San Ciprian refinery switched to natural gas in 2015. The Alumar refinery in Brazil is expected to identify and switch to an alternate fuel source before 2030.

Renewables supply more energy to grids

Through the Portland smelter in Victoria, AWAC has benefited from the marked increase in renewable generation. Portland sources approximately 30% of its electricity mix from renewable generation. This has delivered a 1Mt reduction of CO₂e since 2010. As a result, Portland has significantly improved its position on the global emissions intensity curve and is now a 2nd lowest quartile emissions smelter. Further reductions are expected by 2030 as the proportion of electricity generated from renewables in Victoria increases.

Continuous improvement delivers portfolio emissions savings

All operating AWAC refineries have reduced emissions intensity over 16% since 2010.

* Scope 1 & 2 emissions. AWAC's equity share of facilities

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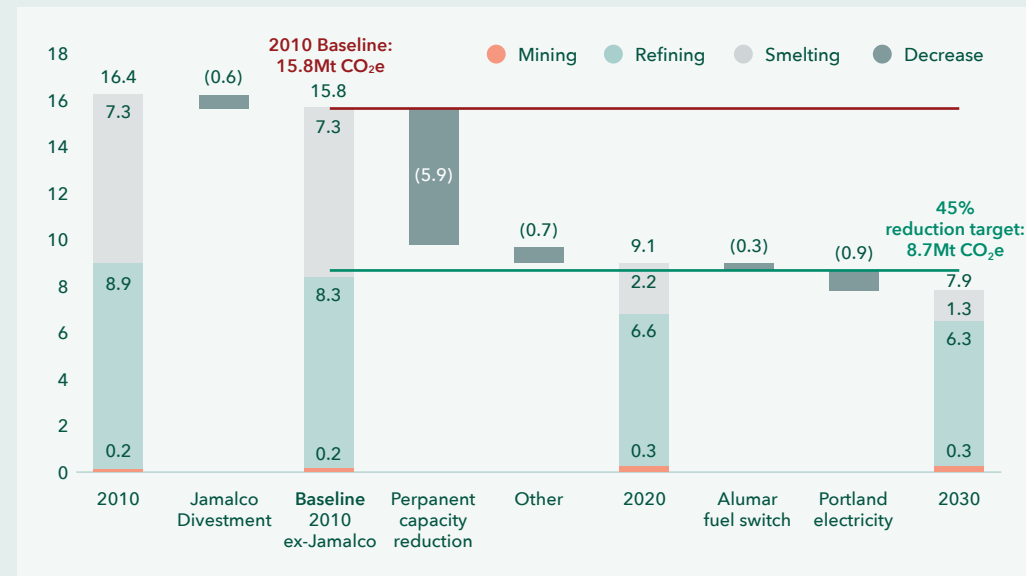
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Achievable targets for further emissions reductions

AWAC Emissions Target – CO₂e MT



Alumina Limited Adopts Year 2010 Baseline to Measure Emissions Reductions

- Aligned with the Paris Accord, in which
 - The IPCC pathway to limit temperature rises to 1.5C sees CO₂ emissions declining by 45% by 2030 from 2010 levels, where 2010 is the agreed baseline year to measure progress recognised through CDP's internationally recognised environmental impact disclosure system

Alumina Limited's Target for AWAC

- Baseline 2010: 15.8 Mt of CO₂e (not including divestments of still operating assets)
- Target 2030: 45% reduction to 8.7Mt of CO₂¹¹

The Alumar refinery is expected to switch from coal and oil energy generation to an alternate energy source by 2030. Further reliance on renewables is also projected for the Victorian energy grid. Together, these factors are expected to contribute the extra 1.2 Mt of CO₂ reductions from 2020 to 2030. With these contributions AWAC is expected to reduce its emissions by 50% from the 2010 baseline.

In the meantime, AWAC is exploring emissions reductions initiatives including:

- In refining technology, adoption of Mechanical Vapour Recompression to improve refinery efficiencies across the portfolio; and to take advantage of WA's growth in renewable contribution to its grid.
- In smelting, further de-carbonization of the Victorian electricity grid to net zero by 2050; and the Alcoa Corporation is pursuing the development of carbon-free anodes.

¹¹ Based on AWAC's proportional equity share of facilities.

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Waste, tailings and residue management

Why this matters

Alumina and aluminium processing create a variety of waste products, including bauxite mine tailings, bauxite residue, mercury and spent pot lining (SPL). If not carefully managed, these have the potential to cause significant environmental damage, community health and safety hazards, and social harm.

AWAC's most significant waste product by volume is bauxite residue, consisting of 'red' mud, sand and some residual caustic soda. The refining process produces 1.5 tonnes of bauxite residue per tonne of alumina, accumulating to a significant volume over the lifetime of an operation. Impoundment facilities are used for safe storage of bauxite mine tailings and bauxite residue, both referred to generically as tailings. Effective, safe and efficient management of these facilities is necessary to minimise the associated risks.

How this is managed

Waste management principles and standards

AWAC works to enhance the circularity of waste and reduce adverse environmental impacts wherever possible. AWAC's waste management hierarchy consists of the following:

- 1. Source reduction:** reduce the volume or toxicity of waste at the source through changes in industrial processes, material substitution, segregation practices, maintenance activities and more sustainable procurement practices.
- 2. Reuse:** reuse the waste or industrial by-product onsite or offsite for its original purpose or for another beneficial purpose.
- 3. Recycling/composting:** recover value and resources from wastes.
- 4. Energy recovery:** recover heat value from wastes.
- 5. Treatment/disposal:** reduce the volume, toxicity or other hazardous characteristics of wastes prior to disposal or discharge.

AWAC has a target to reduce landfilled waste by 15% by 2025 and 25% by 2030, from a 2015 baseline. A 14.4% reduction from 2015 was achieved in 2020.¹²

Alcoa's waste management standard requires all AWAC sites have a waste management plan; an inventory of all waste streams generated onsite; onsite waste storage areas that meet local regulatory requirements; a comprehensive waste training program; and tracking of non-hazardous and hazardous waste metrics.

AWAC continues to explore methods to reduce waste generation through innovative processes and alternative uses for waste products. For example, AWAC is actively seeking alternative uses for its secondary materials, which include carbon, electrolytic bath, fly ash and secondary aluminas. In 2020, AWAC sold 100% of the fly ash produced at its Alumar location in Brazil for use in the cement industry.

AWAC is also pursuing ways to transform its spent pot lining (SPL) into a raw material or fuel source for the manufacture of other products such as cement, steel or rockwool insulation.

In 2020, Alcoa generated 20.1 million metric tons¹² of bauxite residue and recycled zero metric tons. The amount of residue per metric ton of alumina produced remained steady compared to prior years. Through Alcoa and the Alcoa Foundation, AWAC is supporting a range of projects in conjunction with universities, businesses and industry bodies that are researching and testing options for alternative uses of bauxite residue. These include cementitious products, a soil-like medium, and construction materials.

Spill management

AWAC deploys several operational control measures aimed at minimising the impact of spills on the environment. Control measures vary depending upon the nature of the material and the risk presented to the environment; they include secondary containment, inspection practices, work practices during loading/unloading operations and a variety of technology-based leak detection systems on critical piping and tank systems. In 2020, AWAC had no major spills. Major spills are defined as spills that have the potential to cause significant harm to the environment or community.

Impoundment management

An impoundment is defined as any dam or other engineered structure intended to confine a body of water (fresh, alkaline or acidic), mine tailings, refining residue, or any other solid or liquid waste material. AWAC strives to achieve a comprehensive understanding of its impoundment risks and opportunities, implement suitable and effective controls, and manage its impoundments safely and efficiently.

In 2020, Alcoa implemented a **Global Impoundments Policy** to ensure AWAC's impoundments comply with internal standards and guidelines, the **Global Industry Standard on Tailings Management** or the laws and regulations of the country in which a facility is located (whichever are higher). The policy is also used to encourage leading management and governance practices at joint ventures locations where Alcoa does not have direct control of operations.

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Additional protocols developed over decades of safe operating practices include:

- a governance structure that provides global oversight with clearly defined location responsibilities
- globally mandated standards covering planning, design, construction, operations, governance, monitoring and assurance
- conducting risk assessments and developing an operational and maintenance plan for each location
- long-term (25-year) impoundment strategic plans, with long-term capital plans to match
- timely planning, development and implementation of impoundment capital projects
- monitoring of impoundment embankment stability, climate and operating parameters
- qualified personnel in key roles, such as civil engineering oversight at each location
- review and assurance, such as peer reviews of storage area design and third-party audits/inspections
- emergency preparedness and response plans for unforeseen or extreme events
- reporting.

AWAC regularly reviews, benchmarks and updates its technology, impoundment standards, master plans and governance practices to guide the safe and environmentally sustainable management of its tailings' storage.

Commitments and progress for 2020

Alcoa has a strategic long-term goal is to reduce bauxite residue land storage requirements per metric ton of alumina produced by 15% by 2030, from a 2015 baseline. In 2020, Alcoa achieved a 12.8% reduction against the baseline. Continued improvement is expected with AWAC's enhanced solar drying and residue filtration technologies for bauxite residue. Filtration is now fully operational at the Kwinana and Pinjarra refineries in Australia, improving the overall efficiency and safety associated with the stored tailings by removing water.

For detailed information about impoundment construction and design; risk assessment, management, closure and rehabilitation, see the [Alcoa 2020 Sustainability Report](#), page 102-5.

Land management and biodiversity

Why this matters

Biodiversity loss is fast gaining attention as a critical issue globally. AWAC's activities, particularly mining, can have impacts on the local ecology that must be managed to protect native flora and fauna, and preserve amenity for local communities.

How this is managed

AWAC aims to minimise its environmental impact and promote sustainable land use. It is working toward no net loss of biodiversity for new sites and major expansion projects. AWAC is committed to the mitigation hierarchy of avoidance, minimisation, restoration and offsets, during the lifecycle stages of our operations.

Biodiversity action plans

Biodiversity risks are managed through Alcoa's [Biodiversity Policy](#), which encapsulates the requirements set out in its corporate Biodiversity Standard. The standard requires each site to assess and identify material risks to biodiversity and implement a biodiversity action plan to manage these risks. For new sites and major expansions of existing sites, the standard sets an ambition of achieving no net loss of biodiversity.

AWAC has developed and implemented biodiversity action plans to achieve the following:

- identify the biodiversity within the area of direct management control or significant influence, including the presence of listed threatened species and communities, in context with surrounding land
- assess potential impacts, both positive and negative
- develop a range of strategies aimed at minimising or mitigating biodiversity impacts
- inform employees and communities in which AWAC operates about the importance of biodiversity protection, and encourage their participation in biodiversity initiatives
- set and report performance against site-specific targets.

These plans are in place at all AWAC locations with the exception of MRN, Ma'aden and CBG, for which Alcoa is not the operator; these all completed a biodiversity risk gap analysis by the end of 2020.

In areas of significant biodiversity value, AWAC aims to rehabilitate the land to a future use that reinstates those biodiversity values.

Sites within or adjacent to protected areas* or areas of high biodiversity value

Operational site	Site location & size	Position	Biodiversity value
Huntly and Willowdale bauxite mines	Jarrah Forest, Western Australia 712,900 hectares (1,761,614 acres)	Adjacent to protected areas; within an area of high biodiversity value	Recognised by Conservation International as an international biodiversity hotspot; threatened species and ecological communities (International Union for Conservation of Nature and federal government listed)
Anglesea power station and related coal mine (closed in August 2015)	Anglesea, Victoria, Australia 787 hectares (1,945 acres)	Within and adjacent to a protected area	Protected area; threatened species and ecological communities (International Union for Conservation of Nature and federal government listed)
Wagerup alumina refinery	Wagerup, Western Australia 6,000 hectares (14,826 acres)	Adjacent to areas of high biodiversity value	Ramsar listed wetlands adjacent; threatened species and ecological communities (International Union for Conservation of Nature and federal government listed)
Portland aluminium smelter	Portland, Victoria, Australia 522 hectares (1,290 acres)	Adjacent to a protected area	Threatened species and ecological communities (International Union for Conservation of Nature and federal government listed)
Juruti bauxite mine and related railroad and port facility	Juruti, Pará, Brazil 29,426 hectares (72,713 acres)	Within an area of high biodiversity value	Amazon rainforest and river; threatened species and ecological communities (International Union for Conservation of Nature listed)
Coermotibo bauxite mine operations (ceased operation in October 2015)	Marowijne District, Suriname 32,800 hectares (81,051 acres)	Adjacent to and within a protected area	Adjacent to and within International Union for Conservation of Nature protected area; threatened species (International Union for Conservation of Nature listed)
Point Comfort alumina refinery (alumina refinery that was curtailed in 2016)	Point Comfort, Texas USA 1,417 hectares (3,501 acres)	Adjacent to protected area	Native grassland and intertidal emergent marsh (protected under the Clean Water Act); threatened species (IUCN and federal government listed)

* Protected area status follows definitions described in Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp.

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Rehabilitation and remediation approach

AWAC strives to lessen the impact of its four active bauxite mining areas in Australia and Brazil by minimising the land disturbed for mining and progressively rehabilitating disturbed areas that are no longer required for operations.

The primary objective of any remediation project is the protection of human health and the environment. Where appropriate, and in concert with government local communities and other stakeholders, AWAC's rehabilitation supports other productive land uses, including farming and residential, recreational, commercial or industrial developments. Mine rehabilitation processes are monitored through independent third-party audits to assess impact of restoration efforts against the Australian Standard for Sustainable Forest Management (AS 4708).

Alcoa is a founding member of the **Co-operative Research Centre for Transformations in Mining Economies** (CRC-TiME), established in 2020 to help drive transformational change in mine closure processes and enable regions and communities to transition to a more sustainable post-mining future. Alcoa is leading a CTC-TiME project proposal aimed at developing improved equipment and techniques for the treatment and delivery of seed to the soil surface.

Commitments and progress in 2020

AWAC endorses biodiversity conservation and respects legally designated protected areas, such as national parks and nature reserves.

AWAC has committed to not explore, mine or operate in World Heritage sites and to avoid developing new operations within protected areas under International Union for Conservation of Nature (IUCN) categories I, II or III. Alcoa has set two related strategic long-term goals:

- From a 2015 baseline, reduce bauxite residue land requirements per metric ton of alumina produced by 15% by 2030. Alcoa has achieved a 12.8% reduction from 2015 in 2020*.
- 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. Alcoa achieved a 0.92:1 ratio for the 2016 to 2020 period*. This indicates that Alcoa had more areas rehabilitated or transferred to other land users compared to new disturbance. The ratio is expected to decrease as more areas of closed AWAC mines in Suriname are returned to the Suriname government after rehabilitation.

Facilities closure

Why this matters

AWAC's operations will invariably impact the natural and human environments at each of its operating sites across the mine life cycle including in closure. It is vital to ensure that AWAC's operations have no significant lasting environmental impacts, that the land is returned to its native state or to sustainable use, and that local communities are supported through closure.

How this is managed

Facilities closure governance

Remediation, restoration and real estate stewardship upon facility closure are fundamental aspects of a holistic sustainability program and critical to the welfare of AWAC's stakeholders. To create clear accountability and a consistent approach, Alcoa has a centralised Transformation Group that oversees all real estate and manages all closed or curtailed operations. The group also has responsibility for managing any environmental liabilities at operating and non-operating locations and ensuring that appropriate accounting reserves are established and updated.

AWAC's approach covers the entire life cycle of a facility and includes established plans for ongoing stewardship during operation and the end-of-life stage for a facility. When facilities are closed, some can be repurposed with few changes, while others may require remediation, major modification or demolition. AWAC works closely with relevant stakeholders to develop a post-operation strategy. The goal is to optimise the land and assets that can be reused or redeveloped to enable the facility to be repurposed, generating jobs and a tax base for the community. In some instances, existing infrastructure is retained and transferred where it can benefit the local population.

Alcoa Foundation also plays an important role in helping communities transition, by providing funding to local non-governmental organisations.

The Transformation Group maintains an estimate of closure scope and costs for each operating location under various scenarios. These estimates consider input from known stakeholders who are periodically engaged as part of routine outreach programs.

Closure and rehabilitation of impoundment facilities

AWAC is focused on progressively closing and rehabilitating tailings storage and impoundment areas. Installation of an appropriate closure (cover) system, effective management of water post-closure and tailings consolidation over time substantially reduce the risk of instability resulting from continued water infiltration. Field trials and research on tailings rehabilitation is undertaken at many locations to better understand the interaction between retained moisture and nutrient cycling in the cover layer as a means of optimising the rehabilitation approach and identifying potential tailings area closure strategies.

AWAC's current closure strategy incorporates long-term planning and includes the following main objectives:

- minimising impacts to the surrounding environment
- developing aesthetics consistent with the expectations of external stakeholders, including regulators, and the surrounding land, such as farmland and light industrial areas
- aiming for beneficial reuse of post-closure bauxite residue or mine tailings
- progressively implementing closure actions during active operations so the success of the closure method is demonstrated, and the entire closure burden is not shifted to the end of operations
- minimising potential leachate discharge and treatment options.

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AWAC's early bauxite residue storage areas at the Kwinana alumina refinery serve as an example of returning tailings storage areas to productive land use. Parts of the storage areas were incorporated into the Perth Motorplex in Western Australia, which opened in December 2000. There have been no issues related to managing the site in the context of it being a former bauxite residue storage area. Continued improvement is expected as the residue storage areas are progressively closed at the closed Suralco alumina refinery in Suriname.

For more information on AWAC's approach to tailings management, see page 63.

Commitments and progress for 2020

The key goal for closure is the active mining disturbance to mine rehabilitation ratio (see page 66 above).

Alcoa's Transformation Group, responsible for the management of all closed or curtailed operations, is a key participant in asset portfolio reviews. As part of these reviews, Alcoa identifies and progresses stewardship and transformation projects at both its operating facilities, as well as its closed, curtailed, non-operating and divested facilities with retained environmental responsibility.

Water stewardship

Why this matters

Water is a critical raw material in AWAC's operations, particularly for ore processing, cooling, casting, rolling, dust suppression and potable uses. Water is also a precious and scarce commodity under pressure from changing climate, growing populations, expanding urbanisation and increasing demand for agriculture and industrial commodities. To gain and maintain the support and trust of its local communities, governments and regulators, AWAC must demonstrate responsible water stewardship.

Certain AWAC assets, particularly its alumina refineries and its Portland smelter, are large consumers of water. Water evaporates from tanks, vents and storage, entrains in bauxite mine tailings and is used in casting. If not managed effectively, water scarcity has the potential to impact AWAC's costs, production volume and financial performance. The region most impacted by water scarcity within AWAC's operations is Western Australia, which is prone to water stress and rainfall variability resulting in dryer climates.

How this is managed

AWAC's management approach for water differs according to the issues relevant to each region. In Brazil, water use is managed to account for high seasonal variation in rainfall. In locations where water is scarce such as Australia, water is recycled and reused multiple times until it is lost to evaporation or entrainment. Minimal discharges occur at these sites. Locations meeting the definition of water-scarce locations are the Alumar refinery in São Luís, Brazil, the Huntly and Willowdale mines and the Kwinana, Pinjarra and Wagerup refineries in Western Australia. All other facilities are classified as having low-to-medium or low baseline water stress.

The **World Resource Institute's Aqueduct** tools are used to identify water-scarce locations and further refined AWAC's classification through a qualitative risk assessment that considered items such as local applicable requirements and local supply/demand needs. Each location must develop an action plan for higher-risk aspects, with the plan reviewed and updated at least every five years.

Alcoa published its **Water Stewardship Policy** in 2020 to outline its vision and priorities for water and completed the rollout of its updated Water and Wastewater Management Standard. These activities continue to align with the **ICMM Position Statement on Water Stewardship**. In 2020, each location began developing its water management plan, which is the key requirement of the standard. The plans will extend AWAC's understanding of its water risks and impacts by considering:

- current and alternative water sources
- security of water supplies
- water reduction, substitution, reuse and recycling programs
- risks of contamination of water resources and mitigating actions, considering local context and receiving waterbodies
- other water impacts, such as erosion, acidification and salination.

The standard also requires a documented water balance for each location that is reviewed and updated at least every five years; a risk-based monitoring program; access to safe, high-quality potable water; and wastewater treatment facilities that are operated and maintained in accordance with permit conditions and standard industry practices. AWAC's operational water balance aligns with the **Minerals Council of Australia's Water Accounting Framework**.

In greenfield expansions where no local discharge requirements exist, the standard requires that limits and thresholds consistent with international standards be adopted and approved by senior leadership to ensure protection of the surrounding community and environment. All locations, even those in water-rich areas, are encouraged to look for ways to reduce consumption and discharge, use fit-for-purpose sources of water, and increase recycling and other opportunities through advanced technologies and process improvements. AWAC's Kwinana and Pinjarra refineries in Western Australia, for example, have the capability to reduce their freshwater use by a collective 2.2 gigaliters (581 million gallons) annually through an innovative technology called residue filtration. This is equivalent to the amount of water needed to fill 880 Olympic-sized swimming pools.

In addition to internal water initiatives, AWAC locations actively engage with government agencies and non-governmental organisations focused on water quality and conservation. Some AWAC employees serve on local water boards and committees, while others volunteer their time for specific projects. At a number of locations, AWAC holds significant water rights that benefit not only its operations but also the community. AWAC also provides financial support for water-based community initiatives primarily through Alcoa Foundation.

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Commitments and progress in 2020

Alcoa's long-term goal is to reduce the intensity of its total water use from Alcoa-defined water-scarce locations by 5% by 2025 and 10% by 2030 from a 2015 baseline. Alcoa achieved a 3.0% reduction against the baseline through 2020¹³.

All water discharges are managed in accordance with location standards and regulatory requirements. In 2020, AWAC had zero non-compliances associated with water-quality permits, standards and regulations that resulted in a formal enforcement action.

AWAC's 2020 net freshwater withdrawal was 30.6 million cubic meters, which was a 1% decrease compared to 2019. AWAC locations in water-stressed areas had a net use of 44.4 million cubic meters. Water use considers all water that is received and intended for use by the operational facility. This includes rainfall capture and runoff, which can vary year to year. In 2020, the Alumar location in Brazil captured less rainfall. Western Australia saw a return from the dry year in 2019, resulting in less evaporation at some sites during 2020.

Air quality

Why this is matters

The refining of alumina from bauxite ore and smelting of aluminium from alumina produce a range of airborne emissions that could harm AWAC's employees, the local communities and the broader public. AWAC aims to effectively manage these emissions to reduce their adverse effects.

How this is managed

AWAC works to minimise releases of all emissions in a cost-effective manner. Internal standards are defined and implemented to meet or exceed all applicable regulations in the jurisdictions where AWAC operates. Specific manufacturing processes determine the type of air emissions. Most sulphur dioxide and fluoride emissions, for example, come from smelting operations, while alumina refineries account for the majority of mercury emissions.

Alcoa has developed two industry-leading primary mercury emission-reduction technologies in collaboration with leading academics and experts in the field to control mercury emissions in the alumina refining process. The first condenses elemental mercury from gas streams, allowing controlled separation and safe disposal. The second, which Alcoa patented, uses a chemical additive to stabilise the mercury through the parts of the process during which it could otherwise be emitted. These technologies are applied at all AWAC locations to reduce mercury emissions. This report includes data on specific emissions based on their materiality across AWAC's global operations. These emissions include mercury, fluoride, nitrogen oxide, sulphur dioxide and volatile organic compound (VOC) emissions. Other emissions, such as carbon monoxide and particulate matter, are relevant only at certain locations and are therefore monitored at the location level. Lead emissions are not material for AWAC's operations.

Fugitive emissions, such as dust, are emissions that cannot reasonably be emitted or released through a chimney, stack or vent and which may leave the site boundary. Controls to manage or minimise fugitive emissions from AWAC's mining and process operations include:

- watering haul roads and bauxite residue areas, using binders on storage piles and incorporating vegetative covers where possible to minimise windblown dust
- using weather forecasts to help guide decisions regarding the use of additional controls during periods of unfavourable weather conditions
- implementing capture and control systems for loading/unloading, material handling, smelting and other process operations. Visual-emission observation and ambient-air monitoring tools are frequently employed to verify the effectiveness of these controls.

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PEOPLE

AWAC's performance depends on the skills and motivation of its people. To get the best from its people, AWAC needs to offer an inclusive and empowering culture, provide appropriate training and development, and prioritise the health and safety of its workforce.

Occupational health and safety

Why this matters

AWAC's work can be hazardous, difficult and complex and create an inherent level of physical and mental health risks for its people. Limiting and managing these risks allows AWAC to provide employees with the confidence that their safety and wellbeing has been prioritised and preserved. A safe, healthy and supported workplace is also more likely to be motivated, productive and committed.

How this is managed

AWAC prioritises safety over other business imperatives and strives to attain the goal of zero fatalities and zero life-threatening or life-altering injuries and illnesses. To enable this, the Executive team and other senior leaders regularly review corrective actions and the effectiveness of controls, and sponsor company-wide hazard mitigation initiatives.

The corporate Environment, Health and Safety (EHS) Lead Team and EHS Council also provide direction and oversight, with a strategy focused on cultivating a health and safety culture and building strong systems that equip people with the skills, knowledge, controls and protections to avoid injuries, illnesses and fatalities.

Safety culture

AWAC focuses its efforts on developing a culture of transparency, where both good ideas and setbacks are actively shared. Employees and contractors are regularly informed on workplace EHS matters and involved in strategic and tactical EHS reviews and decision-making through formal joint management-worker EHS committees.

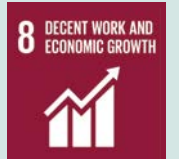
All employees and contractors are encouraged to proactively identify and report unsafe work practices or hazardous situations to their supervisor or EHS personnel. Safety objectives related to critical risk management and human performance are built into the annual performance objectives of all salaried employees.

Employees at operating locations are required to take regular environment, health and safety training that is determined by their specific roles and geographies. In 2020, Alcoa launched the EHS Leadership Training Program, designed to enhance and nurture an EHS culture and ensure that AWAC's leaders have the tools, competence and confidence to effectively manage EHS at their locations. The training is intended to build strong and consistent leadership that demonstrates a continuous commitment to safe and fatality-free production.

Safety systems

Alcoa's ISO-certified corporate EHS management system provides a universally recognised management framework for AWAC's EHS risk evaluation, planning, objective setting and operational control activities at all locations. Each location is responsible for developing a registry of all safety hazards and the actions taken to mitigate associated risks. This is overseen and verified by Alcoa's Corporate Safety Group with assistance from Alcoa's three regional vice presidents of operations.

To identify local safety hazards, AWAC conducts periodic risk-based audits. An audit team that consists of internal EHS professionals, operational subject matter experts and external consultants collaborates with location personnel to identify a site's critical risks. A remote process was developed in 2020 to accommodate travel restrictions due to COVID-19. This audit is complemented by a root-cause analysis that allows Alcoa to evaluate and address critical causes and drivers behind an incident through a standardised process and report the findings to all locations.



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Health hazard controls and initiatives

The health hazards inherent in AWAC operations include chemical, physical (noise, ergonomic, radiation, heat and vibration), biological and other types of hazards. AWAC aims to prevent occupational disease by implementing exposure controls; supporting personal health and well-being; and maintaining operations in a manner that does not negatively impact the health of local communities. A four-pillar health framework guides AWAC's health management strategy:

- health hazard controls to prevent occupational disease
- health status and fitness for work to ensure an employee's health status is compatible with assigned work
- community and public health, which facilitates AWAC's social license to operate
- personal health and well-being.

AWAC is guided by Alcoa's internal global health standards which are often more stringent than those specified by applicable law. It proactively identifies and responds to emerging health-related trends in the industry and maintains a long-standing relationship with the Health Committee of the International Aluminium Institute.

AWAC's processes, procedures, equipment and technologies to mitigate health hazards inherent in its operations have been developed and improved over decades. Voluntary programs focused on employee health and well-being and health promotion originate at the regional and location level.

AWAC's health and fitness for work programs which address the ability of employees to safely perform their assigned work activities are governed by two global occupational health standards:

- Occupational Healthcare Services Standard
- Management of Employee Medical and Exposure Records Standard

Safety performance in 2020

AWAC's systems are designed to prevent the loss of life or serious injuries and achieve its long-term strategic goal at AWAC. In 2020, there were no fatalities or serious injuries.

AWAC investigates, documents and reports any incident that has the potential to cause either a fatal or serious injury or illness. Risks are assessed and the hierarchy of controls is applied to eliminate the hazards and minimise risks for similar situations. AWAC's fatal and serious injury/illness potential (FSI-P) rate in 2020 was 0.75 incidents per 100 full-time workers. This is attributed to proactive, transparent reporting and improved calibration of risk perception across the company, and is a positive reflection of the healthy risk management system. The longer-term trend still indicates a positive, downward trajectory.

Data recordkeeping audits, injury classification reviews and other factors have resulted in changes to safety data from prior reporting. Comprehensive safety data is provided in the Data Tables section.

Health performance in 2020

Despite resources and focus being diverted to address the COVID-19 pandemic, AWAC achieved the following progress on key initiatives during 2020:

- Updated a number of health hazard standards, processes and controls and improved communication around hazard identification, including with AWAC's contractor companies, to reduce hazardous exposures.
- Continued our implementation of process-based medical evaluation, though efforts were hampered by COVID-19, and made traction with fatigue risk management with our new Fatigue Risk Management Standard and development of education materials.
- Continued to monitor the occurrence of disease outbreaks and emerging infectious diseases in proximity to our operating locations, including the COVID-19 pandemic, which required a comprehensive risk assessment to identify key control points, causative factors, outcomes along with their associated preventive and mitigating controls.
- Mental health was a strong and recurrent focus area in 2020 due to the uncertainty and dynamic nature of the COVID-19 pandemic, our necessary work-from-home policy for appropriate personnel, travel and gathering restrictions, and the 'pandemic fatigue' that was experienced individually and collectively.

AWAC will continue its work in these areas throughout 2021 and reinvigorate its strategies around ergonomics and work design.

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Coronavirus pandemic response

Alcoa's Global Crisis Response Team coordinated AWAC's response to the pandemic. By the end of March 2020, they had deployed a Trigger Action and Response Plan (TARP) at each location and a dashboard to track the plan's implementation as well as active, recovered, quarantine and isolation cases. The dashboard was transparent to all employees via the company intranet. The Safety, Sustainability and Public Issues Committee of Alcoa's Board of Directors was also briefed on the cases and our response.

The COVID-19 response covered:

- health and safety – keeping employees and contractors safe
- human resources – providing support through changed circumstances
- business continuity – engaging with regulators and adapting operations to maintain production.

During FY20, there were two COVID-19 contractor deaths and 643 confirmed cases among Alcoa employees and contractors in Brazil, 27 cases in Spain and 3 cases in Suriname.¹⁴ The two deaths occurred in Alumar and Juruti, locations that were particularly impacted due, in part, to:

- a simultaneous influenza outbreak at Alumar
- inaccessibility of testing
- hospital oversaturation
- challenges in the public health system in the early phase of the pandemic.

In the face of unprecedented challenges, AWAC employees around the world worked tirelessly and selflessly to keep operations running and each other safe. None of AWAC's operating locations had to fully or partially close, and there were zero missed or delayed customer shipments due to the pandemic.

For more information about Alcoa's Coronavirus Pandemic Response, see the [Alcoa 2020 Sustainability Report](#), page 6-8.

Diversity and inclusion

Why this matters

By building an 'everyone' culture, AWAC employees will feel empowered to build solutions through innovation, coaching and collaboration. The intent of equity, inclusion and diversity at AWAC is to ensure that everyone has access to the same opportunities and fair pay and treatment within an environment that is welcoming, so employees feel like they belong and are valued and accepted.

How this is managed

AWAC's primary focus is to drive more intentional actions to advance equity, inclusion and diversity. Recognising this will be a multi-year journey, the key focus areas are:

- diversifying the applicant pool
- diversifying hiring and promotions
- improving the employee experience to retain diverse employees
- managing pay equity and pay fairness across diverse employee populations.

Success will be measured through the percentage of diverse applicants, hires, promotions, retained employees and pay equity assessments.

A key achievement in 2020 was forming the Alcoa Global Inclusion & Diversity Council, following the endorsement of Alcoa's inclusion and diversity strategy by its Executive Team and Board of Directors. The Council was formed to support Alcoa's efforts to create trusting workplaces that are safe, respectful and inclusive of all individuals and that reflect the diversity of the communities in which it operates. The council has a diverse representation of leaders from across the global operations.

The Catalyst for Change program was deployed globally in 2020: leaders pledge to promote inclusion and diversity through actions that can include championing or leading inclusion groups, mentoring diverse employees, promoting flexible work arrangements, leading awareness training in unconscious bias and more. The program has driven a 3% increase in diversity since it began in 2015 in AWAC's Australian operations. In Brazil, the 12-month Advancing Women Program accelerates the development of women for critical roles.

AWAC's three inclusion groups serve as platforms for all employees to champion inclusion and diversity programs and lead allyship and learning opportunities. They are the Alcoa Women's Network (AWN); Employees at Alcoa for Gay, Lesbian, Bisexual and Transgender Equality (EAGLE); and Alcoans Working Actively for Racial-Ethnic Equality (AWARE), which launched in November 2020 in Brazil. The AWARE program also helps AWAC to build a workforce that reflects the communities in which it operates and to ensure all employees feel empowered and inspired to make a difference. AWAC plans to launch AWARE across its operations globally in 2021.

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A training module on unconscious bias was rolled out to all salaried employees during 2020. The training highlighted the various types of unconscious bias, the impact these biases have on an organisation and its people, and actions employees can take to mitigate these biases. The learning management system allowed for precise assignment, tracking and reporting of the module's completion rates, which helped to guide follow-up efforts. 71% of salaried employees completed the training in 2020.¹⁵

AWAC is committed to achieving gender balance and is working to improve pay equity. This includes developing an assessment roadmap that aligns with its inclusion and diversity and talent management strategies. To drive accountability, accelerate actions and measure progress, a percentage of Alcoa's annual incentive compensation is linked to both achieving gender equality and diversity in leadership and increasing the hiring of women in all levels of the organisation globally. The 2020 gender equality target represented 10% of Alcoa's incentive compensation formula and included three diversity metrics:

- an overall increase in global female representation
- an increase in the proportion of female hires
- an increase in female representation in senior positions.

Commitments and progress in 2020

AWAC has a strategic long-term goal to attain an inclusive everyone culture that reflects the diversity of the communities in which it operates. Alcoa was recognised in 2020 for its inclusion, diversity and equity efforts when it was named to the 2021 Bloomberg Gender-Equality Index and received a score of 95 on the Human Rights Campaign Foundation's Corporate Equality Index 2020.

In 2020, Alcoa's second gender pay equity analysis assessed pay equity for salaried employees following best practice methodology with a third-party consultant. The study found a 2% gender pay gap for pay within band (equal pay for same job level), which is considered pay parity, and a 17% overall earnings pay gap, which is a 1 percentage point improvement from 2019.¹⁷

Minimal increases were achieved in global female representation, from 15.4% to 15.6%, and female representation in senior positions, from 25.6% to 25.9%. The proportion of female hires decreased from 24.7% to 22.3%.¹⁷ In response to the global pandemic, a hiring freeze was implemented during most of 2020. Hiring focused predominantly on operations, which impacted AWAC's overall progress on diversity. AWAC's approach in 2021 will continue to focus on increasing gender diversity, with a broader emphasis on improving workforce diversity of underrepresented groups related to ethnicity and disability.



For more information on diversity and inclusion, see [Alcoa 2020 Sustainability Report](#), page 59.

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Labour relations

Why this matters

By listening to their employees through open, honest and transparent discourse with individuals and their representative bodies, AWAC's employees will feel supported in their role and more engaged, motivated and committed to the work they do.

How this is managed

AWAC seeks to maintain freedom of association everywhere it operates. It does this by:

- maintaining open and ongoing communications with all active workers unions and collective bargaining agreements that encapsulate its workforce
- engaging in formal negotiations and addressing all informal issues that are brought to its attention by these groups to ensure its workforce is represented and their concerns are addressed
- managing its employees through a dedicated Human Resources team
- upholding a code of conduct that ensures it conducts business and treats its employees consistently in line with its values and applicable laws worldwide.

Progress in 2020

Each year, AWAC negotiates labour agreements with various unions. In 2020, 20 agreements covered approximately 80% of its global workforce.¹⁶

AWAC employees at the San Ciprián refinery joined a strike in late 2020 in support of workers at the associated non-AWAC smelter.

An agreement was reached in January 2021 to suspend the strike, with a process in place to sell the smelter to a Spanish government entity.

Active workforce covered by labour agreements in 2020:¹⁶

Country	Percent covered
Australia	65
Brazil	100
Spain	100

Employee development and engagement

Why this matters

Culture shapes the day-to-day environment that employees experience, and impacts talent and business outcomes. A productive workforce is one that is engaged and motivated, and that has access to professional development for current skills and future career pathways.

How this is managed

Employee engagement

The employee engagement survey is a critical feedback mechanism to help shape employees' experiences at AWAC. From 2021, AWAC is moving toward shorter regular surveys with ad hoc pulse surveys that measure progress on specific areas. Key standard questions will be leveraged to compare results against global norms.

Employees are involved in action planning to ensure accountability for follow-up actions and feedback.

Throughout 2020 and the COVID-19 pandemic, AWAC supported employee wellbeing through continuous touchpoints.

Talent acquisition

In 2020, AWAC reviewed and updated its talent acquisition practices, policies and processes to better support diversity aims and align the talent acquisition function with business needs.

Talent development

Career check-ins and feedback conversations are part of AWAC's ongoing talent and succession process, with the outcomes helping guide future development programs. AWAC considers each employee's unique performance narrative, which includes performance against goals; demonstration of Alcoa behaviours; impact to the business and team; and use of development for success. People review meetings were held within each operational location and function to create succession plans for critical roles – including at least one female or diverse successor – and action plans for key talent and develop regional/local talent agendas.

In response to the pandemic, all talent development cohort-based programs were redesigned to be delivered virtually beginning in 2021.

Employee training

All salaried employees have direct access to the learning management system, which houses location-based online training content and purchased professional and leadership

development content. The system's peer learning functionality allows employees to create lessons and share their knowledge. In 2020, there were 46,000 enrolments in digital courses and an average of 37 hours of training per FTE.¹⁶

Where feasible, AWAC supports employee participation in professional certification, leadership development and other external training programs.

Reward, recognition and incentives

By recognising its employees' full contribution, AWAC attracts, engages and retains satisfied and productive employees who contribute to the overall success of the company and drive results. AWAC recognises its employees through a number of financial incentives and reward and recognition programs.

16 Alcoa-wide data

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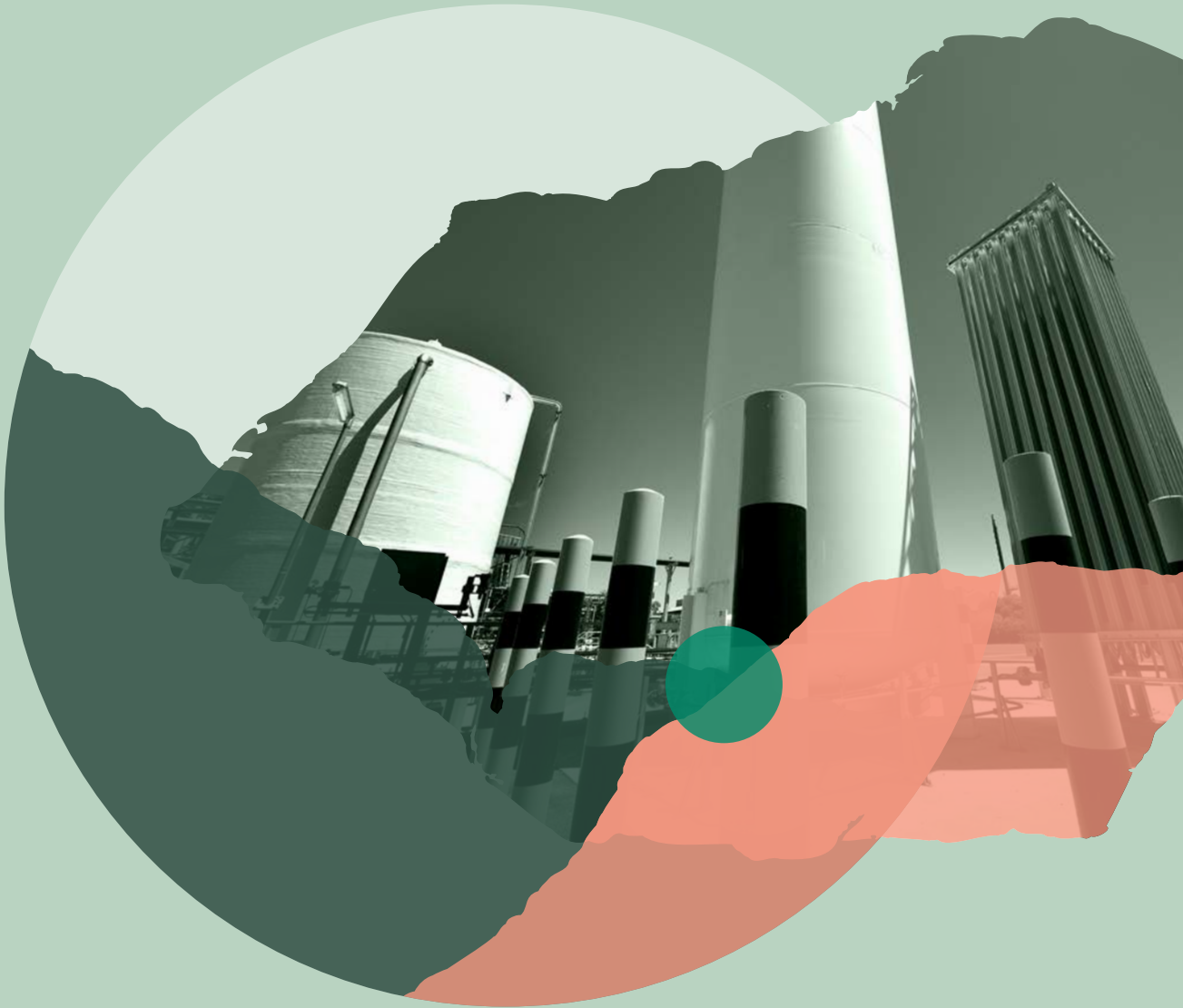
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The following data tables are available in an excel spreadsheet to assist users in data extraction and analysis.

Please visit the [Alumina Limited website](#) to download files.



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ENVIRONMENT

Energy efficiency and greenhouse gas emissions

Energy efficiency of AWAC assets

Gigajoule (GJ) of energy required per tonne of production

AWAC assets	2018	2019	2020	% change
Mining (bauxite)	0.07*	0.08	0.09	9.79%
Refining (alumina)	9.07	9.03	8.93	(1.09%)
Smelting aluminium)	53.91	54.05	55.03	1.81%

Mining energy usage partially increased as a result of increased haul distance at mines, in particular at Willowdale (Willowdale was in the process of executing a rusher move, which was completed in 2021). Refining energy efficiency improved marginally as a result of improve production. Smelting energy efficiency deteriorated partially due to a decrease in production and higher usage of natural gas on site.
* Previously reported in the 2019 Sustainability Report as 6.5 due to calculation error.

Direct energy consumption by source (mines, refineries and smelter) (full facility)

Gigajoules (GJ)

Direct energy source	Purchased or produced	2016	2017	2018	2019	2020
Natural gas	Purchased	98,858,338^	96,937,976	92,694,748*	96,230,317	96,617,112
Diesel	Purchased	2,563,766	2,728,504	2,852,216	3,241,314~	3,625,491
Petrol/gasoline	Purchased	52,422	54,094	62,675	15,800	3,826
Propane	Purchased	9,676	7,380	5,766	6,124	6,608
Coal	Purchased/ Produced	12,717,307	12,222,105	11,499,896	10,984,564	11,892,555
Residual fuel oil	Purchased	9,908,159	9,808,686	9,326,396	10,762,354	11,131,210
Biodiesel	Purchased	30,058	58,444	76,986	88,725	103,377
Total direct energy					121,329,198	123,380,179

^ Natural gas usage reduced due to the curtailment of the Point Comfort refinery.
* Drop in consumption due to 3 percent lower production during 2018.
~ Increase in diesel consumption during 2019 partly due to increased production at mining operations. Increase in 2020 was due to an increase in production and a move at the Willowdale mine, leading to an increase in haulage distance to crushers. This is similar for the 2020 increase in biodiesel.

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Indirect energy consumption by source (mines, refineries and smelters) (full facility)

Gigajoules (GJ)

	2016	2017	2018	2019	2020
Electricity (Non-renewable)	16,580,489	11,309,382*	15,784,794*	14,135,991	12,852,805
Electricity (Renewable)	1,359,424	2,971,338*	3,072,838*	4,947,813	6,247,323~
Total electricity	17,939,913*	14,280,720^	18,857,832*^	19,083,804	19,100,128
Steam	13,499,481	13,067,325	13,913,323	13,141,137	13,014,115
Total indirect energy				32, 224, 941	32,114,243

~ Increase in renewable electricity usage from 2019 to 2020 of 387,000 MWh or 1.4 million GJ at the Portland smelter due to greening of Victoria's grid.

^ The increase in electricity usage between 2018 and 2017 is due largely to the increase in electricity used at the Portland smelter resulting from production increase following the restoration of a potline that was lost for most of 2017 due to the December 2016 power outage.

* Previously reported, in the 2018 Sustainability Report, as:

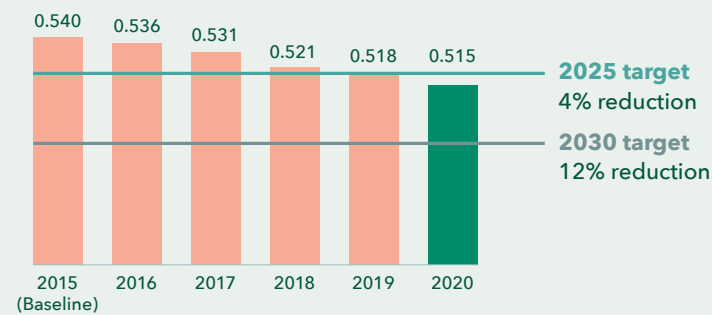
2015 – non-renewable 18,374,903, renewable 3,149,789, 2017 – non-renewable 12,151,429, renewable 2,129,291 and 2018 – non-renewable 16,665,325, renewable 2,191,507 due to mistakenly excluding hydroelectricity from the renewable electricity split which resulted in the understatement of renewable electricity and overstatement of non-renewable electricity;

2015 – total electricity 21,524,692 and steam 12,954,290 due to calculation error;

2018 – total electricity 18,856,832 due to a transcription error.

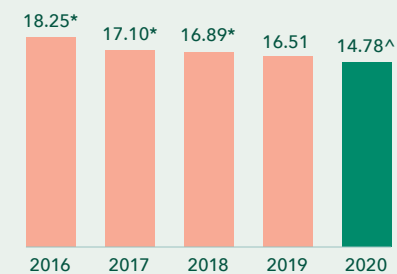
Refinery GHG intensity

Tonnes of GHG per tonne of alumina production



Combined smelter and refinery GHG intensity

Tonnes of GHG per tonne of production



^ Decrease in emissions intensity due to greening of Victoria's electricity grid leading to a decrease in the Portland smelter's GHG intensity.

* Previously reported, in the 2018 Sustainability Report, as: 17.22 for 2018, 17.06 for 2017 and 19.41 for 2016 due to data changes from AWAC's adoption of the latest global warming potentials from the fifth assessment report (AR).

Greenhouse Gas Emissions~ (full facility)

Tonnes CO₂-e

GHG	2016	2017	2018	2019	2020
Direct (Scope 1)	7,788,387	7,575,617	7,406,939*	7,706,949	7,839,115
Indirect (Scope 2)	5,588,770	3,741,416	5, 071,704*	4,833,854	4,294,543
Total (Scope 1 & 2)	13,377,157	11,317,033	12,478,643*	12,540,803	12,133,658
(Scope 3)	~^	34,468,831	35,103,007	37,289,281	37,580,101

Scope 1 emissions increased in 2020 as a result of increased alumina production. Scope 2 emissions declined as a result of increased renewable energy in the Victorian electricity grid, which services the Portland Smelter.

~ Emissions Calculation Methodology: The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), Australia - National Greenhouse and Energy Reporting Act, Brazil GHG Protocol Programme and The Climate Registry: General Reporting Protocol. Emission per source calculated by applying WRI Calculation Tool.

Scope 1 (direct GHG) emissions are those released directly by AWAC's sites through direct use of energy sources on-site such as natural gas. Scope 2 or indirect emissions are those from electricity generated by external energy suppliers that supply energy to AWAC's sites and also associated with the generation of steam at the co-generation facilities located at the Pinjarra refinery.

Included as contributor to the value of Scope 3 emissions is processing of sold goods. AWAC's main product is alumina, which is used downstream by customers in the production of aluminium, which is an energy intensive activity.

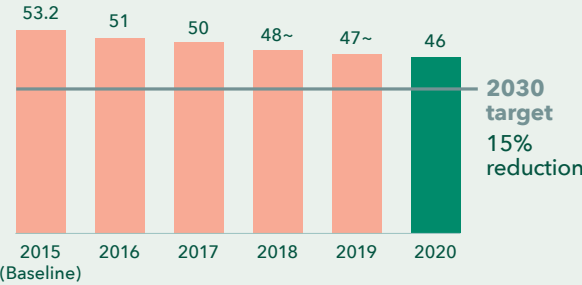
* Restatements from 2018 report. Previously given as 7,413,321; 5,087,177; 12,500,498.

^ Scope 3 emissions not calculated prior to 2017.

Waste, tailings and residue management

Bauxite residue storage efficiency~ , ^ , * , #

Square metres of land required per thousand tonnes of alumina produced



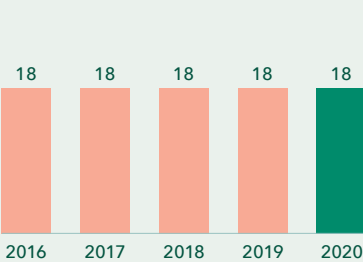
~ Changes from prior periods are due to the removal of non-operational sites.

^ Decrease due to the commissioning of two press filtration facilities, which recycle more water and enable dry stacking of bauxite on a smaller footprint of land. A facility at Kwinana was commissioned in 2016 and a facility at Pinjarra which was commissioned in 2018.

The strategic long term goal for bauxite residue addresses a key challenge—reduce bauxite residue land storage requirements per metric ton of alumina produced by 15 percent by 2030 from a 2015 baseline.

Bauxite residue storage area rehabilitation*

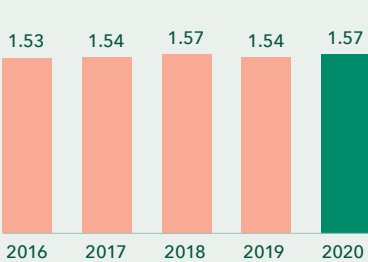
Percent of total area rehabilitated



Bauxite residue storage has remained steady over a number of years, but it is expected that there will be improvement as the bauxite storage areas of the closed Suralco and Point Comfort refineries are rehabilitated.

Bauxite residue intensity*

Tonnes per tonnes of alumina produced

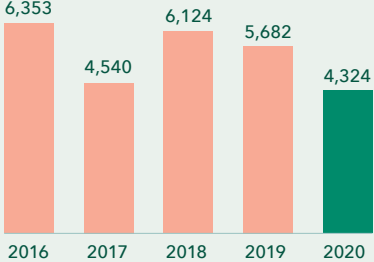


* This data is calculated on an Alcoa basis, however, relates predominantly to AWAC assets as over 95% of bauxite and alumina assets in the Alcoa portfolio are owned by AWAC.

Bauxite residue intensity can vary depending on the quality of the bauxite being mined. When a particular mined area approaches its end of life, the quality of bauxite is likely to decline, which usually means a decrease in available aluminium oxide, and an increase organic material and other matter which can increase bauxite residue.

Land filled waste (full facility)

Tonnes (t)



AWAC's landfilled waste data excludes certain streams, such as bauxite residue, refining process waste and fly ash. These forms of waste are managed with onsite storage or impoundment areas and are not sent to landfills. Overburden and rock generated from AWAC mining activities, which are also omitted, are not considered waste because the materials are used for mine rehabilitation.

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Facilities closure
Mining Land disturbed/Land rehabilitated*

Hectares

	2016	2017	2018	2019	2020
Open mine area	14,155	14,380†	14,766†	15,069	14,980
Area disturbed (Annual)	977	1,123†	1,195†	1,359	1,354
Area rehabilitated (Annual)	532†	898†	810†	1,057	1,443

The goal of Alcoa as operator is to maintain a disturbance to rehabilitation ratio of 1:1 over a five-year period. It is the expectation that more mined area will be rehabilitated over the coming years as closed mines in Suriname are rehabilitated.

* The values in this table include some of Alcoa's South American operations that do not form part of AWAC operations. However, the vast majority of disturbance and subsequent rehabilitation is the result of AWAC's mining and infrastructure activities.

† Previously reported in the 2018 Sustainability Report, having mistakenly included North American sites and were therefore overstated.

Area rehabilitated*

Hectares

Region	2016	2017	2018	2019	2020
Australia	290	412	550	665	675
South America	242	486	260	392	768†
Area rehabilitated (Annual)	532†	898†	810†	1,057	1,443

* Annual figures. Area rehabilitated means land returned to natural conditions or to productive use (such as farming) after mining or decommissioning of mine infrastructure in each reported year. The increase in area rehabilitated in 2019 was mainly due to an increase in area rehabilitated at the Huntly mine in Australia and an increase in areas returned to the government of Suriname compared to 2018.

† Increase from 2019 to 2020 in South America due to the rehabilitation of the now-closed Suralco mine.

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Land management and biodiversity

Area disturbed for mining and associated infrastructure (full facility)

Hectares

Region	2016	2017	2018	2019	2020
Australia	631	675	675	954	822
South America	346	448	520	406	532
Area disturbed (Annual)	977	1,123	1,195	1,360	1,354

Area disturbed' means land used in each reported year for mining or for mining infrastructure (e.g. roads, shops, crushing equipment, conveyors). In South America, the increase in 2020 was associated with additional clearing for long-term infrastructure and tailings storage at the Juruti mine. In Australia, the increase in 2019 was mostly due to clearing for long-term infrastructure associated with the next mining region at the Willowdale mine.

Water stewardship

Freshwater intensity (full facility^)(refining and smelting combined)

Cubic metres/tonne of production

	2015	2016	2017	2018	2019	2020
Mining	0.14	0.1	0.1	0.2	0.2	0.2
Refining ~	1.6^	1.7^	1.5^	1.5^	1.5^	1.5
Smelting	1.17	1.1	1.3	1.1	1.0	1.1
Total intensity (refining and smelting) *	4.2^	4.3^	4.2^	3.8^	3.9^	3.9

* Calculated as smelting intensity + (1.9 x refining intensity)
^ These figures have been restated to 'full facility', consistent with other data provided. In previous Sustainability Reports, AWAC figures were reported, and also contained a minor formula error.

Freshwater withdrawal by source (full facility)

Millions of cubic metres

Source	2016	2017	2018	2019	2020
Total	31.4	28.3	28.3	30.9	30.6

'Area disturbed' means land used in each reported year for mining or for mining infrastructure (e.g. roads, shops, crushing equipment, conveyors). In Australia, the increase in 2019 was mostly due to clearing for long-term infrastructure associated with the next mining region at the Willowdale mine.

Water balance (full facility)

All locations

	Water inputs				Water outputs			
	Category 1 & 2 ¹⁷							
	Freshwater ¹⁸	Other ¹⁹	Category 3 ¹⁷	Total	Category 1	Category 2	Category 3	Total
Surface Water	16.4	2.4	19.2	38.0	0	0.2	0	0.2
Ground Water	8.4	4.2	3.9	16.5	0	1.1	1.1	2.2
Seawater								0
Third Party Water	5.8	0.7	1.2	7.7	0.1	0	0.1	0.2
Consumption					0	0.4	4.2	4.6
Evaporation					4.6	4.9	34.7	44.2
Entrainment					0	0	11.7	11.7
Total	30.6	7.3	24.3	62.2	4.7	6.6	51.8	63.1

Areas with water stress

	Water inputs				Water outputs			
	Category 1 & 2 ¹⁷							
	Freshwater ¹⁸	Other ¹⁹	Category 3 ¹⁷	Total	Category 1	Category 2	Category 3	Total
Surface Water	3.2	2.3	14.5	20.0	0	0.1	0	0.1
Ground Water	8.4	4.1	3.3	15.8	0	1.1	1.1	2.2
Seawater								0
Third Party Water	5.5	0.7	1.2	7.4	0	0	0	0
Consumption					0	0.3	0	0.3
Evaporation					4.6	4.2	22	30.8
Entrainment					0	0	11	11
Total	17.1	7.1	19.0	43.2	4.6	5.7	34.1	44.4

¹⁷ Category 1 water is of a high quality and suitable for most purposes with little or no treatment. Category 2 water is of a medium quality and suitable for some purposes, such as irrigation. Category 3 water is of a low quality and suitable for limited purposes without significant treatment. Categories 1 and 2 are equivalent to the ICMM High Quality definition, and Category 3 is equivalent to the ICMM Low Quality definition.

¹⁸ Includes water drawn from rivers and streams, bore fields and contracted 3rd party water.

¹⁹ Includes precipitation, runoff, and groundwater includes produced water which is water entrained in ore.

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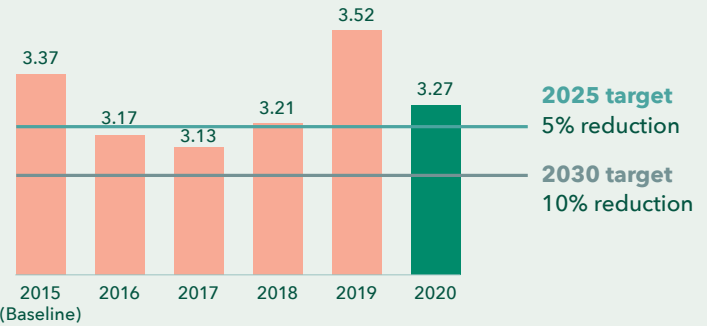
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Total Water-use Intensity – Locations in AWAC-defined Water-stressed Areas~

Cubic meters of water per metric ton of alumina produced



~ In 2020, Alcoa set a target to reduce the intensity of our total water use from water-scarce locations by 5 percent by 2025 and 10 percent by 2030, from a 2015 baseline.

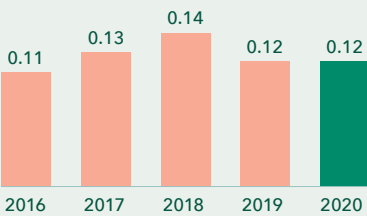
Air quality
Emissions (full facility^)

Tonnes

	2018	2019	2020
SO ₂ emissions	12,508	12,263	15,037
NO _x emissions	10,849	11,363	12,280
Hg emissions	2,049	1,832	1,819

Mercury emissions intensity (full facility^)

Grams per tonne



^ These figures have been restated to 'full facility', consistent with other data provided. In previous Sustainability Reports, AWAC figures were reported, and contained a minor formula error.



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PEOPLE

All figures under 'People' are calculated on a full facility basis and include employees and supervised contractors.

Occupational health, safety and wellbeing

Total Recordable Incident Rate, employees and supervised contractors (full facility)

	Global	Australia	Europe	North America	South America
2016	1.490	1.600	0.910	4.490	0.570
2017	1.299	2.082	0.703	4.169	0.465
2018	1.343*	2.485	0.956	3.844	0.504
2019	1.358	2.408	1.445	1.014	0.543
2020	1.320	2.529	1.170	8.621	0.430

Total recordable incident rate represents the number of injuries and illnesses resulting in days away from work, job transfer or restriction, medical treatment or other recordables per 100 full-time workers.

* Previously reported in the 2018 Sustainability Report as 1.261, due to a calculation error.

Lost workday rate*

	Global	Australia	Europe	North America	South America
2016	0.310	0.410	-	-	0.140
2017	0.315	0.458	0.141	1.042	0.169
2018	0.203	0.403	0.137	-	0.065
2019	0.283	0.457	0.161	-	0.163
2020	0.344	0.632	-	-	0.164

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

Lost workday incidents by gender

	Male	Female	Total
2016	20	0	20
2017	32	2	34
2018	28	1	29
2019	37	2	39
2020	47	2	49

Days away, restricted and transfer rate* (Alcoa)

	Global	Australia	Europe	North America	South America
2016	0.16	0.23	0	0	0
2017	0.575	0.859	0.562	3.127	0.211
2018	0.567	0.98	0.683	1.922	0.232
2019	0.733	1.213	0.803	0	0.367
2020	0.737	1.370	0.502	5.747	0.278

* Days away, restricted and transfer rate includes lost workday cases plus cases that involve days of restricted duty and job transfer per 100 full-time workers.

Days away, restricted and transfer incidents by gender

	Male	Female	Total
2016	9	1	10
2017	59	3	62
2018	73	8	81
2019	95	6	101
2020	94	11	105

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Total recordable incidents by gender

	Male	Female	Total
2016	84	6	90
2017	132	8	140
2018	175	17	192
2019	174	13	187
2020	168	20	188

Fatalities by gender

	Male	Female
2016	0	0
2017	2^	0
2018	0	0
2019	0	0
2020	0	0

^ Contractor

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This index shows where GRI Standards are addressed for Alumina Limited and AWAC. Note that more in-depth information on management approach for some AWAC topics may be found in the Alcoa Sustainability Report. The Sustainability Update is informed by GRI standards, but the Sustainability Update is not GRI certified.



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Indicator	Description	Alumina Limited location	AWAC location
General disclosures			
Organizational profile			
102-1	Name of the organization	P7	P7
102-2	Activities, brands, products and services	P7-8	P7-8
102-3	Location of headquarters	P7, 98	P8
102-4	Location of operations	P7	P9, 10-11
102-5	Ownership and legal form	P7	P8-9
102-6	Markets served	N/A	P10
102-7	Scale of the organization	P9, 22	P10
102-8	Information on employees and other workers	P22	P69-73
102-9	Supply chain	N/A	P46-49
102-10	Significant changes to the organization and its supply chain	None	P80 2020 Alcoa Sustainability Report
102-12	External initiatives	P15-19	P17-18
102-13	Membership of associations	P28	P46
Strategy			
102-14	Statement from senior decision-maker	P5-6	N/A
102-15	Key impacts, risks, and opportunities	P15-19	P15-19, 31-33
Ethics and integrity			
102-16	Values, principles, standards, and norms of behaviour	P27	P44
102-17	Mechanisms for advice and concerns about ethics	P27-28	P44

Indicator	Description	Alumina Limited location	AWAC location
Governance			
102-18	Governance structure	P24-28	P44-49
102-19	Delegating authority	P25	P35-37
102-20	Executive-level responsibility for economic, environmental, and social topics	P35-37	P35-37
102-21	Consulting stakeholders on economic, environmental, and social topics	P15-16	P15-16, 50
102-22	Composition of the highest governance body and its committees	P29-30	P35-37
102-23	Chair of the highest governance body	P26	P36
102-24	Nominating and selecting the highest governance body	P25-26 Refer to the Alumina Limited Policy on Director Independence and the 2020 Corporate Governance Statement , P10-13	P35-37
102-25	Conflicts of interest	P27 Refer Policy on Director Independence	N/A
102-26	Role of highest governance body in setting purpose, values, and strategy	P26	P35-37
102-27	Collective knowledge of highest governance body	P26	P35-37
102-28	Evaluating the highest governance body's performance	P26 Refer to the 2020 Corporate Governance Statement , P10 and P13	P35-37
102-29	Identifying and managing economic, environmental, and social impacts	P15-19 Refer to the Sustainability Committee Charter	P35-37
102-30	Effectiveness of risk management processes	P31, 35-37	P35-37
102-31	Review of economic, environmental, and social topics	P16-20 Refer to the Sustainability Committee Charter	None
102-32	Highest governance body's role in sustainability reporting	Refer to the Sustainability Committee Charter	P4

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Indicator	Description	Alumina Limited location	AWAC location
Governance (continued)			
102-33	Communicating critical concerns	P15-16	P44-46
102-34	Nature and total number of critical concerns	P17-19	P17-19
102-35	Remuneration policies	P28 Refer to the remuneration report in the 2020 Annual Report	P49
102-36	Process for determining remuneration	P28 Refer to the remuneration report in the 2020 Annual Report	P49
102-37	Stakeholders' involvement in remuneration	P17 Refer to the Alumina Limited 2021 Notice of Meeting	None
Stakeholder engagement			
102-40	List of stakeholder groups	P15	P16-19, 50-55
102-41	Collective bargaining agreements	P22	P73
102-42	Identifying and selecting stakeholders	P15-16	P16-19, 44-45, 50-55
102-43	Approach to stakeholder engagement	P15-17 Refer to the Alumina Limited 2021 Notice of Meeting	P15-17 Refer to the 2020 Alcoa Sustainability Report , P45
102-44	Key topics and concerns raised	P15-17	P17-19, 50-55
Reporting practice			
102-45	Entities included in the consolidated financial statements	P9	N/A
102-46	Defining report content and topic Boundaries	P4, 15-17	P4, 15-17
102-47	List of material topics	P17-19	P17-19
102-48	Restatements of information	None	P75-84
102-49	Changes in reporting	P17	N/A
102-50	Reporting period	P3	N/A

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Indicator	Description	Alumina Limited location	AWAC location
Reporting practice (continued)			
102-51	Date of most recent report	P3	The date of the most recent Alcoa Sustainability Report, which is referenced throughout Alumina Limited's Sustainability Update, is 31 December 2020.
102-52	Reporting cycle	P3	The annual reporting cycle for Alcoa Sustainability Reports, is 1 January to 31 December.
102-53	Contact point for questions regarding the report	P4	P4
102-54	Claims of reporting in accordance with the GRI Standards	P4, 85	P4
102-55	GRI content index	P85-91	P85-91
102-56	External assurance	P4	P4 Refer to Alcoa Sustainability Report P133
GRI Standards Topic Specific Disclosures			
Management approach			
103-1	Explanation of the material topic and its boundaries	P17-19	P17-19
103-2	The management approach and its components	Per material topic, P21-39	Per material topic, P41-82
103-3	Evaluation of the management approach	Per material topic, P21-39	Per material topic, P41-82
201-1	Direct economic value generated and distributed	P12-13	P55
201-2	Financial implications and other risks and opportunities due to climate change	P31-33	P31-33
201-3	Defined benefit plan obligations and other retirement plans	None	Refer to AWAC FY20 accounts , P22
201-4	Financial assistance received from government	None	Refer to AWAC FY20 accounts , P30 and P39
205-2	Communication and training about anti-corruption policies and procedures	P25 Refer to the 2020 Corporate Governance Statement , P5	P44-45

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Indicator	Description	Alumina Limited location	AWAC location
Management approach (continued)			
302-1	Energy consumption within the organisation	N/A	P58, 75-76
302-3	Energy intensity	N/A	P75-76
302-4	Reduction of energy consumption	N/A	P75-76
Water and effluents			
303-3	Water withdrawal	N/A	P67, 79-80
303-4	Water discharge	N/A	P67, 79-80
303-5	Water consumption	N/A	P67, 79-80
Biodiversity			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	N/A	P65
304-2	Significant impacts of activities, products, and services on biodiversity	N/A	P64-66
304-3	Habitats protected or restored	N/A	P64-65
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	N/A	P65-66
305-1	Direct (Scope 1) GHG emissions	N/A	P77
305-2	Energy indirect (Scope 2) GHG emissions	N/A	P77
305-3	Other indirect (Scope 3) GHG emissions	N/A	P77
305-4	GHG emissions intensity	N/A	P76
305-5	Reduction of GHG emissions	N/A	P58, 60-61, 76
305-7	NOx SOx and other significant air emissions	N/A	P81
Waste			
306-1	Waste generation and significant waste-related impacts	N/A	P63-64, 77
306-2	Management of significant waste related impacts	N/A	P63-64
306-3	Waste generated	N/A	P77

Indicator	Description	Alumina Limited location	AWAC location
Waste (continued)			
306-5	Waste directed to disposal	N/A	P77
307-1	Non-compliance with environmental laws and regulations	N/A	P44-45, 68
403-1	Occupational health and safety management system	N/A	P69-70
403-2	Hazard identification, risk assessment, and incident investigation	N/A	P69-70
403-3	Occupational health services	N/A	P19, 69-70
403-5	Worker training on occupational health and safety	N/A	P69-70
403-6	Promotion of worker health	N/A	P69-70
403-9	Work-related injuries	P22	P82-84
403-10	Work-related ill health	N/A	P69-71
Training and education			
404-1	Average hours of training per year per employee	P44	P73
404-3	Percentage of employees receiving regular performance and career development reviews	None	None
Non-discrimination			
406-1	Incidents of discrimination and corrective actions taken	None	None
Human rights assessment			
412-1	Operations that have been subject to human rights reviews or impact assessments	N/A	Refer to Alcoa Sustainability Report P41-42
412-2	Employee training on human rights policies or procedures	N/A	P48
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	N/A	P48 and 50 Refer to the Alcoa Supplier Standards
413-1	Operations with local community engagement, impact assessments, and development programs	N/A	P50
413-2	Operations with significant actual and potential negative impacts on local communities	N/A	P50
415-1	Political contributions	P28	P45

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SASB INDICATORS

The following table outlines the **SASB Metals and Mining** requirements, including material topics and metrics for disclosure, along with whether, how and where we have met requirements throughout this report. Where we have not met requirements, this is largely because they are not relevant in an Australian context.



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Material topics and accounting metrics	Unit of measure	Code	Response	Reference
Activity metrics				
Production of (1) metal ores and (2) finished metal products	Metric tons (t) saleable	EM-MM-000.A	Bauxite: 45.0 million t on wet basis Alumina: 12.8 million t (Full facility: 15.1 million t) Aluminium: 106 thousand t (Full facility: 291 thousand t)	P42
Total number of employees, percentage contractors	Number, Percentage (%)	EM-MM-000.B	5,596 employees (41.1%), 8,017 contractors (58.9%)	P10, 42
Greenhouse gas emissions				
Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO ₂ -e, Percentage (%)	EM-MM-110a.1	Scope 1: 7,839,115 tCO ₂ -e	P77
Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	N/A	EM-MM-110a.2	See '15.1 Energy efficiency and greenhouse emissions'	P56, 60-62, 75
Air quality				
Air emissions of the following pollutants: 1. CO 2. NO _x (excluding N ₂ O) 3. SO _x 4. Particulate matter (PM ₁₀) 5. Mercury (Hg) 6. Lead (Pb) 7. Volatile organic compounds (VOCs)	Metric tons (t) E	EM-MM-120a.1	1. Not available 2. 12,280 t 3. 15,037 t 4. Not available 5. 1,819 t 6. Not available 7. Not available	P81
Energy management				
1. Total energy consumed 2. percentage grid electricity 3. percentage renewable	Gigajoules (GJ), Percentage (%)	EM-MM-130a.1	1. Direct energy: 123,380,179 GJ Indirect energy: 32,114,243 GJ (includes 13,014,115Gj of imported steam) 2. Grid electricity: 19,100,128Gj, (12.3% of total energy, 100% of total electricity%) 3. Renewable: 33% of electricity consumed	P56, 75-76

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Material topics and accounting metrics	Unit of measure	Code	Response	Reference
Water management				
1. Total fresh water withdrawn 2. Total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	EM-MM-140a.1	1. 30.6 million m³ 2. 14.5 million m³ in water stressed areas	P80
Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	EM-MM-140a.2	None	N/A
Waste & hazardous materials management				
Total weight of tailings waste, percentage recycled	Metric tons (t), Percentage (%)	EM-MM-150a.1	Not available	N/A
Total weight of mineral processing waste, percentage recycled	Metric tons (t), Percentage (%)	EM-MM-150a.2	Not available	N/A
Number of tailings impoundments, broken down by MSHA hazard potential	Number	EM-MM-150a.3	63 (AWAC), 90 (AWAC, MRN, MA'ADEN), MSHA not applicable	N/A
Biodiversity impacts				
Description of environmental management policies and practices for active sites	N/A	EM-MM-160a.1	See '15.5 Land management and biodiversity'	P64
Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Percentage (%)	EM-MM-160a.2	Not available	N/A
Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Percentage (%)	EM-MM-160a.3	Not available. For qualitative discussion see '15.5 Land management and biodiversity'	P64
Security, human rights & rights of indigenous peoples				
Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Percentage (%)	EM-MM-210a.1	0% On a full facility basis, none of AWAC's proved or probable reserves are in or near areas of conflict.	N/A
Percentage of (1) proved and (2) probable reserves in or near indigenous land	Percentage (%)	EM-MM-210a.2	100% LandMark's map of indigenous lands acknowledged by governments indicates that all three of AWAC's proved and probable reserves are near indigenous lands. They are: Juruti, Huntly and Willowdale.	N/A
Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	N/A	EM-MM-210a.3	See '14.1 Local commitment with communities' For detail on Alcoa's engagement with indigenous rights, see its Indigenous Peoples Policy .	P54

Material topics and accounting metrics	Unit of measure	Code	Response	Reference
Community relations				
Discussion of process to manage risks and opportunities associated with community rights and interests	N/A	EM-MM-210b.1	See '14.1 Local commitment with communities'	N/A
Number and duration of non-technical delays	Number, Days	EM-MM-210b.2	We did not experience any non-technical delays related to our mining projects in 2020. We have obtained permits to access new areas in our Juruti mine in Brazil and engaged with different stakeholders in Australia to renew our environmental permits.	
Labour relations				
Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Percentage (%)	EM-MM-310a.1	Not available. For qualitative discussion, see '16.3 Labour relations'	P73
Number and duration of strikes and lockouts	Number, Days	EM-MM-310a.2	AWAC employees at the San Ciprián refinery joined a strike in late 2020 however, no data is available for exact number of days.	P73
Workforce health & safety				
1. MSHA all-incidence rate 2. fatality rate, 3. near miss frequency rate (NMFR) 4. average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Rate	EM-MM-320a.1	1. 1.32 2. 0 3. 0.75 4. Not available. For qualitative discussion see '16.1 Occupational health and safety'	P82

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Material topics and accounting metrics

Unit of measure

Code

Response

Reference

Business ethics & transparency

Description of the management system for prevention of corruption and bribery throughout the value chain

N/A

EM-MM-510a.1

The Alcoa Ethics and Compliance team deliver in-person training on its Code of Conduct, policies and procedures, anti-corruption principles and its expectations of supervisors. Other governance policies that drive ethical and responsible business practice at AWAC include:

- [Alcoa's Corporate Governance Guidelines](#)
- [Anti-Corruption Policy](#)
- [Human Rights Policy](#)
- [International Trade Compliance Policy](#)

See '13.2 Business integrity.'

Alcoa engages with Trace International to support our due-diligence program and further manage risk in our supply chain related to anti-bribery and corruption. This program assesses suppliers with an Alcoa spend higher than US\$50,000 per year that are based in a high-risk country, as well as those with an Alcoa spend above US\$1 million per year but are not based in a high-risk country.

P44

Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index

Metric tons (t) saleable

EM-MM-510a.2

AWAC does not produce in any of the 20 lowest ranking countries in Transparency International's Corruption Perception Index.

N/A

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Disclaimer

Summary information

This Sustainability Update contains summary information about the current activities of Alumina Limited (ACN 004 820 419) (**Alumina**) and its subsidiaries as at the date of this Sustainability Update. The information in this Sustainability Update should not be considered to be comprehensive nor to comprise all the information that a reader may require in order to make an investment decision regarding Alumina securities. This Sustainability Update should be read in conjunction with Alumina's other periodic and continuous disclosure announcements lodged with the ASX, which are available at www.asx.com.au.

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The information contained in this Sustainability Update is not financial product advice, or any other advice, and has been prepared without taking into account any reader's investment objectives, financial circumstances or particular needs.

Forward-looking statements

Neither Alumina nor any other person warrants or guarantees the future performance of Alumina or any return on any investment made in Alumina securities. This Sustainability Update may contain certain forward-looking statements, including forward-looking statements within the meaning of the US Private Securities Litigation Reform Act of 1995. The words "anticipate", "aim", "believe", "expect", "project", "estimate", "forecast", "intend", "likely", "should", "could", "will", "may", "target", "plan" and other similar expressions (including indications of "objectives") are intended to identify forward-looking statements. Indications of, and guidance on, future financial position and performance and distributions, and statements regarding Alumina's future developments and the market outlook, are also forward-looking statements.

Any forward-looking statements contained in this Sustainability Update are not guarantees of future performance. Such forward-looking statements involve known and unknown risks (including the key risks referred to below), uncertainties and other factors, many of which are beyond the control of Alumina and its directors, officers, employees and agents, that may cause actual results to differ materially from those expressed or implied in such statements. Readers should not place undue reliance on forward-looking statements. Except as required by law, Alumina disclaims any responsibility to update or revise any forward-looking statements to reflect any new information or any change in the events, conditions or circumstances on which a statement is based or to which it relates.

Key risks

Certain key risks that may affect Alumina, its financial and operating performance and the accuracy of any forward-looking statements contained in this Sustainability Update include (without limitation): (a) material adverse changes in global economic conditions, alumina or aluminium industry conditions or the markets served by AWAC; (b) changes in production or development costs, production levels or sales agreements; (c) changes in laws, regulations or policies; (d) changes in alumina or aluminium prices or currency exchange rates; (e) Alumina Limited does not hold a majority interest in AWAC and decisions made by majority vote may not be in the best interests of Alumina Limited; and (f) the other risk factors summarised in Alumina's Annual Report 2020.

Past performance

Past performance information contained in this Sustainability Update is given for illustrative purposes only and should not be relied upon as (and is not) an indication of future performance.

Financial data

All dollar values in this Sustainability Update are in United States dollars (US\$) unless otherwise stated.

Certain financial data included in this Sustainability Update is "non-IFRS financial information" under Australian Securities and Investments Commission Regulatory Guide 230: "Disclosing non-IFRS financial information". Alumina believes the non-IFRS financial information provides useful information to users in comparing prior periods and in assessing the financial

performance and condition of Alumina. The non-IFRS financial information does not have a standardised meaning prescribed by Australian Accounting Standards and, therefore, may not be comparable to similarly titled measures presented by other entities, nor should the information be construed as an alternative to other financial measures determined in accordance with Australian Accounting Standards. Readers are cautioned, therefore, not to place undue reliance on any non-IFRS financial information contained in this Sustainability Update. Where non-IFRS financial measures are contained in this Sustainability Update, the definition of the relevant measure, its calculation method and/or a reconciliation to IFRS financial information is provided in this Sustainability Update as appropriate or can be found in Alumina's ASX Full-Year Preliminary Report (Appendix 4E), or Alumina's Annual Report 2020.

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