

ASX Announcement

31 October 2023

## Alumina Limited – 2023 ESG Investor Briefing

Attached is a copy of Alumina Limited's 2023 ESG Investor Briefing.

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



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# Alumina Limited

ESG Investor Briefing

31<sup>st</sup> October, 2023

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Consolidated Financial statements of Alumina Limited prepared in accordance with Australian Accounting Standards ("AAS") also comply with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. Certain non-IFRS financial information is also presented. When non-IFRS measures are used, definition of the measure, calculation method and/or reconciliation to IFRS financial information is provided as appropriate in the Alumina results for the half year ended 30 June 2023. AWAC financial information presented has been extracted from unaudited combined financial statements prepared in conformity with accounting principles generally accepted in the United States of America ("US GAAP"). All financials are USD unless otherwise shown.

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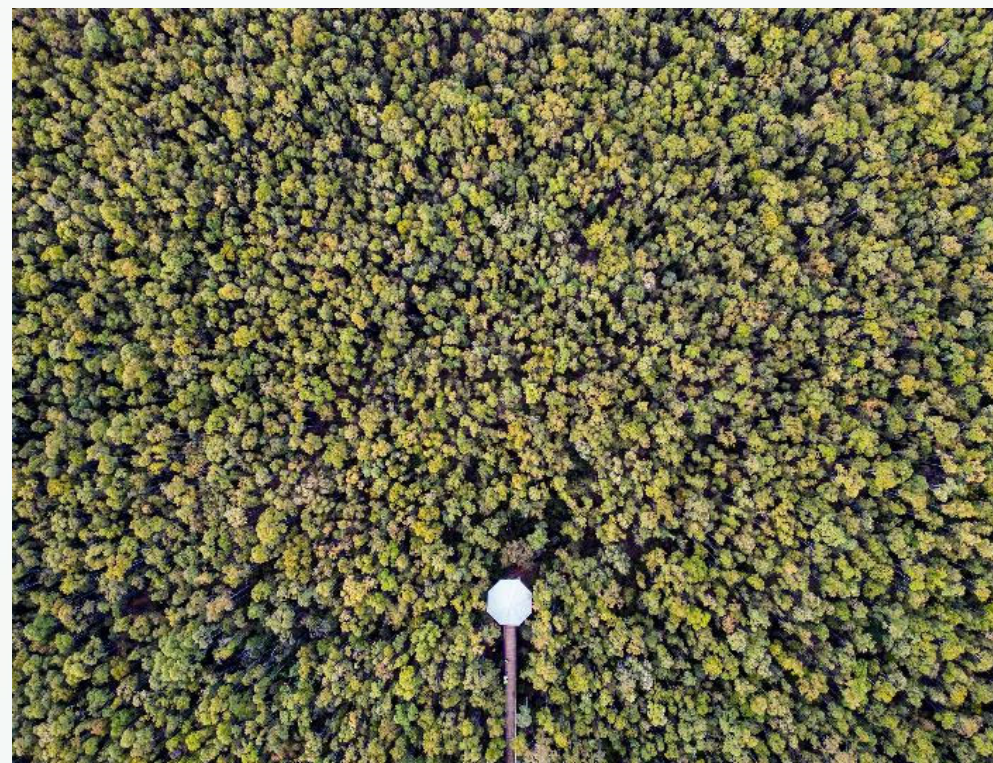
This release has been approved and authorised for release by Mike Ferraro, Chief Executive Officer



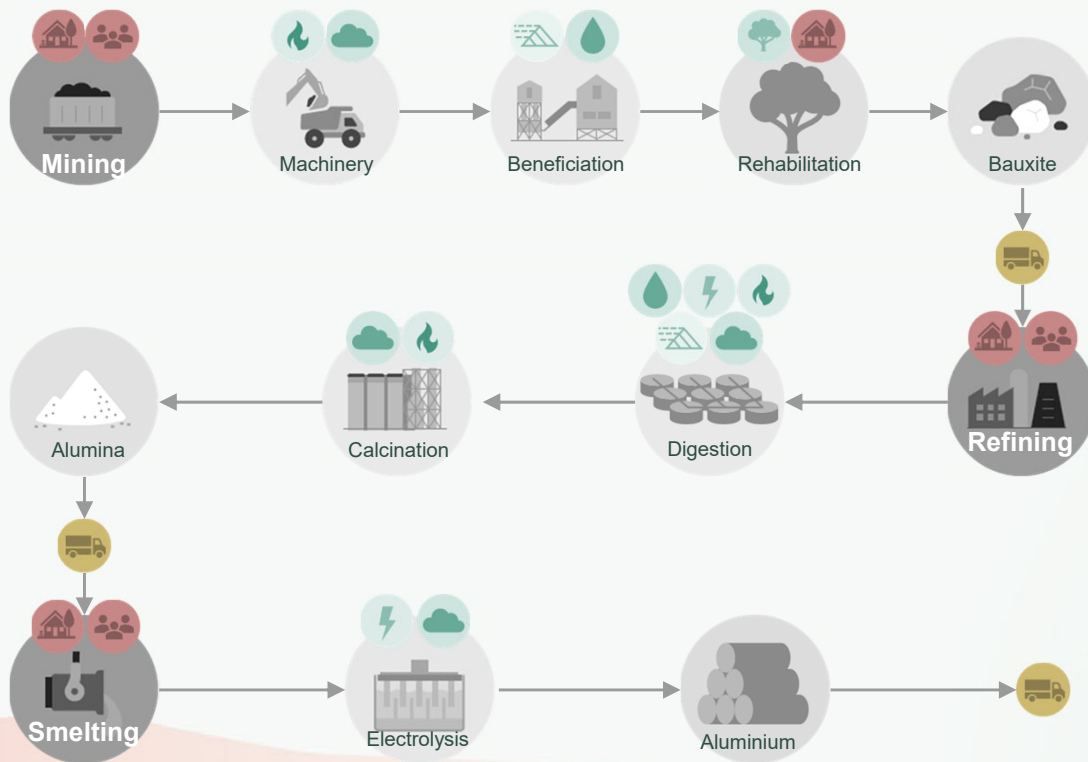
# Agenda

Focus on current & emerging ESG matters facing Alumina Limited & AWAC

- Western Australia
- Biodiversity & Rehabilitation
- Energy
- Climate Change & GHG
  - Emissions intensity
  - Decarbonisation strategy
  - Safeguard Mechanism
- Water management
- Residue management
  - GISTM & Residue Filtration
- Supply chains, modern slavery and human rights
- Markets



# AWAC's operations determine its ESG focus & initiatives



## Legend

- Electricity
- Energy
- Climate change & GHG
- Water management
- Residue management
- Modern slavery & human rights
- Community
- Supply chains

Environment Social Governance

# Western Australia

# Western Australia

## Modernising our processes and practices



- Engagement with relevant government agencies continues on required mine plan and related approvals
- Alcoa is committed to modernise approvals enhancing practices to address stakeholders' needs and expectations.



More robust Mining and Management Programs (MMPs) through additional technical detail and enhanced risk management and controls



No mining zones around the towns of Dwellingup and Jarrahdale in WA



Additional controls to protect drinking water including distance from reservoirs



No mining in old growth forest or gazetted national parks in WA



Accelerate mine site rehabilitation



Meeting international standards in biodiversity protection, including alignment with the ICMM Mining Principles and ASI certifications

International Council on Mining and Metal (ICMM)  
Aluminium Stewardship Initiative (ASI)



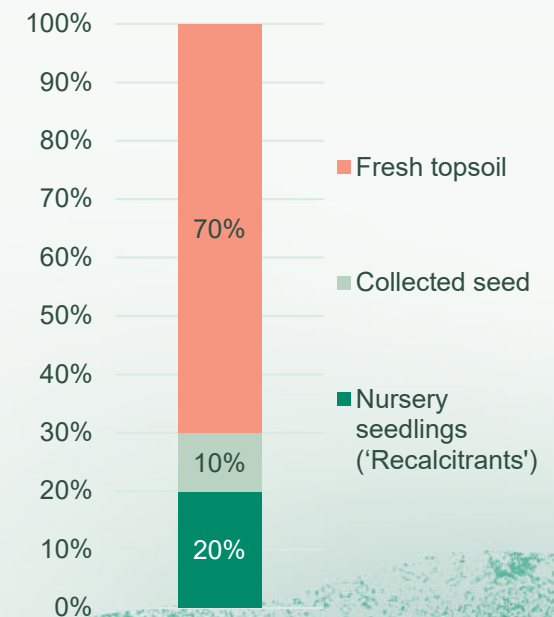
# Biodiversity & Rehabilitation

# Darling Range mining practices and rehabilitation

Rehabilitation is a continuous and long-term process

- Progressive mine rehabilitation:
  - 12-15 months: landscaping, overburden and topsoil return, contour ripping, fauna habitat return, seedling and planting of nursery-raised seedlings
  - 12+ years and mature: Completion Criteria
- Since 1988, only native species including Jarrah and Marri trees have been returned
- Rehabilitation results:
  - 2022:
    - 509 ha rehabilitated
    - 379 ha disturbed

## Proportion of Plant Species Contribution



# Juruti mine rehabilitation

Rehabilitation with focus on community support and wildlife care

- Juruti mine
  - Amazon rainforest and river, high biodiversity value, and importance to rural communities
  - Sensitive ecosystem and vulnerable communities
  - Economy based on agriculture, fishing and farming
- Community
  - Engagement with local families: Providing training and financial contribution to cultivate the seedlings used in Juruti's rehabilitation
- Wildlife care
  - Wildlife Rehabilitation Center treating any injured animal found in the mine area of influence
- Nucleation
  - Novel technique to initiate forest recovery



# Energy

# AWAC energy performance

AWAC continues to increase renewable electricity use

## Energy intensity



- 75.1 GJ per tonne of production<sup>1</sup> in 2022 (2021: 73.5 GJ/t production)
- Refinery: 9.6 GJ/t alumina
- Smelter: 56.9 GJ/t aluminium

## Electricity consumption



- 5.6 TWh<sup>2</sup> (2021: 5.2 TWh)

## Renewable electricity



- AWAC sources 41% of electricity from renewable sources
  - Portland: 37% (2021:34%)

## Electricity (% Sourced From Renewable Generation<sup>2</sup>)



[1] Refining is included at a ratio of 1.9 metric tonnes of alumina produced to 1.0 metric tonnes of smelted aluminium. AWAC equity share.

[2] AWAC full facility basis (scope 1 & 2)



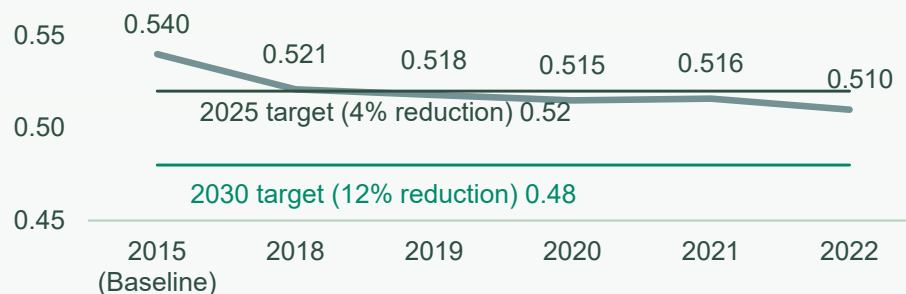
# Climate Change & GHG

# AWAC emissions intensity

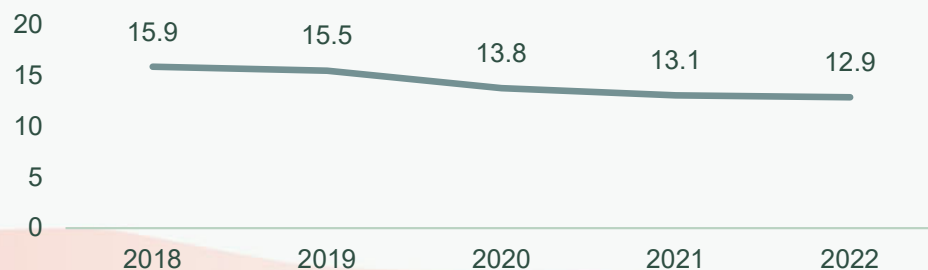


AWAC sits in the first quartile for global alumina refinery emissions intensity

**Refinery Emissions Intensity - tCO<sub>2</sub>e/t alumina<sup>1</sup>**



**Smelter Emissions Intensity - tCO<sub>2</sub>e/t aluminium<sup>1</sup>**

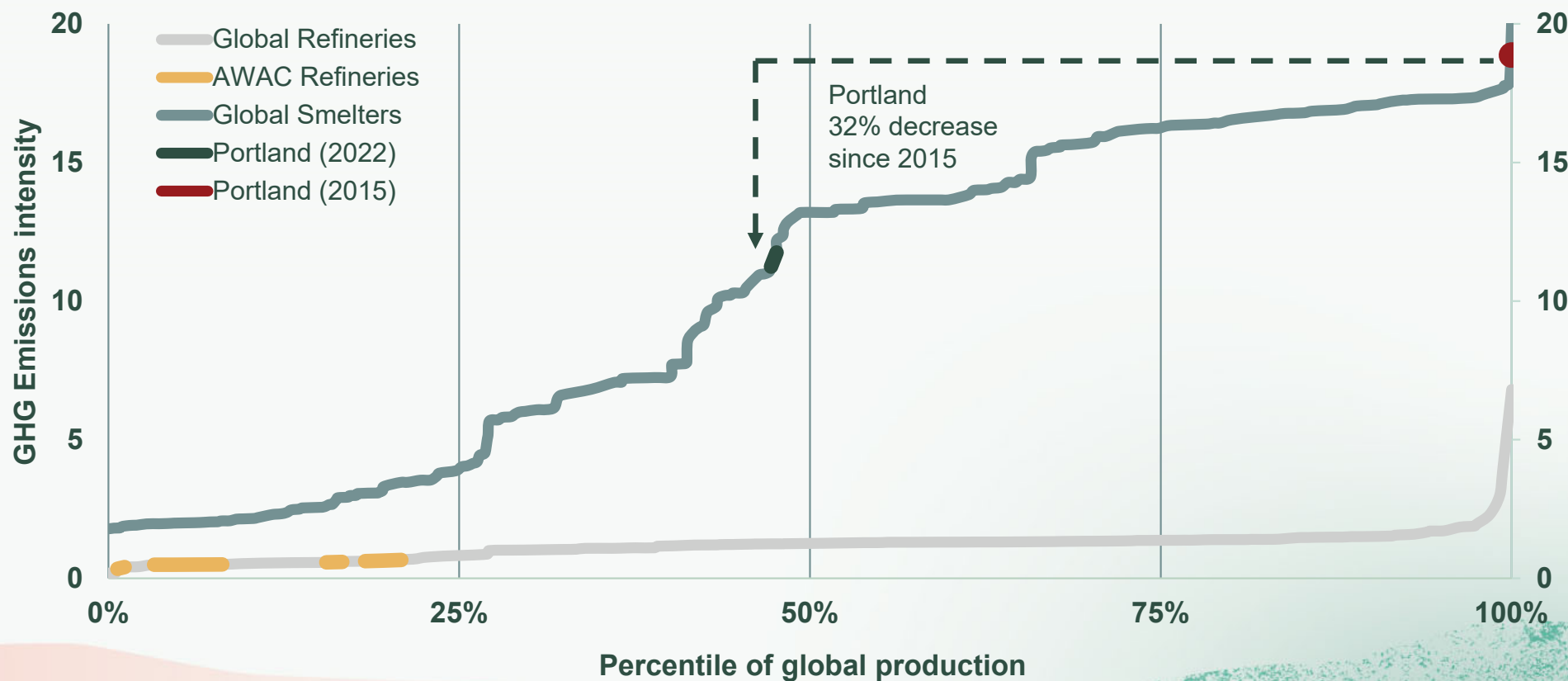


[1] Scope 1 & 2 emissions. AWAC full facility basis

- The AWAC refineries remained in the first quartile on the refinery global emissions intensity curve in 2022, with refinery emissions intensity improving 1% from 2021
- Portland remained in the second quartile on the global smelter emissions intensity curve in 2022, with emissions intensity improving 1.5% from 2021

# Global emissions intensity curve

t of CO<sub>2</sub>e/t of production

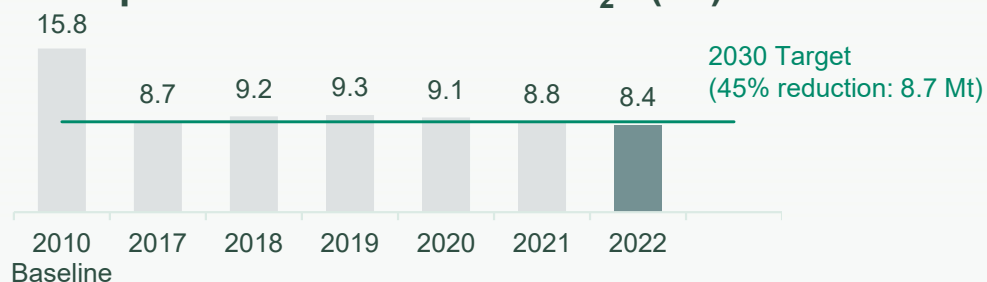


Source: CRU, June 2023

# Decarbonisation target and strategy

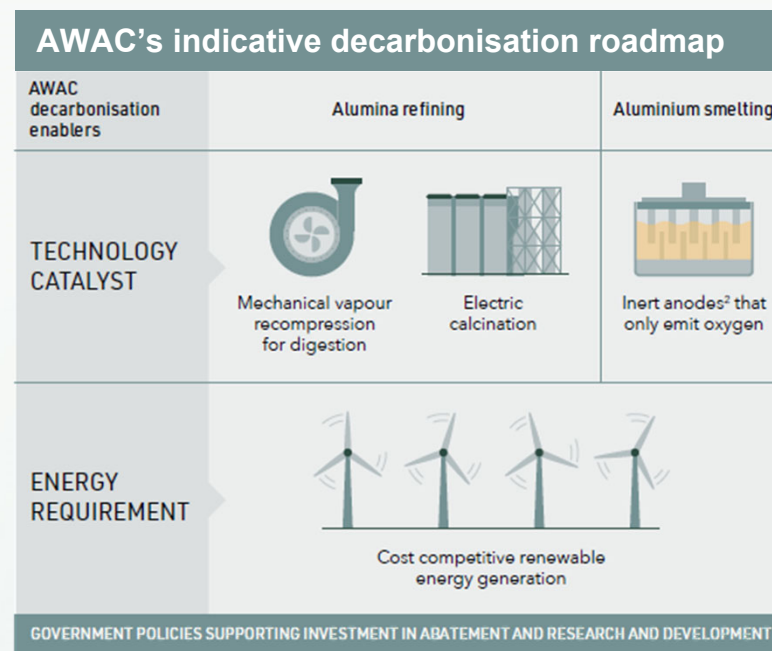
AWAC's decarbonisation strategy focused on technology, clean energy and government policies

## Scope 1 & 2 Emissions – CO<sub>2</sub>e (Mt)<sup>1</sup>



### ➤ Potential initiatives and factors

- Refinery of the Future – MVR and EC
- Electrical grid greening
- Government policies to support investment



[1] AWAC equity basis

[2] Inert anode technology is the first industrial process that could emit pure oxygen, and when combined with renewable electricity, produce carbon free aluminium. An example of this is ELYSIS, which is being developed in a joint venture between Alcoa and Rio Tinto. The process is being ramped up to industrial-sized scale through additional development work

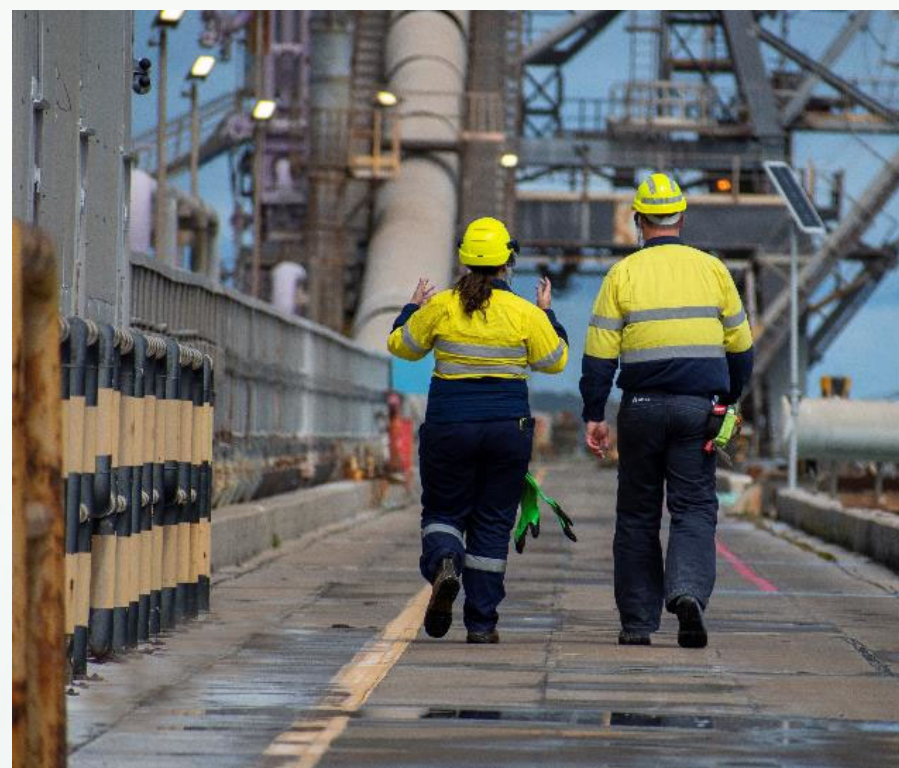
# Safeguard Mechanism

- The Safeguard Mechanism captures Australian facilities that exceed 100,000 tCO<sub>2</sub>e/year of GHG
  - All Aus AWAC's facilities captured (except Willowdale)
- Hybrid method (transitions from site specific to industry average)
  - Default 4.9% p.a. decrease in baselines until 2030, unless favourable treatment of TEBA applies to the facility

Ratio	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Industry average	10	20	30	40	60	80	100
Site specific	90	80	70	60	40	20	0

- Minimal annual impact to AWAC
  - AWAC refineries have the lowest emissions intensity and are at an advantage to peers

Trade Exposed Baseline Adjusted (TEBA)





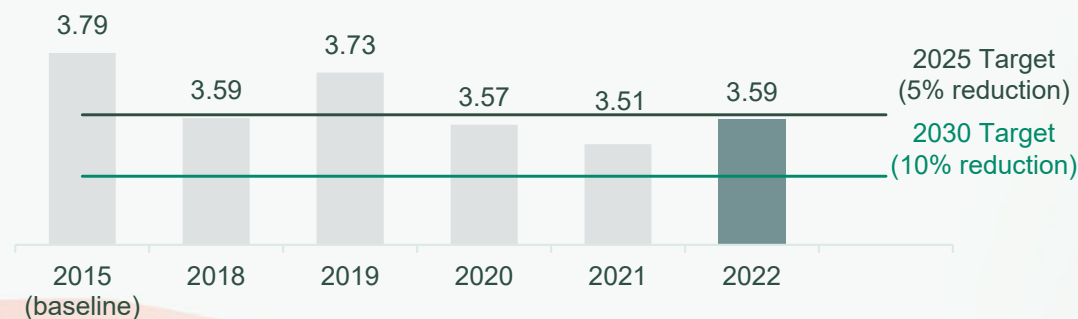
# Water management

# Water management

Focuses on water-scarce locations - WA mines and refineries

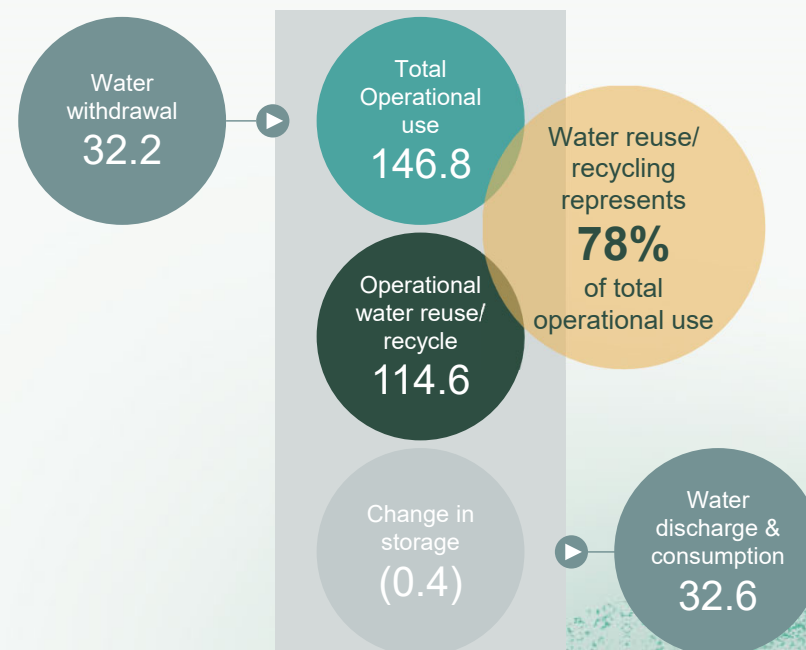
- Management
  - Minimise fresh water withdrawal, reuse cooling ponds, press filters, treat lower quality water
- Future: Identify impacts & opportunities

## Total Water-Use Intensity in AWAC-Water-Scarce Locations (m<sup>3</sup>/tonne of alumina)



Water balance values represented in million cubic metres (Mm<sup>3</sup>)

## Water Balance at Water-Scarce Locations (2022)



# Residue management

# Impoundments

## ICMM Conformance Protocol - GISTM

- Alcoa voluntarily committed to GISTM
- August 2023: “Extreme” or “Very high” consequence dams (Six facilities)
  - All assessed as in conformance with GISTM by an Independent Third Party
- August 2025: “High”, “Significant” and “Low” consequence dams (51 facilities)
  - Currently progressing





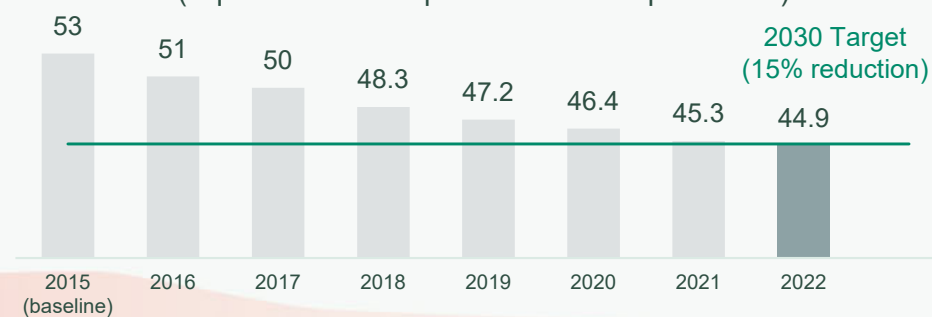
# Residue management

## Press filters

- Operational press filters
  - Pinjarra
  - Kwinana
- Bauxite residue storage efficiency improving

### Bauxite Residue Land Utilisation Requirements

(Sq metres of land per kt of alumina produced<sup>1</sup>)



[1] Alcoa full facility basis





# Supply chain, modern slavery and human rights

# Supplier Responsible Sourcing Program

2022 Alcoa global results



## Supply Chain Governance (2022)

- Leverage EcoVadis data
- In 2022, 99% of audited suppliers met the minimum score of 25/100
  - Average score was 14% above EcoVadis network
  - Support was provided to suppliers scoring <25
- Onsite audits will be implemented in 2023
- AofA released its 2<sup>nd</sup> Modern Slavery Statement
  - No incidents of modern slavery identified

Supplier Standards

Responsible Sourcing Framework

### Supplier Sustainability Program

#### Assess – Suppliers screened & assessed

- Risk assessment
- 3<sup>rd</sup> party ESG risk (incl. human rights)
- EcoVadis IQ, Descartes MK Denied Party Screening, TRAC.

>9,700

(97%) global suppliers assessed

127

Suppliers identified as potential higher risk

#### Audit – High risk & strategic suppliers due diligence

- EcoVadis Ratings Assessment
- Onsite human rights audit (Supplier Site Collaboration Program)

>1,000

suppliers completed EcoVadis Ratings audit

50.9 / 100

EcoVadis Ratings audit average score

#### Advance – Feedback & guidance

- Support suppliers to improve performance and manage risk.
- Continuous monitoring through EcoVadis 360 Watch

1%

of suppliers partner with for development plan

Numbers represent Alcoa's supply chain base rather than AWAC-specific

# Markets

# Markets

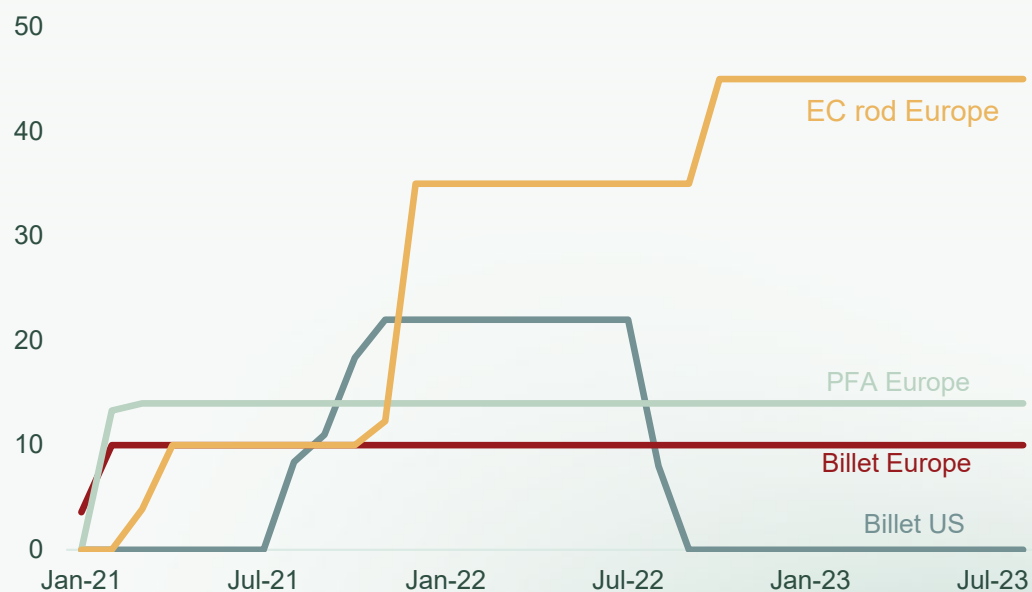
Demand for low-carbon aluminium is projected to rise

➤ Aluminium green premiums vary by product type & region

- 2022/2023:
  - Electrical Conductor (EC) rod aluminium in Europe the highest
  - Global demand for low emission primary aluminium<sup>1</sup> is ~2Mt of aluminium
- 2032: Global low emission primary aluminium demand could reach 12.8 Mt of aluminium (exc. China)

## Green/low-carbon aluminium upcharge assessments

(\$/tonne; high end of the assessed range)



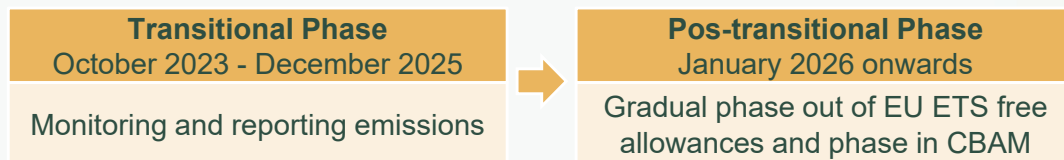
Harbor assessment is for primary aluminium produced with an estimated carbon footprint of 4.0 or less kg of CO<sub>2</sub> emitted per kg of aluminium. IAI's level 1 (scope 1 & 2); Primary Foundry Alloy (PFA); Electrical Conductor (EC)  
Source: Harbor

[1] Defined as below 4 tCO<sub>2</sub>e/t (scope 1 & 2) of aluminium. Source: CRU

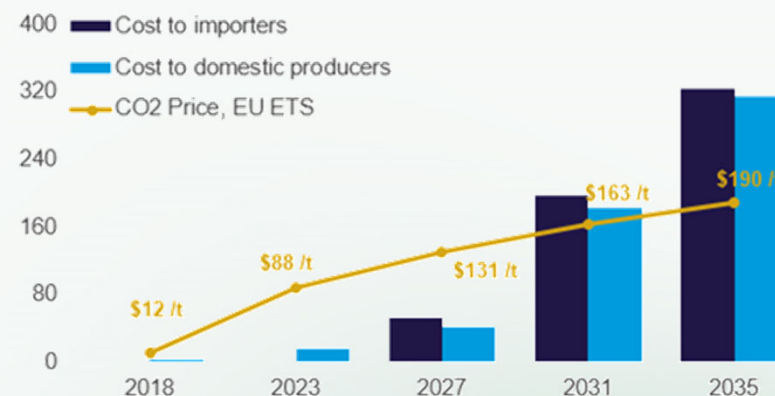
## Markets (*continued*)

EU-CBAM is likely to drive green premium price discovery

- Imported aluminium products within scope
- From 2026: CBAM certificates required in excess of benchmark<sup>1</sup>
  - Progressive emissions benchmark decrease, reaching zero by 2034
- Cost to importers and domestic producers is expected to increase



**Carbon emission cost on direct emissions in the EU**  
(\$/t primary aluminium and \$/t CO<sub>2</sub>e)



Source: CRU, October 2023

EU Carbon Border Adjustment Mechanism (EU-CBAM)

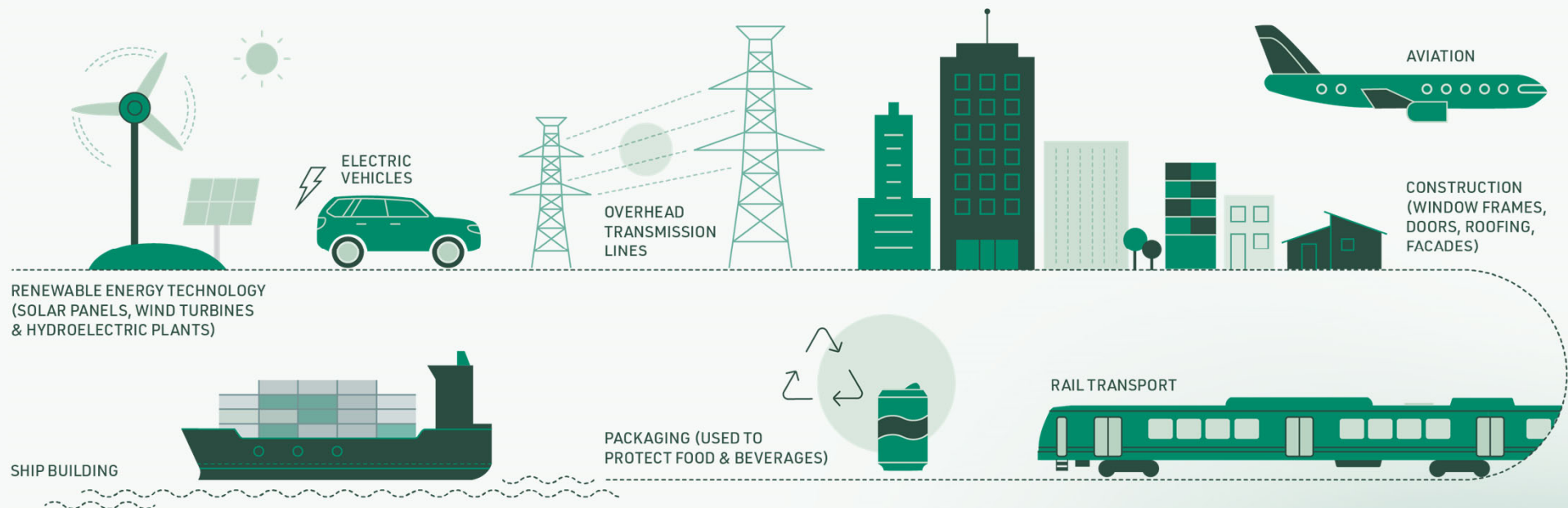
[1] Benchmark of 1.42 tCO<sub>2</sub>e/t of aluminium is currently expected until 2025. Benchmark for 2026 onwards has not been defined yet



# Metal for the Future





Aluminium role in the low carbon transition

**ALUMINA**  
LIMITED



## Metal for the Future (*continued*)

- Aluminium is a key material for solar generation, electric vehicles, and electrical transmission
  - Aluminium: Lightweight, ductile, resilient, impermeable
  - Non-metallurgical alumina: Water treatment, ceramics, refractory
  - Positive for aluminium demand
- AWAC is a unique concentration of low-emission alumina refineries
  - Natural gas: 80% of direct energy<sup>1</sup>
  - Net zero by 2050 ambition

<b>Ductile</b> <b>Electrical</b> 3x lighter than copper 85% of most solar panel frames components 	<b>Impermeable</b> <b>Packaging</b> Protective, non-toxic Recyclable 
<b>Lightweight</b> <b>Transportation</b> 205 kg/ av. European car 18.9% of EV battery minerals 	<b>Resilient</b> <b>Construction</b> Corrosion resistant Durable 

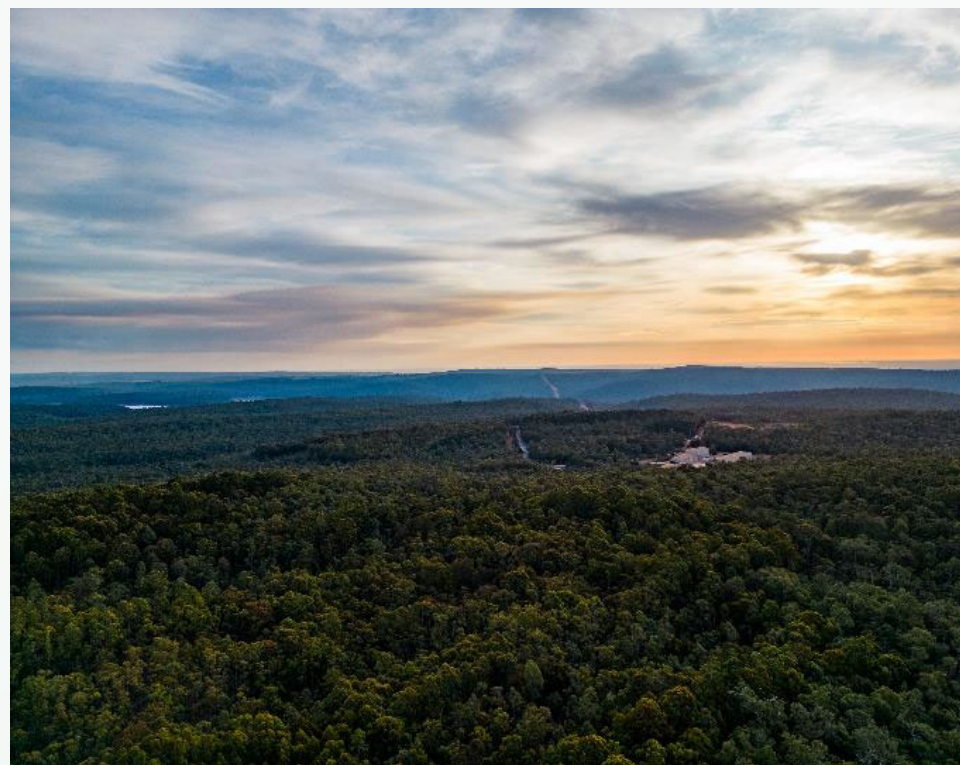
[1] Includes imported steam

# Concluding remarks

# Conclusion

Metal for the Future

- Aluminium is part of the solution to decarbonise
  - EVs & electric transmission will drive further demand
  - Significant growth in aluminium is required to decarbonise
  - Green premiums develop
- AWAC's refineries
  - Low-emissions intensity
  - Developed decarbonisation strategy
- Continued focus on ESG standards & practices
  - Commitment with communities
  - Biodiversity and rehabilitation
  - Energy and emissions





# Appendix





# Transformation projects

AWAC closed facilities



## **Anglesea, Australia** *Coal mine & power station*

- Rehabilitated vegetation areas and exploration (with regulators) of groundwater use
- Completed the closure and capping of onsite asbestos landfill (authorised by the EPA Victoria)
- Planning for power station environmental remediation

## **Point Henry, Victoria, Australia** *Aluminium smelter*

- Progressively developed and implemented remediation action plans
- Engaged with Victorian and local governments on the site's long-term land use
- Reduced the number of onsite landfills from three to two

## **Point Comfort, Texas, USA** *Alumina refinery*

- ~65% of site-wide demolition completed, including asbestos abatement
- Initiated subsurface concrete removal
- Received regulatory approval to treat and release condensed alumina refining process solution via the site's National Pollutant Discharge Elimination System permit

## **Surlaco, Paranam, Suriname** *Bauxite mine & alumina refinery*

- Works carried out in 2022 included demolition, water treatment, mine rehabilitation and landfill remediation
- Zero environmental, safety and health issues during the year