

Turning Raw Potential into Real Progress

Investor Day

NOVEMBER 2021

ROY HARVEY

President and Chief Executive Officer



Cautionary Statement regarding Forward-Looking Statements

This presentation contains statements that relate to future events and expectations and as such constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as “anticipates,” “endeavors,” “working,” “potential,” “ambition,” “develop,” “reach,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “outlook,” “plans,” “projects,” “seeks,” “sees,” “should,” “targets,” “will,” “would,” or other words of similar meaning. All statements by Alcoa Corporation that reflect expectations, assumptions or projections about the future, other than statements of historical fact, are forward-looking statements, including, without limitation, forecasts concerning global demand growth for bauxite, alumina, and aluminum, and supply/demand balances; statements, projections or forecasts of future or targeted financial results, or operating or sustainability performance; statements about strategies, outlook, and business and financial prospects; and statements about capital allocation and return of capital. These statements reflect beliefs and assumptions that are based on Alcoa Corporation’s perception of historical trends, current conditions, and expected future developments, as well as other factors that management believes are appropriate in the circumstances. Forward-looking statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and changes in circumstances that are difficult to predict. Although Alcoa Corporation believes that the expectations reflected in any forward-looking statements are based on reasonable assumptions, it can give no assurance that these expectations will be attained and it is possible that actual results may differ materially from those indicated by these forward-looking statements due to a variety of risks and uncertainties. Such risks and uncertainties include, but are not limited to: (a) current and potential future impacts of the coronavirus (COVID-19) pandemic and related regulatory developments on the global economy and our business, financial condition, results of operations, or cash flows and judgments and assumptions used in our estimates; (b) material adverse changes in aluminum industry conditions, including global supply and demand conditions and fluctuations in London Metal Exchange-based prices and premiums, as applicable, for primary aluminum and other products, and fluctuations in indexed-based and spot prices for alumina; (c) deterioration in global economic and financial market conditions generally and which may also affect Alcoa Corporation’s ability to obtain credit or financing upon acceptable terms or at all; (d) unfavorable changes in the markets served by Alcoa Corporation; (e) the impact of changes in foreign currency exchange and tax rates on costs and results; (f) increases in energy or raw material costs or uncertainty of energy supply or raw materials; (g) declines in the discount rates used to measure pension and other postretirement benefit liabilities or lower-than-expected investment returns on pension assets, or unfavorable changes in laws or regulations that govern pension plan funding; (h) the inability to achieve improvement in profitability and margins, cost savings, cash generation, revenue growth, fiscal discipline, sustainability targets, or strengthening of competitiveness and operations anticipated from portfolio actions, operational and productivity improvements, technology advancements, and other initiatives; (i) the inability to realize expected benefits, in each case as planned and by targeted completion dates, from acquisitions, divestitures, restructuring activities, facility closures, curtailments, restarts, expansions, or joint ventures; (j) political, economic, trade, legal, public health and safety, and regulatory risks in the countries in which Alcoa Corporation operates or sells products; (k) labor disputes and/or work stoppages and strikes; (l) the outcome of contingencies, including legal and tax proceedings, government or regulatory investigations, and environmental remediation; (m) the impact of cyberattacks and potential information technology or data security breaches; (n) risks associated with long-term debt obligations; (o) the timing and amount of future cash dividends and share repurchases; and (p) the other risk factors discussed in Part I Item 1A of Alcoa Corporation’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020 and other reports filed by Alcoa Corporation with the U.S. Securities and Exchange Commission. Alcoa Corporation disclaims any obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law. Market projections are subject to the risks described above and other risks in the market.

Important information

Non-GAAP Financial Measures

Some of the information included in this presentation is derived from Alcoa Corporation's consolidated financial information but is not presented in Alcoa Corporation's financial statements prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). Certain of these data are considered "non-GAAP financial measures" under SEC regulations. Alcoa Corporation believes that the presentation of non-GAAP financial measures is useful to investors because such measures provide both additional information about the operating performance of Alcoa Corporation and insight on the ability of Alcoa Corporation to meet its financial obligations by adjusting the most directly comparable GAAP financial measure for the impact of, among others, "special items" as defined by the Company, non-cash items in nature, and/or nonoperating expense or income items. The presentation of non-GAAP financial measures is not intended to be a substitute for, and should not be considered in isolation from, the financial measures reported in accordance with GAAP. Reconciliations to the most directly comparable GAAP financial measures and management's rationale for the use of the non-GAAP financial measures can be found in the appendix to this presentation.

Resources

This presentation can be found under the "Events and Presentations" tab of the "Investors" section of the Company's website, www.alcoa.com.

Introduction



Describing the journey and the path forward

Investor Day agenda, November 2021

Topic	Speaker
Introduction	Roy Harvey, President and Chief Executive Officer
Who we are, what we have accomplished	Roy Harvey, President and Chief Executive Officer
Changing market dynamics	Tim Reyes, Executive Vice President and Chief Commercial Officer
Operating imperatives	John Slaven, Executive Vice President and Chief Operations Officer
Growth opportunities	Tim Reyes, Executive Vice President and Chief Commercial Officer
Breakthrough technologies	Ben Kahrs, Executive Vice President and Chief Innovation Officer
Capital allocation and governance	William Oplinger, Executive Vice President and Chief Financial Officer
Where we are going	Roy Harvey, President and Chief Executive Officer

Who we are, what we have accomplished

NOVEMBER 2021

ROY HARVEY

President and Chief Executive Officer



A values-driven, purpose-focused, aluminum producer

Defining elements that guide Alcoa actions

Purpose:

We exist to Turn Raw Potential Into Real Progress

Vision:

Our sustainable future is achieved by reinventing the aluminum industry

Priorities:

We will achieve our goals by acting on our three key strategic priorities

Values:

Above all, we will be true to who we are at our best, and the strengths we can leverage for continued success

Our Purpose:

Turn Raw Potential Into Real Progress

Our Vision

Reinvent the aluminum industry for a sustainable future

Our Priorities

Reduce Complexity

Drive Returns

Advance Sustainably

Our Values

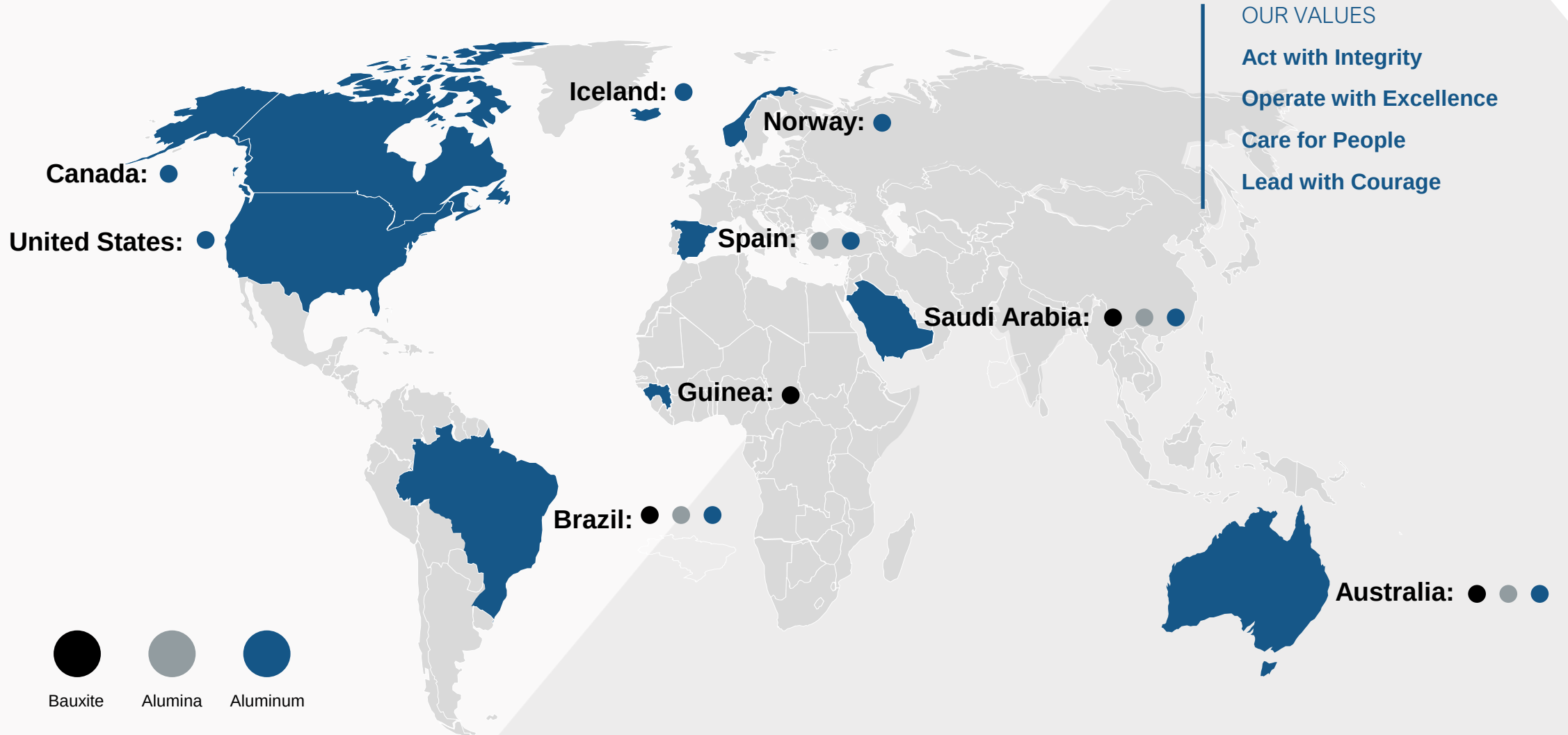
Act with
Integrity

Operate with
Excellence

Care for
People

Lead with
Courage

Alcoa global operations by business segment



Well positioned across three product segments

Alcoa portfolio cost curve position and key factors, 2021



- World's second largest bauxite miner with assets across four continents
- World class mine rehabilitation
- Best-in-class mining methods in high biodiversity areas



- Largest third-party alumina producer
- Lowest CO₂e intensity refiner; sustainable residue management and press filtration
- EcoSource™ low carbon alumina



- Driving for 1st quartile through portfolio improvement
- Low CO₂e intensity producer, 78% of production from renewable energy (targeting 85%)
- EcoLum™ (low carbon), EcoDura™ (recycled content) products

Created a more sustainable aluminum value chain

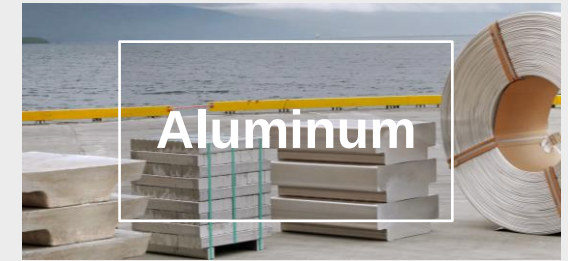
3Q21 YTD product shipments by segment, launched Sustana™ products across the value chain



Bauxite

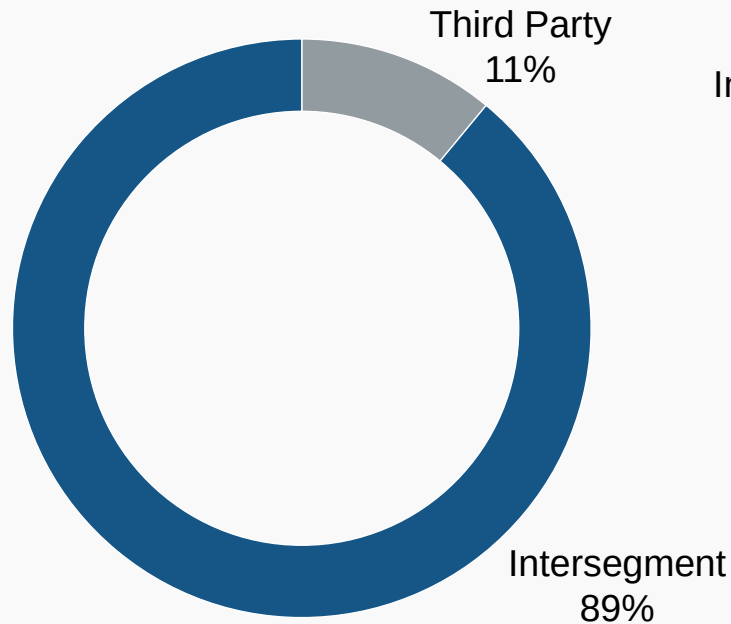


Alumina

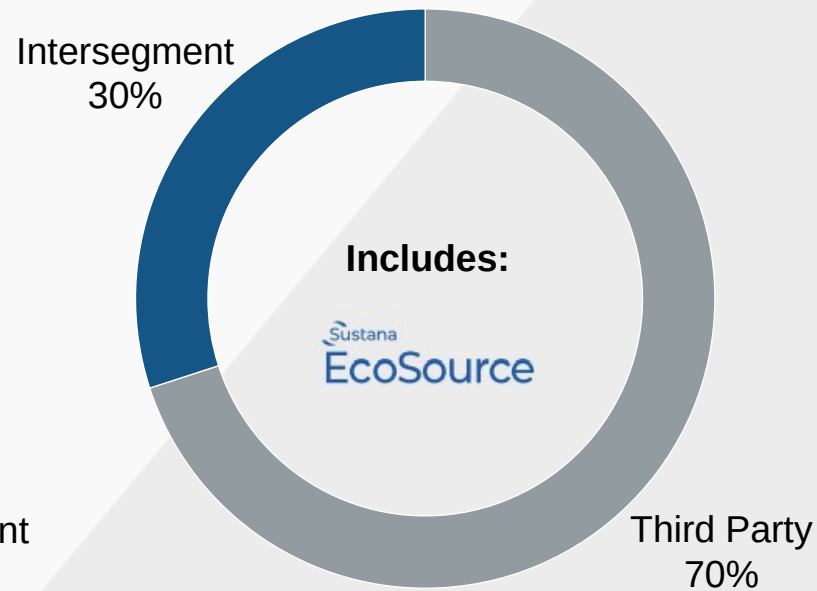


Aluminum

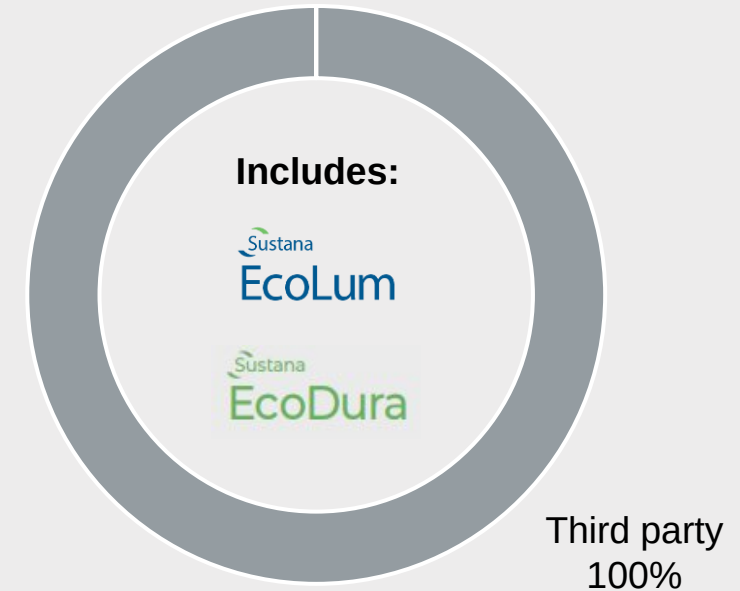
35.9 Mmt shipments



10.5 Mmt shipments



2.3 Mmt shipments



Portfolio actions to improve Alcoa

Portfolio actions timeline

Closed two alumina refineries with cost and bauxite supply challenges

Divested three smelters and minority share of a rolling mill

Restarted or repowered two smelters, began restart of a third, in response to improved competitiveness

Curtailed (fully or partially) two smelters with cost or operational challenges

2016

- Alcoa Corporation launches as an independent industry leader in Bauxite, Alumina, and Aluminum products

2017

- Announced closure of Suralco refinery
- Terminated Rockdale smelter power contract, announced closure of Rockdale operations
- Divested Portovesme smelter
- Restarts at Portland and Warrick smelters, Lake Charles calciner

2018

- Closed potline at Wenatchee smelter
 - Permanent closure of one of four potlines
- Curtailed ABI smelter
 - Curtailed over 80% of ABI capacity during labor action

2019

- Divested minority interest in Ma'aden JV rolling mill
 - Transferred 25.1% stake of MRC to Ma'aden
- Restarted ABI smelter
 - 6-year labor agreement
- Divested Avilés, La Coruña smelters
- Finalized closure of Point Comfort refinery

2020

- Curtailed Intalco smelter
 - Curtailment of 279,000 metric tonnes per year of aluminum capacity in mid-2020
- Announced collective dismissal at San Ciprian smelter in Spain; declared null and void by Spanish courts in 2021

2021

- Repowered Portland smelter (Alcoa capacity share: 197,000 metric tonnes per year)
 - 5-year power agreement
 - Agreement reached with support from the Australian Federal Government
 - 50% renewable grid power by 2030
- Restart announced for Alumar aluminum smelter
 - Alcoa capacity share 268,000 metric tonnes per year
 - First metal expected 2Q22
 - Full capacity expected 4Q22

Financial and strategic actions to improve Alcoa

Financial and strategic actions timeline

Contributed \$1 billion of discretionary payments into U.S. pension funds and built prefunding balance in excess of \$1 billion; reduced gross liability via annuitizations and lump sum settlements; virtually eliminated U.S. cash funding requirements

Issued \$1.75 billion in debt; redeemed, prior to maturity, \$1.25 billion in higher interest rate debt

Generated \$1.1 billion net cash proceeds through non-core assets sales

2016

- Alcoa Corporation launches as an independent industry leader in Bauxite, Alumina, and Aluminum products

2017

- Amended revolving credit agreement
 - Eased restrictive covenants, improved terms
 - Allowed greater flexibility to deliver on capital allocation strategy

2018

- Announced \$200 million share repurchase program
- Transferred certain Canadian and U.S. pension obligations
- Issued new debt at lower coupon rate
 - \$500 million of 6.125% notes due in 2028
- Made \$500 million U.S. pension funding

2019

- Joined International Council on Mining and Minerals (ICMM)
- Reduced pension and OPEB liabilities by offering lump sum buyouts, transferring specific retirees to a Medicare Exchange plan, ending life insurance coverage for certain retirees

2020

- Sold Gum Springs treatment facility
 - Received cash of \$200 million at closing; \$50 million potential additional cash
- Issued new debt at lower coupon rate
 - \$750 million of 5.50% notes due in 2027

2021

- Sold: former Eastalco smelter site, Warrick rolling mill and Rockdale industrial site for cash proceeds of \$908 million
- Closed debt offering for \$500 million of 4.125% notes due in 2029
- Redeemed \$750 million of 6.75% notes due in 2024 and \$500 million of 7.00% notes due in 2026
- Funded \$500 million into U.S. pension plan
- Announced quarterly cash dividend; authorized new \$500 million share repurchase program

Operational and commercial actions to improve Alcoa

Operational and commercial actions timeline

Streamlined administrative processes; implemented new operating model

Reinforced safety commitment with OneAlcoa employee and contractor safety program

Continued to creep production in Bauxite, Alumina and Aluminum segments

Introduced, expanded, and sold Sustana™ product offerings, the most comprehensive upstream aluminum line of low-carbon products

2016

- Alcoa Corporation launches as an independent industry leader in Bauxite, Alumina, and Aluminum products

2017

- Streamlined corporate structure by combining smelting, casting and rolling businesses into Aluminum business unit
- Closed administrative locations; relocated global headquarters to Pittsburgh
- Introduced OneAlcoa – United for Safety

2018

- Reinforced focus on safety performance and revitalized programs for attaining improved operational stability

2019

- Implemented new operating model to eliminate business unit structure
- Modernized labor contracts in Canada, U.S. and Australia
- Locations in Spain and Brazil receive ASI certifications
- Apple buys first commercial batch of carbon-free aluminum from ELYSIS, to use in 16-inch MacBook Pro

2020

- Expanded Sustana™ Family of Products with EcoSource™
- Industry's first and only low-carbon, smelter-grade alumina brand
- The Aluminum Stewardship Initiative (ASI) certifies Alcoa to market products under ASI's Chain of Custody standard
- Locations in Europe and Australia receive ASI certification

2021

- Made first EcoSource third party alumina shipments
- Two additional locations in Canada receive ASI certification; total of 15 locations now certified
- Announced sales of EcoLum and ELYSIS metal for Audi Etron GT
- Successfully completed Willowdale mine move to Larego from Orion
- Deployed an operational risk management system

Future-oriented investments to improve Alcoa

Future-oriented investments timeline

Created ELYSIS™, a ground breaking joint venture with Rio Tinto, focused on revolutionizing how aluminum is produced

Announced projects aimed at lowering our carbon footprint and revolutionizing how alumina is produced

Pursuing other developmental projects to prosper from sustainable economy trends

2016

- Alcoa Corporation launches as an independent industry leader in Bauxite, Alumina, and Aluminum products

2017

- Reviewed and prioritized top research and development projects

2018

- Announced a revolutionary aluminum smelting process, formed the ELYSIS™ joint venture with Rio Tinto to develop the technology
 - Technology produces oxygen, eliminating all direct greenhouse gas emissions from smelting process
 - Commercial package planned for 2024

2019

- ELYSIS launched construction of research and development center in Saguenay-Lac-Saint-Jean region in Quebec to continue to work in close collaboration with Alcoa Technical Center near Pittsburgh, Pennsylvania

2020

- ELYSIS completed construction of the ELYSIS Industrial Research and Development Center in Saguenay-Lac-Saint-Jean, Quebec, to produce metal at a scale similar to smaller, industrial-sized smelting cells that are in operation by some producers today

2021

- Announced Mechanical Vapor Recompression (MVR) technology project in alumina refining
 - Further reduce carbon emissions in alumina refining process
- Announced joint development project launched with FYI Resources Ltd. for high-purity alumina
 - Alcoa of Australia holds 65% ownership of the project
 - In developmental stage, the first of three stages before commercialization
- Announcing ASTRAEA™ post-consumer aluminum¹⁴ scrap purification

We've built a strong company...

Achievements and acknowledgements timeline

Recognized for our ESG efforts across the globe

Noteworthy capital allocation targets met in 2021, ahead of target

Production levels at or near record highs across all three segments

2016

- Alcoa Corporation launches as an independent industry leader in Bauxite, Alumina, and Aluminum products

2017

- Included in the prestigious Dow Jones Sustainability Index (DJSI) World Index for the first time as an independent company

2018

- For the 10th consecutive year, Alcoa Brazil ranked among the most sustainable companies
- Earned Perfect Score on 2018 Corporate Equality Index
- One millionth ton of bauxite exported from Western Australia operations

2019

- ELYSIS selected as the international "Breakthrough Solution of the Year" at the S&P Global Platts Global Metals Awards
- Gold Supplier status for supply chain management by EcoVadis

2020

- Received recognition for ESG performance, including:
 - Top aluminum industry performer in The Sustainability Yearbook 2020
 - One of Fortune's "World's Most Admired Companies"
 - Included in Bloomberg's Gender-Equality Index for second consecutive year
- Set full year production records in Bauxite and Alumina segments

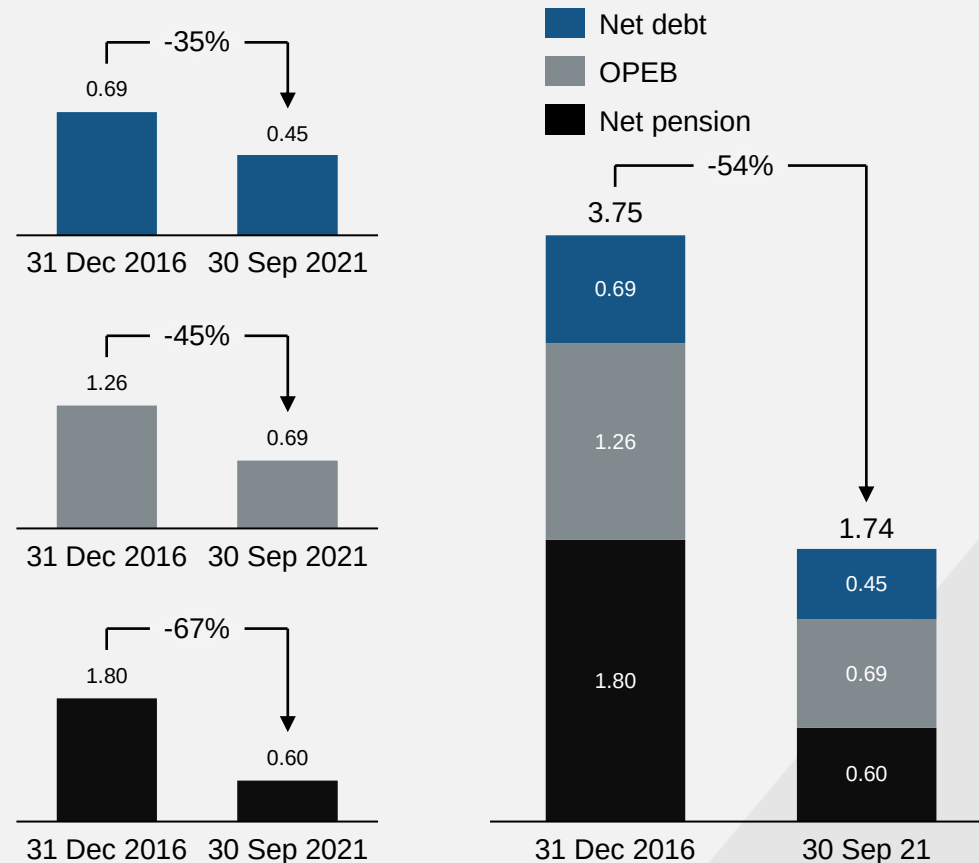
2021

- Met capital allocation goals:
 - Reduced net debt to below target range of \$2 billion to \$2.5 billion
 - Return capital to stockholders: announced quarterly cash dividend; additional share repurchase program
- Named winner of "The Industry Leadership Award: Mining and Raw Materials" at the Platts Global Metal Awards

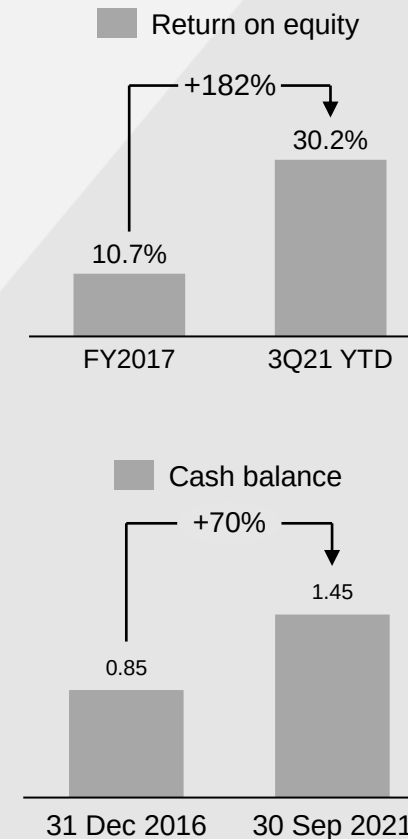
...and fixed the balance sheet, announced capital returns

Balance sheet and return metrics, summary of authorized capital returns

PROPORTIONAL ADJUSTED NET DEBT¹, \$B



OTHER KEY METRICS AND CAPITAL RETURNS



- In October 2018:
 - Authorized \$200 million share repurchase; \$150 million remaining
- In October 2021:
 - Authorized additional share repurchase authorization of \$500 million; combined total repurchase available of \$650 million
 - Authorized new cash quarterly dividend program of \$0.10/share payable November 19, 2021

1. See appendix for reconciliation

Alcoa values drive results; positioned for success

Highlighting Alcoa accomplishments as a stand-alone entity

OUR VALUES

Act with Integrity

Operate with Excellence

Care for People

Lead with Courage

- **Positioned to succeed in a sustainable world**
Leveraged industry-leading environmental and social standards with full suite of sustainable products
- **Delivered on financial actions**
Strengthened the balance sheet by reducing adj. net debt, maintaining cash target, returning capital to stockholders
- **Continued to strengthen the company**
Transformed portfolio, stabilized operations and increased production across the globe; sold non-core assets



Drive results and deliver returns to stockholders over the long term

Changing market dynamics

NOVEMBER 2021

TIM REYES

Executive Vice President and Chief Commercial Officer



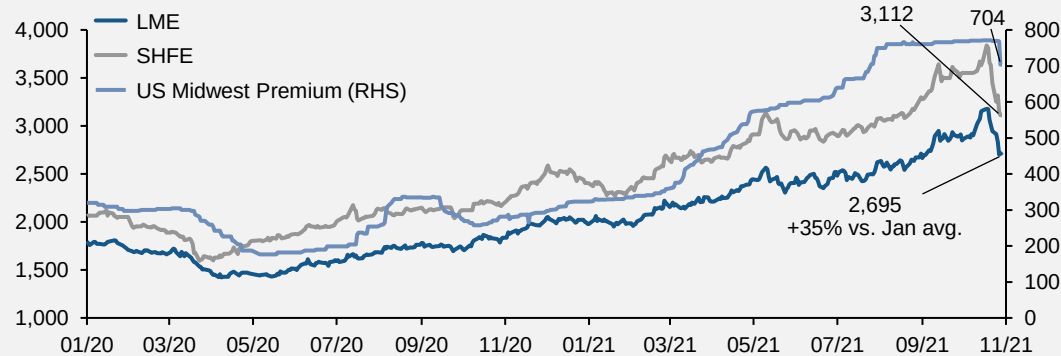
Prices higher on solid demand, supply constraints

Aluminum and alumina price environment and market commentary

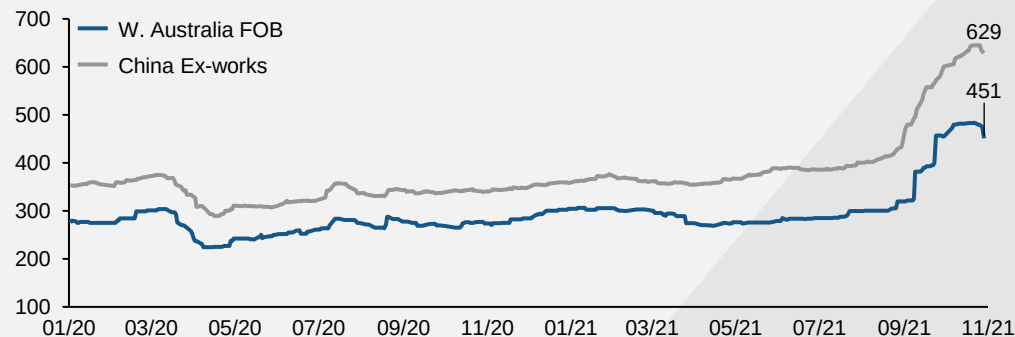
3Q21 Aluminum, alumina prices up

Favorable markets, commercial position

Aluminum Prices (\$/tonne)



Alumina Prices (\$/tonne)



Aluminum

- **Market:** Continued strength in LME and regional premiums, China continues to import primary aluminum; supply disruptions due to power cuts and environmental regulations continue; no ex-China restart announcements outside Alumar; transportation costs remain elevated
- **Commercial:** Value-add products (VAP) premiums increased in 3Q (vs. 2Q) with strong demand supporting high spot premiums for open VAP volume; entering into contract negotiations for 2022

Alumina

- **Market:** Price support from instability in production in the market (Atlantic production issues, various China cuts)
- **Commercial:** Alcoa long alumina position benefits from run-ups in alumina pricing; alumina sales prices closely linked to spot prices with 30 day lag

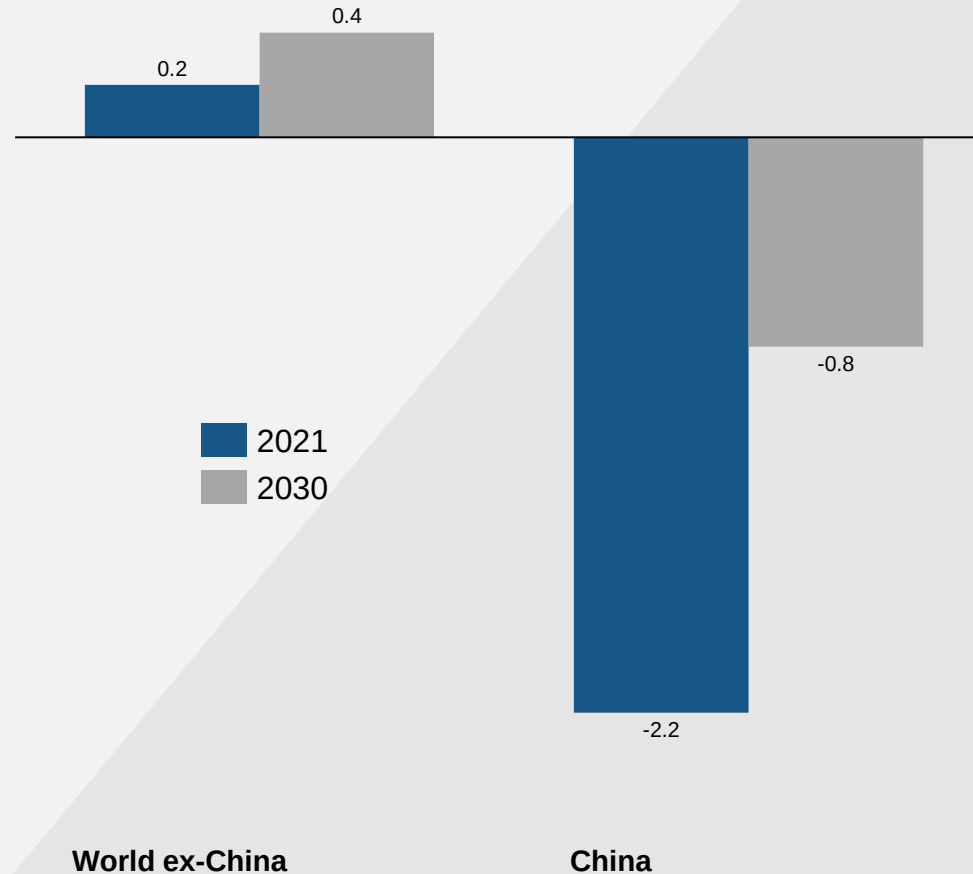
Aluminum



Primary balances: China turns to structural deficit

Primary aluminum supply/consumption regional balance projections (pre-trade, Mmt)

- China to remain net primary aluminum importer
- North America and Europe deficits to grow
- Supply growth in next 10 years concentrated in Asia ex-China and Middle East



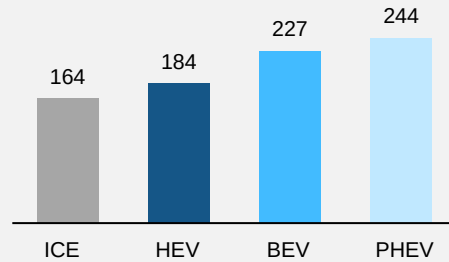
Promising demand growth driven by megatrends

Drivers of aluminum demand

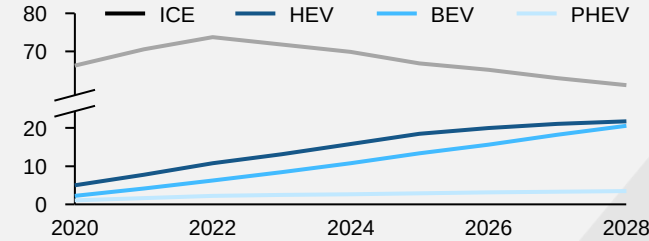
Promising end market demand growth driven by green trends

New energy vehicles use more aluminum than typical ICE vehicles¹

Aluminum content in passenger vehicles kg/vehicle

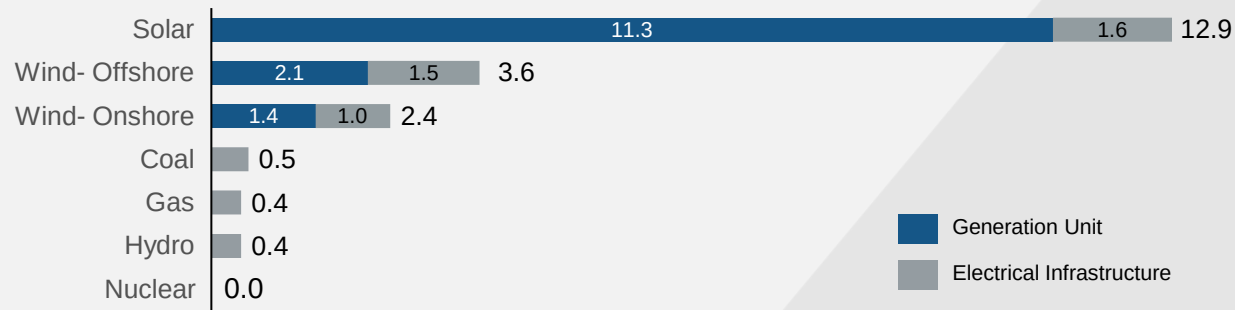


Global production outlook by engine type | M units



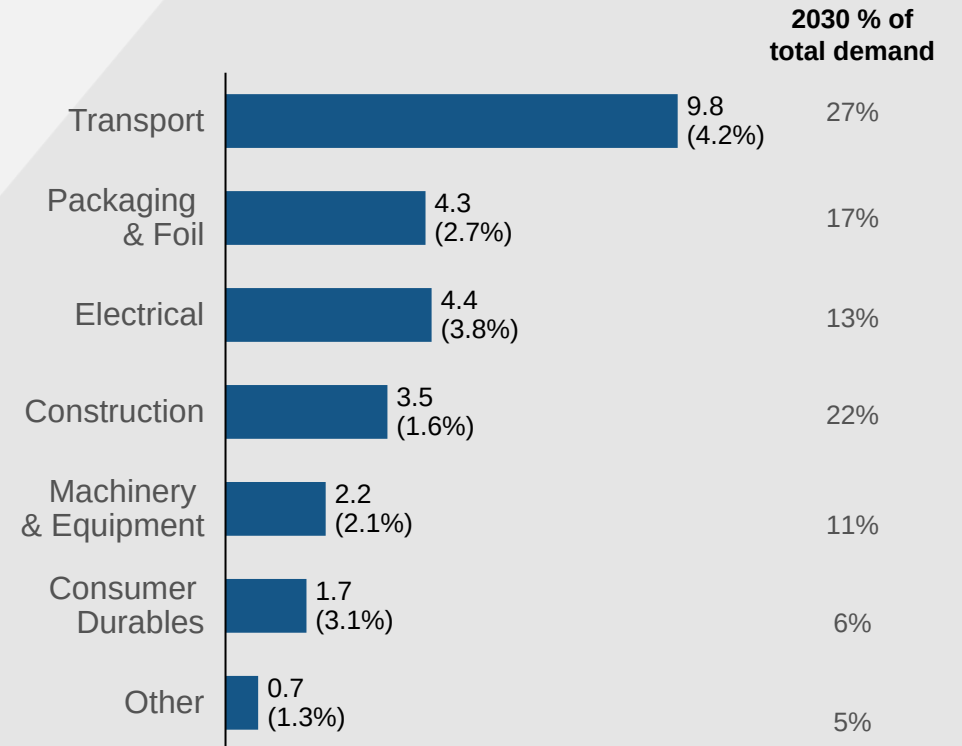
Renewable energy generation uses more aluminum

Aluminum intensity of renewable power generation, mt/MW



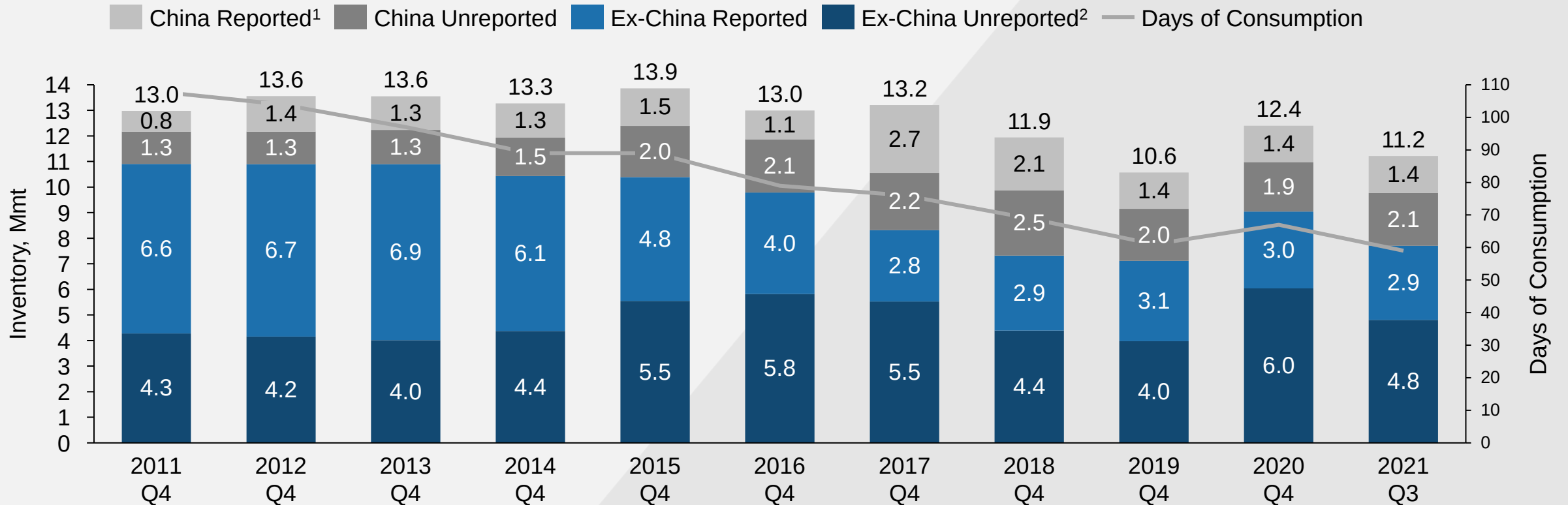
Transport, packaging, electrical to lead demand growth

2021-2030 global semis demand growth in Mmt (CAGR)



Inventories down after rising in 2020

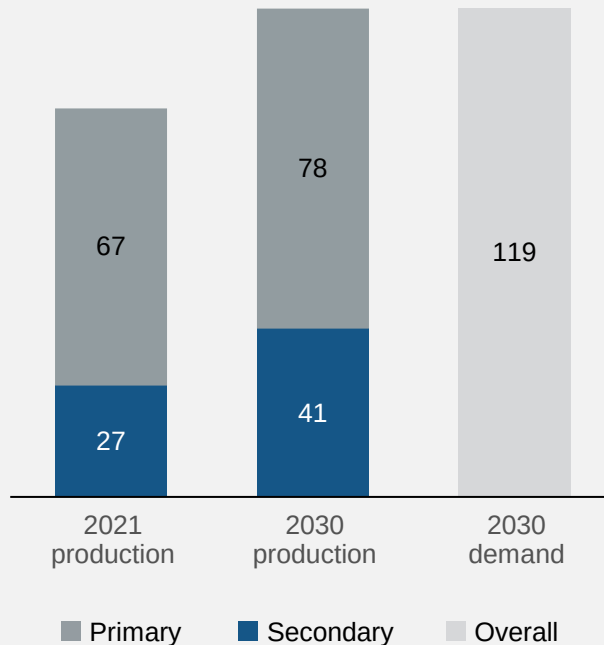
Estimate of period-end world primary aluminum inventories (Mmt)



World in need of more aluminum, both primary and secondary

Primary and secondary supply growth required

Global aluminum semis production, Mmt



Supply side growth under pressure

China regulatory changes

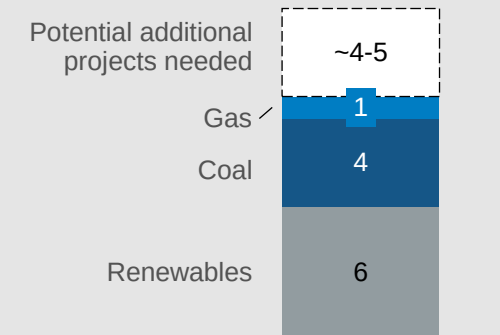
- **2020:** China Non-Ferrous Metals Industry Association (CNIA) reiterates commitment to 45 Mtpa primary aluminum capacity cap
- **2021:** CNIA announced draft target to peak non-ferrous metals emissions by 2025
- **2021:** China smelter/refinery production disruptions due to “Dual Control” mechanism to reduce energy consumption

Accelerated pace towards green

- **China:** Announced targets to achieve peak CO₂e by 2030 and carbon neutrality by 2060, launched emissions trading scheme (ETS)
- **EU:** ‘Fit for 55’ package announced to reduce emissions by 55% by 2030, proposed Carbon Border Adjustment Mechanism
- **US:** rejoined the Paris Agreement, ~\$50/mt CO₂e ‘social cost of carbon’¹

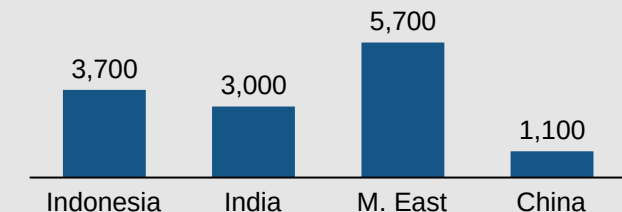
Project pipeline has potential to be insufficient to 2030

Smelter expansion by energy source, Mmtpa



Smelter expansion capital intensity, real 2021\$/mtpa

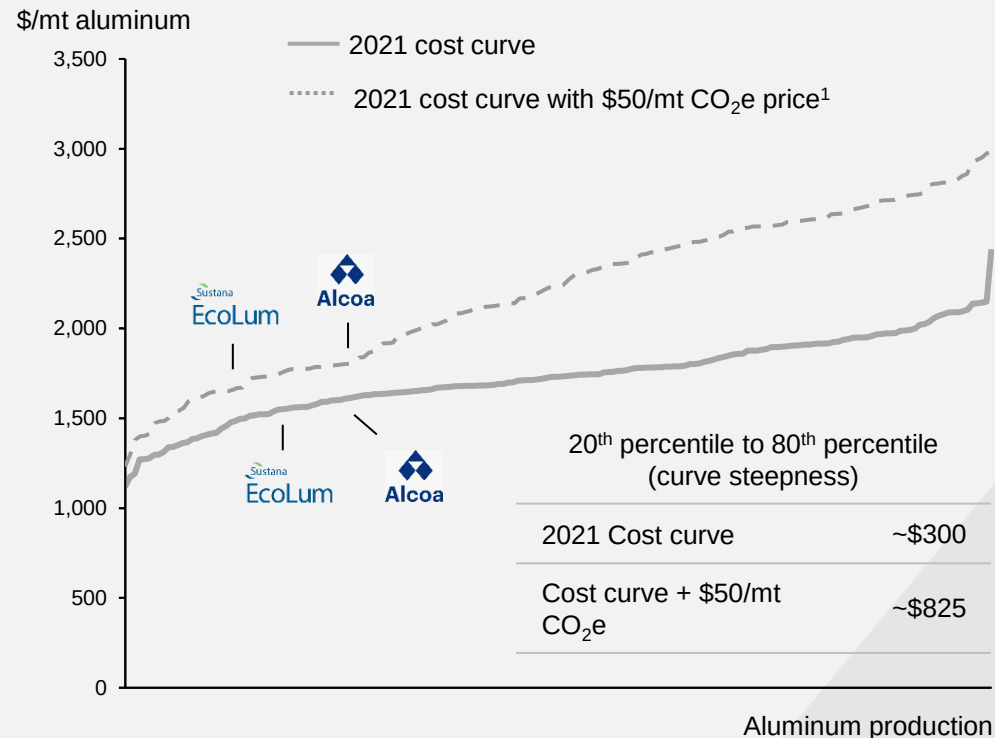
Higher capital cost ex-China growth needed given China capacity cap



Carbon costs will impact aluminum cost curve

2021 global primary aluminum cost curve with \$50/mt CO₂e price applied¹

Primary aluminum: 2021 global cost curve



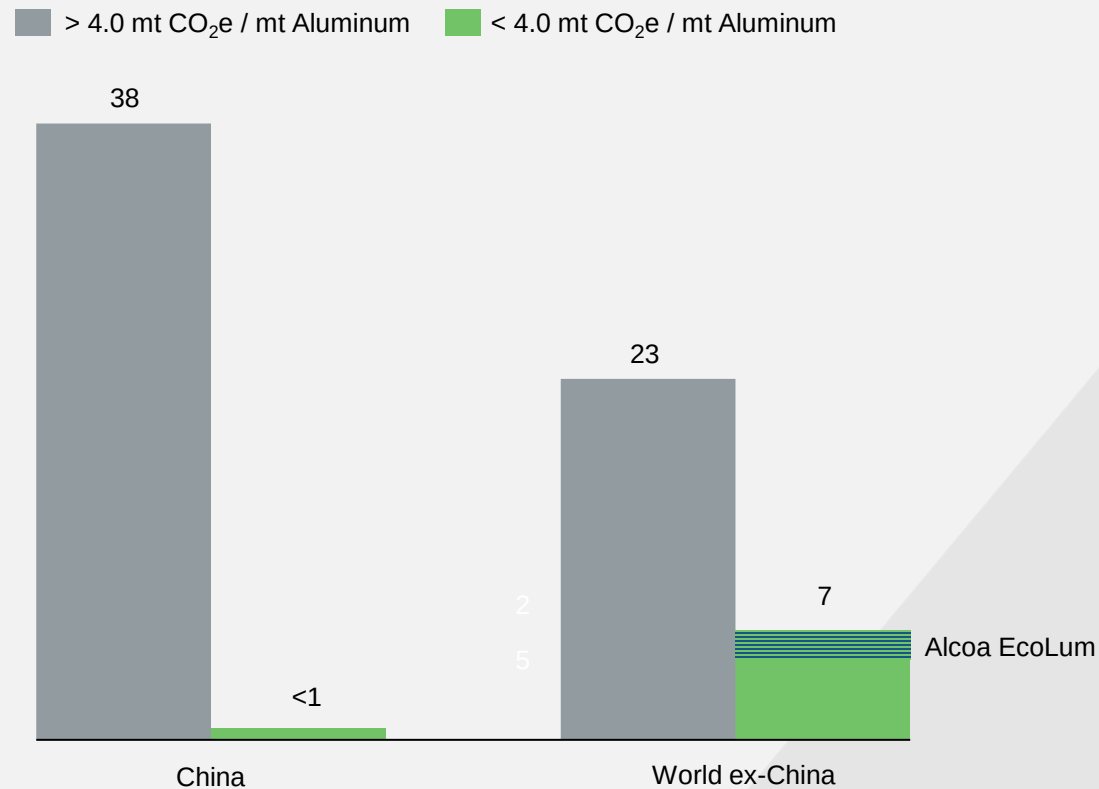
Aluminum has accelerated pace towards “green”

- China:
 - Announced targets to achieve peak carbon emissions by 2030 and carbon neutrality by 2060
 - Launched national Emissions Trading Scheme
 - Revised NDRC power tariff policy increases costs for less energy efficient smelters
- European Union:
 - European Commission proposed Carbon Border Adjustment Mechanism duty on imports based on carbon intensity

Well-positioned for low carbon aluminum demand growth

Low-carbon primary aluminum

2021 supply by carbon intensity (Mmt),
aluminum value chain emissions¹



**Sustana family of products helps
customers lower CO₂**



- Less than 0.6 mt CO₂e emissions (scope 1 and 2) from bauxite and alumina



- Less than 4.0 mt CO₂e emissions (scope 1 and 2) from bauxite, alumina, smelting and casting



- Minimum 50% recycled content

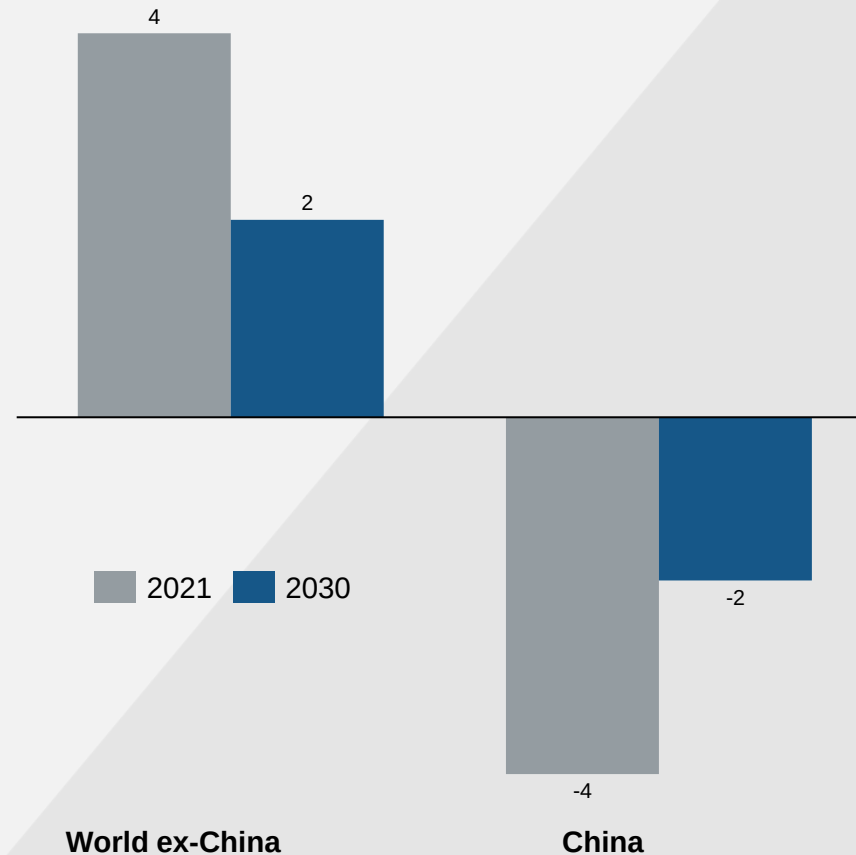
Alumina



Alumina balance: ex-China surplus outweighs China deficits

Supply/consumption regional balance projections (pre-trade, smelter grade alumina, Mmt)

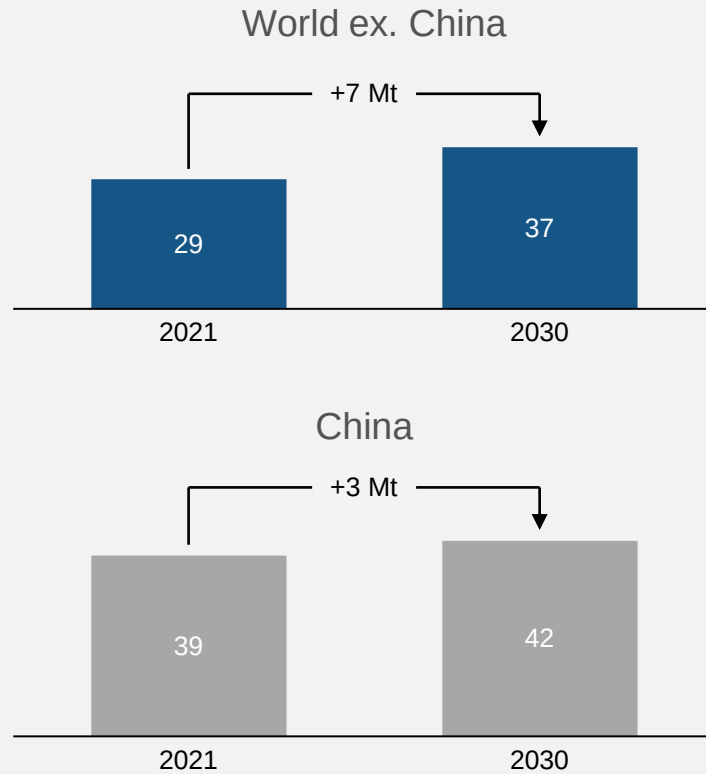
- China to remain net alumina importer
- Supply growth in next 10 years concentrated in Asia ex-China and Middle East, potential for growth in Africa



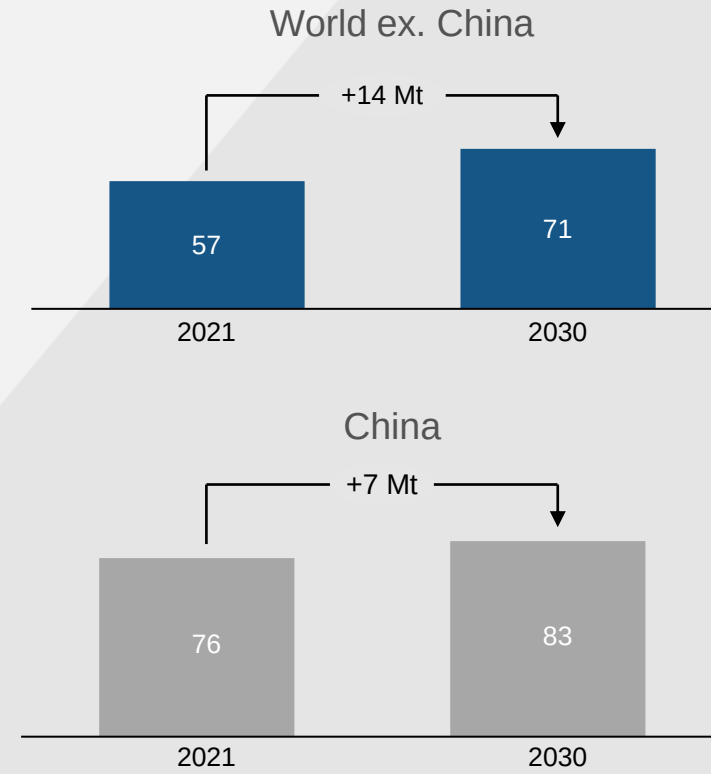
Alumina demand growth follows aluminum growth

Primary aluminum production and smelter grade alumina consumption, 2021 vs. 2030 projection

Primary aluminum production, Mmt

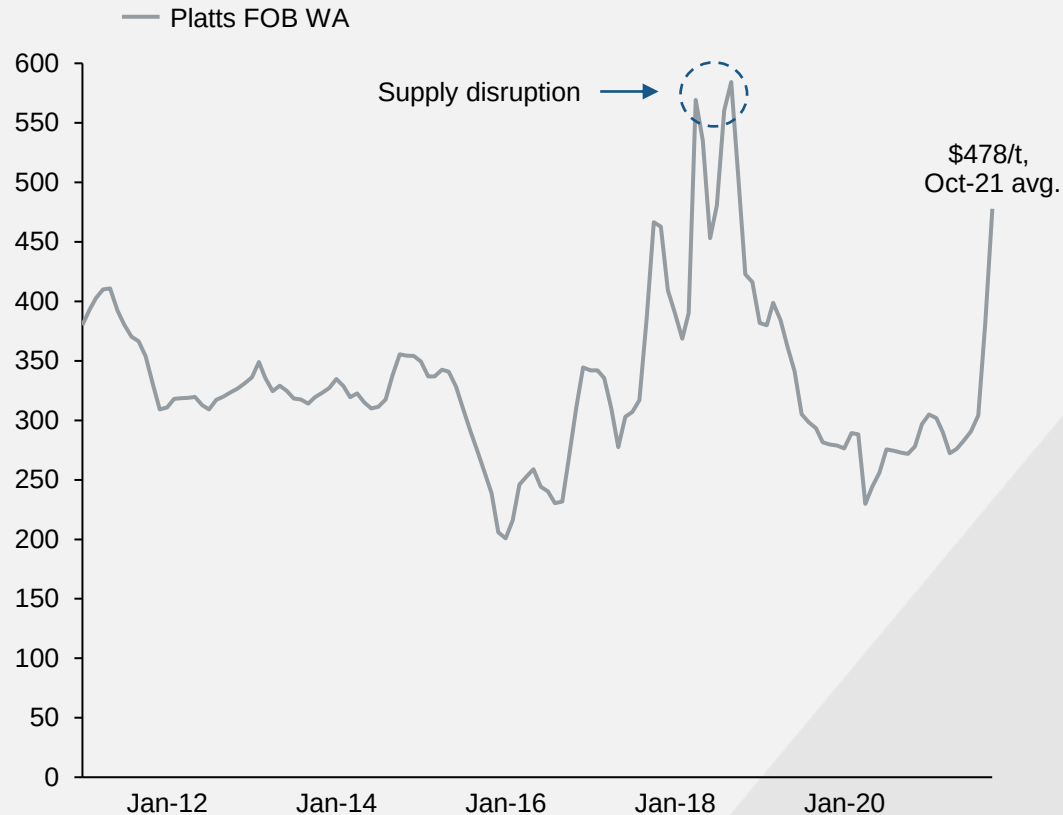


Smelter grade alumina consumption, Mmt

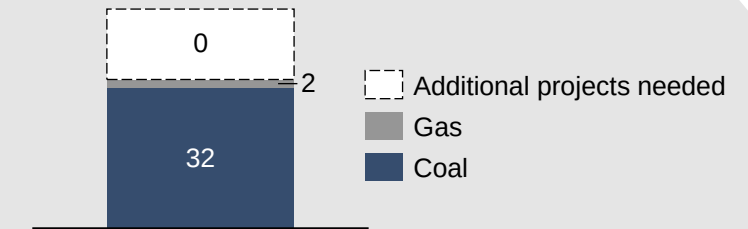


Sufficient global alumina capacity planned, but coal-fired

API has been susceptible to supply side disruptions

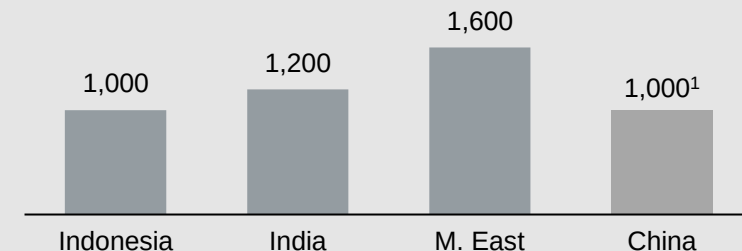


Growth to 2030 filled with capacity additions, dominated by coal-fired energy



Refining expansion capital intensity, real 2021\$/mtpa

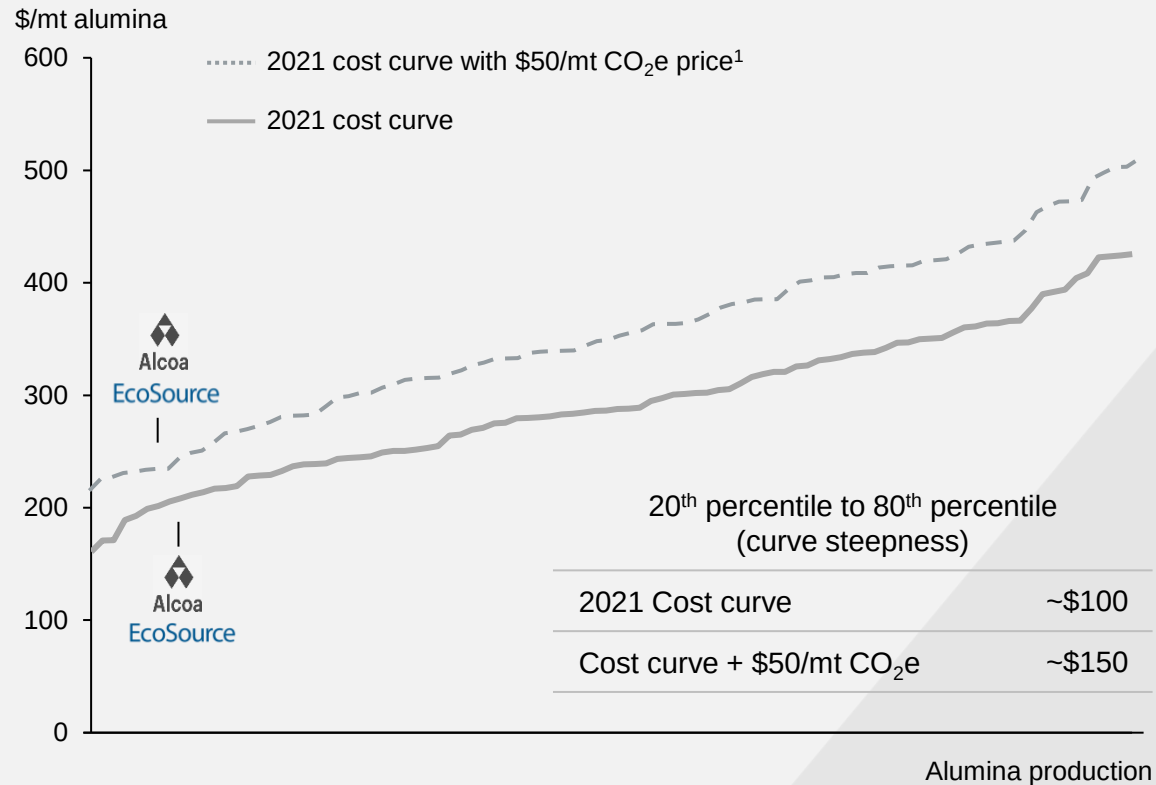
Future growth to come from a mix of ex-China and China projects (no alumina capacity cap)



ESG factors also impact alumina cost curve

2021 global alumina cost curve with \$50/mt CO₂e price applied¹

Alumina: 2021 Global Cost Curve

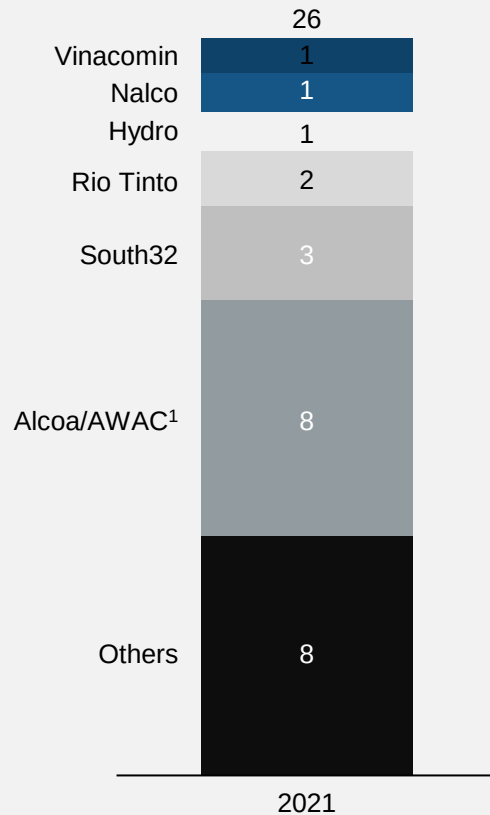


Alumina cost curve impacted by ESG factors, including bauxite residue management and CO₂e costs

Largest third-party alumina supplier, low carbon producer

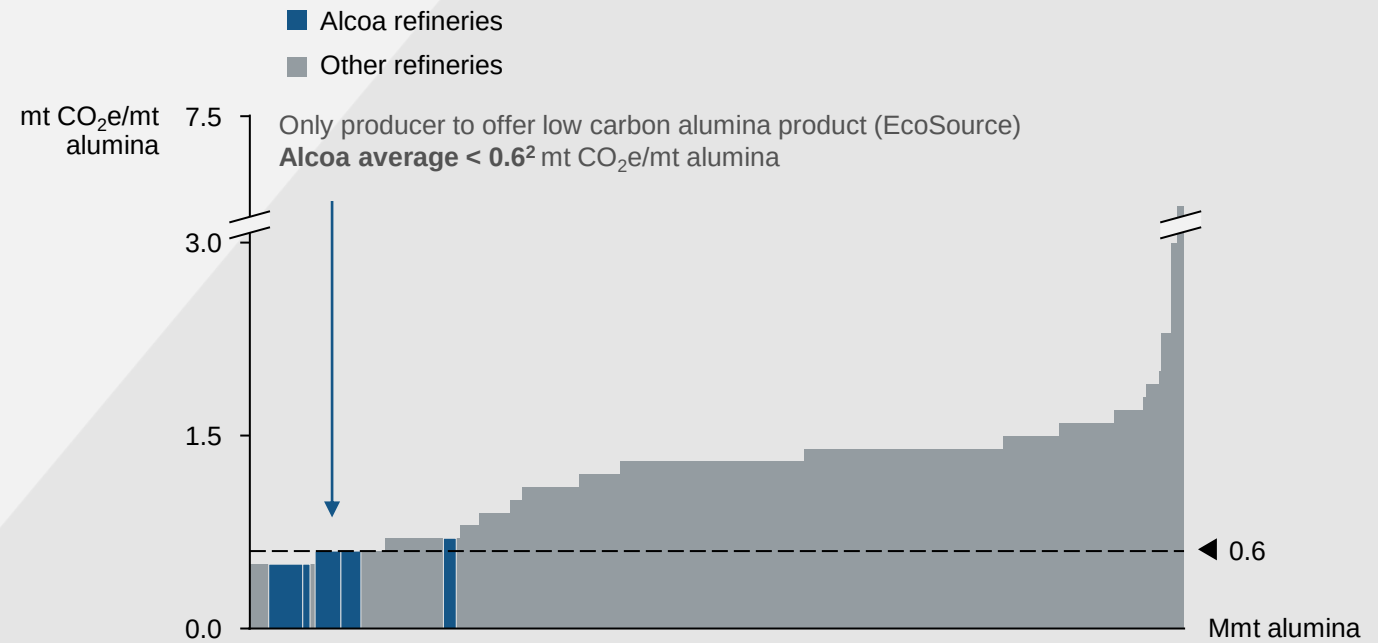
Largest alumina supplier to ex-China 3rd party market

World ex-China 3rd party supply (Mmt), 2021



Lowest carbon emitting refinery system

CO₂e intensity (mt CO₂e/mt alumina, Scope 1 + Scope 2 from mining to refining), 2021



Alcoa alumina contributes less than 1.2 mt CO₂e/mt aluminum vs. global alumina industry average of 2.3 mt CO₂e/mt aluminum

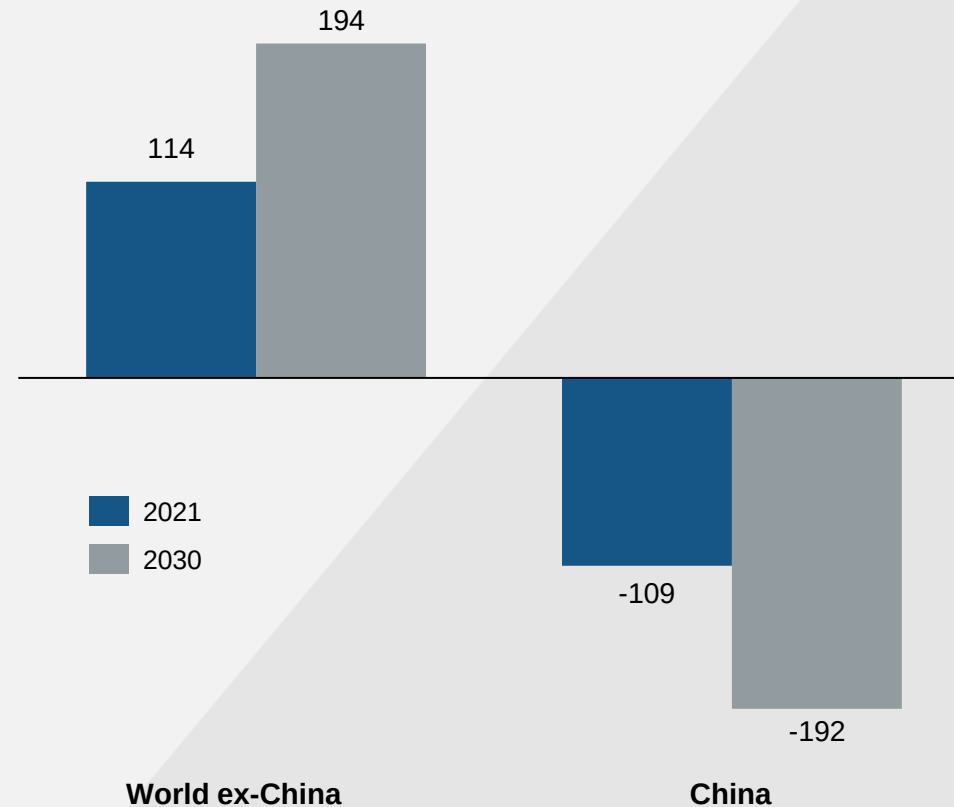
Bauxite



China reliance on bauxite imports to grow

Supply/consumption balance projections (pre-trade, seaborne + integrated, dry Mmt)

- China imports heavily reliant on Guinea (~60 Mmt in 2021, ~130 Mmt in 2030)
- Supply growth in next 10 years concentrated in Australia, Guinea and Southeast Asia



Modest long position in bauxite 3rd party supply

Expected Alcoa/AWAC overall bauxite position by mine in 2021 (M dmt)

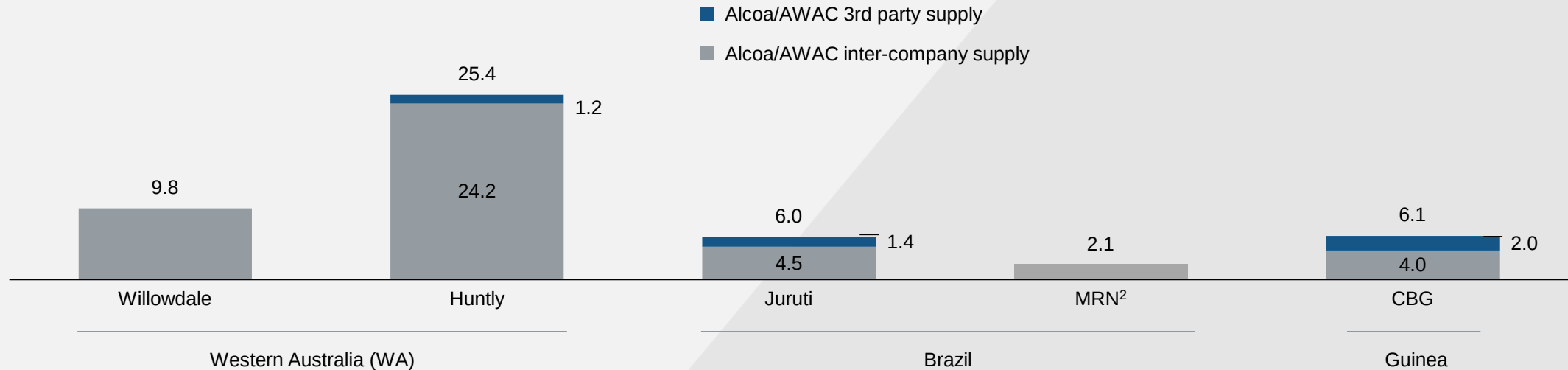
Probable + Proven Reserves¹
(M dmt)

139

93

4

91



**Bauxite serves co-located
refineries built to run efficiently
on WA ore**

**High quality bauxite serving
the Atlantic region**

**High quality bauxite
with access to growing
Chinese market**

Source: Alcoa analysis.

1. For reserves: WA figure represents total for Darling Range mines, 100% AoA ownership. Juruti, 100% AWA Brazil ownership. MRN, 18.2% ownership. Compagnie des Bauxites de Guinée (CBG), 22.95% equity share.

2. Mineração Rio do Norte S.A. (MRN) volume in 2021 includes assignment contracts with RTA and South 32.

Operating imperatives

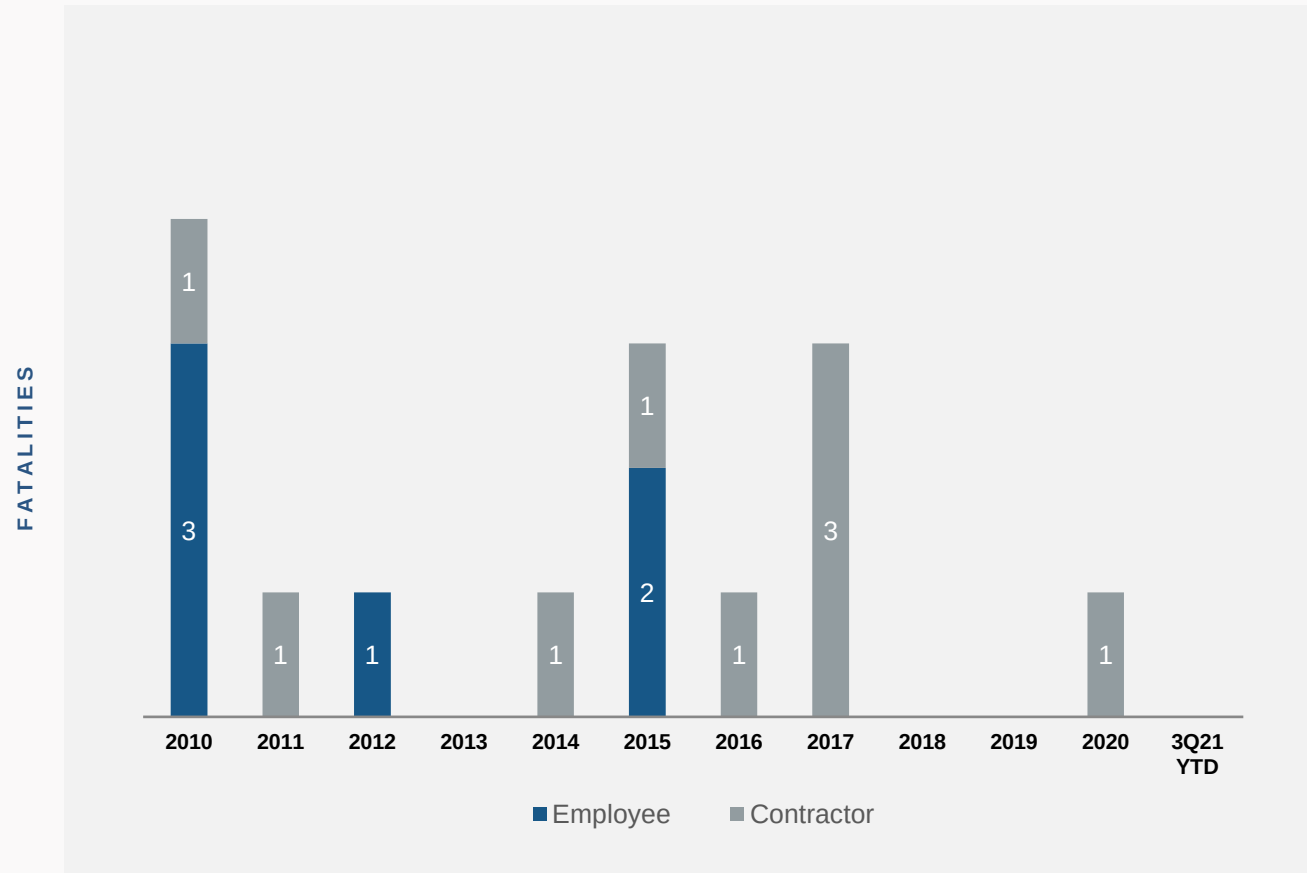
NOVEMBER 2021

JOHN SLAVEN

Executive Vice President and Chief Operations Officer



Relentless focus on fatality prevention



- **Fatality Risk Management** – Core program focused on the implementation of effective critical controls. Our leaders conduct more than 25,000 critical control field verifications per month.
- Our workforce is engaged in applying **Human Performance** principles in their daily work to ensure safe behaviors.
- We share and implement **Lessons Learned** from significant incidents across our operations to prevent repeat events.
- We proactively identify and implement solutions to reduce the physical nature of work in our **Good Work Design** program to prevent injuries.

Operations focus: Deliver today and improve tomorrow

Delivering the operations plan

- Zero Fatalities or Serious Injuries
- Compliance with license conditions
- Inclusion & Diversity focus
- Deliver productivity targets
- Achieve product quality specifications
- Deliver capital expenditure portfolio on time & budget

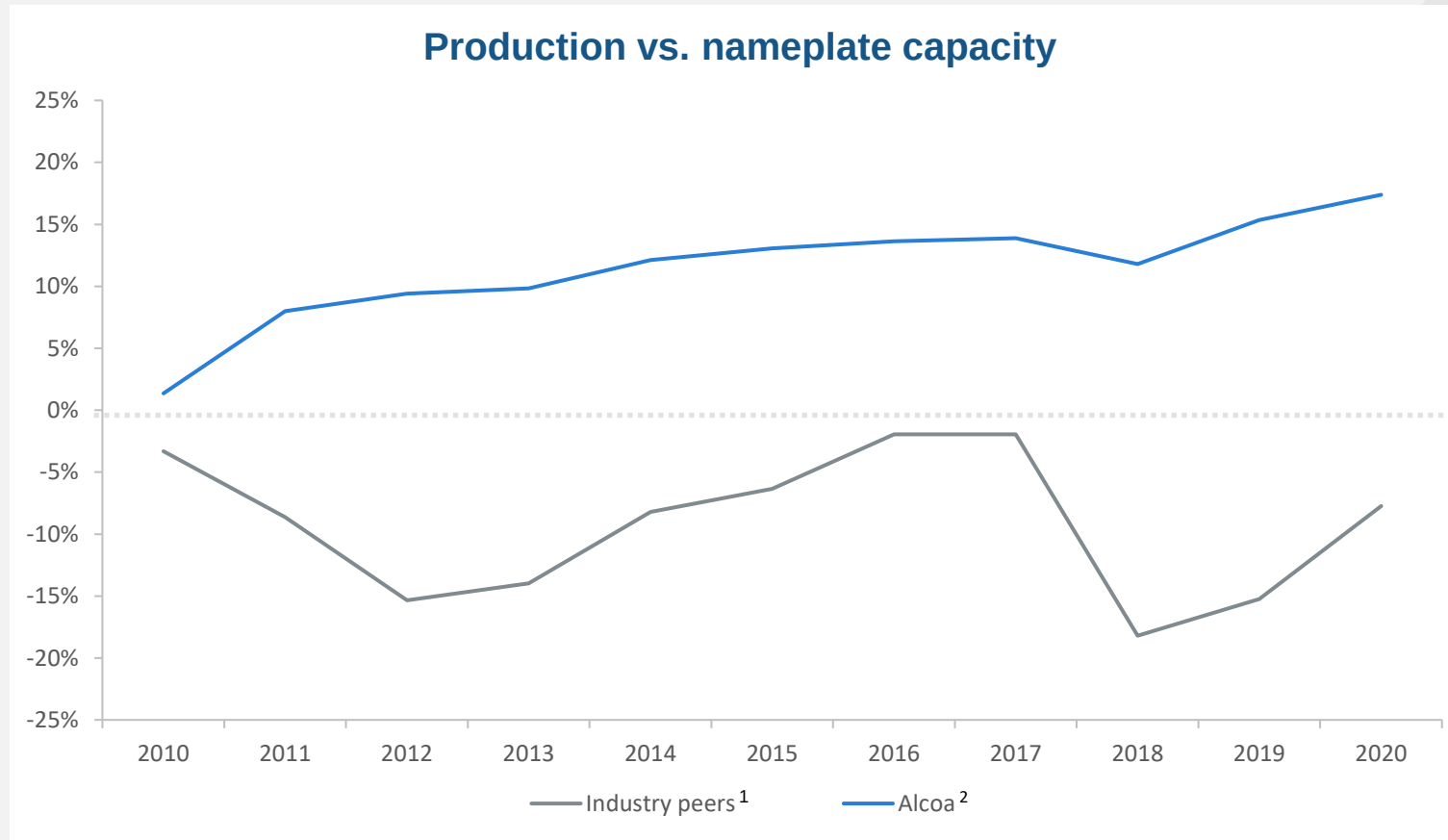
Strengthening our Management Operating System

- Enhance operational stability
- Reinforce our talent management processes
- Enable continuous improvement
- Improve long-term planning
- Manage operational risks

Building capabilities for the future

- Increase resource knowledge
- Eliminate or beneficially reuse waste
- Deploy digital tools & advanced analytics
- Improve process technologies

Alcoa refineries consistently creep beyond nameplate capacity



Alcoa refineries creep on average 1.5% year on year

1. Industry peers data from annual reports (production) and other publicly available data (nameplate); industry peers include Worsley, Alunorte, Yarwun and QAL (Queensland Alumina Limited)
 2. Alcoa data from internal database and includes operating volumes; excludes Poços de Caldas

Alcoa Business System (ABS) is our Management Operating System



Global Centers of Excellence are our key differentiator

Line Leadership and COEs working in partnership to deliver safe, clean, productive tonnes

EXECUTION			CENTERS OF EXCELLENCE (COEs)			
Australia	Brazil ¹	Europe & North America	EHSS&R ²	Asset Management	Continuous Improvement	Performance Management
Ensure safety, health, environmental compliance			Standards & assurance	Long-term planning & resource management	Alcoa Business System (ABS)	Operations Performance Management
Drive improved operating performance			Permitting & compliance	Impoundments	Manufacturing / process technology innovation	Productivity planning & governance
Deliver planned production volumes, costs and quality specs			Critical risk management	Equipment reliability & maintenance	Digital 'Operations of the future'	Improvement Program Management
Maintain sites' 'license to operate', including social performance			Site support & safety culture	Asset integrity		
Deploy best-in-class management systems			Data analysis & reporting	- Major Capex - Engineering standards	Alcoa's intellectual property protection & commercialization	

1) Includes non-operated JVs; (2) – Environment, Health, Safety, Sustainability and Risk

Industry-leading technical development

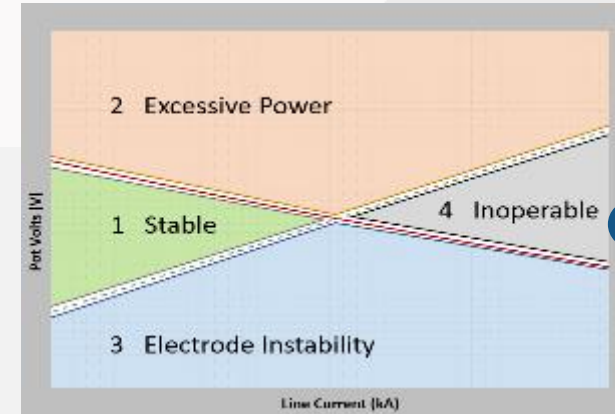
Mining

Bauxite beneficiation – upgrading ore processability and expanding reserves



Refining

Proprietary on-line sensors linked to deterministic and data science process models providing high frequency optimization



Smelting

Advanced pot modelling for performance optimization and improved design

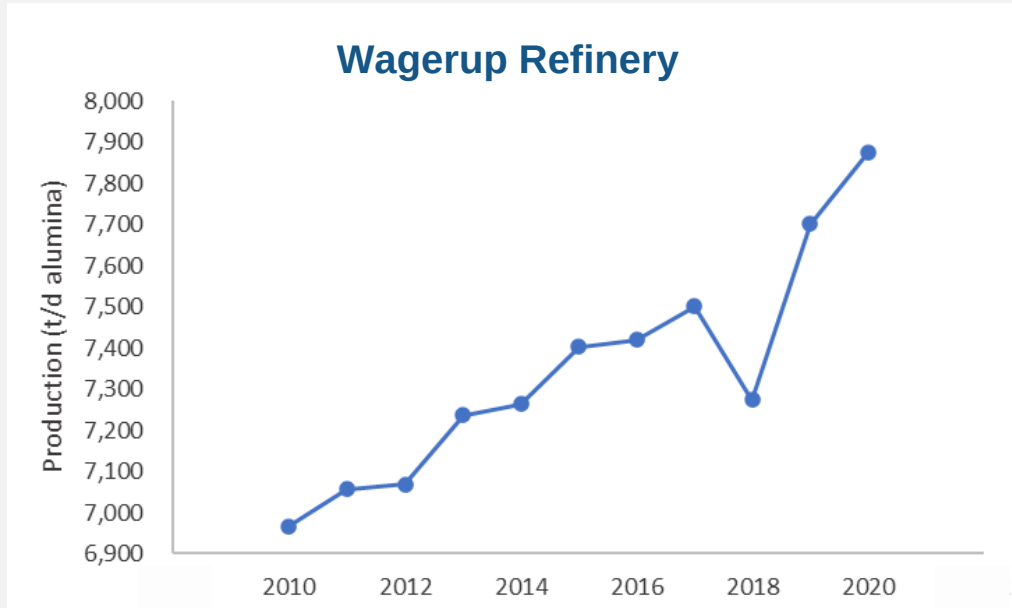


Casting

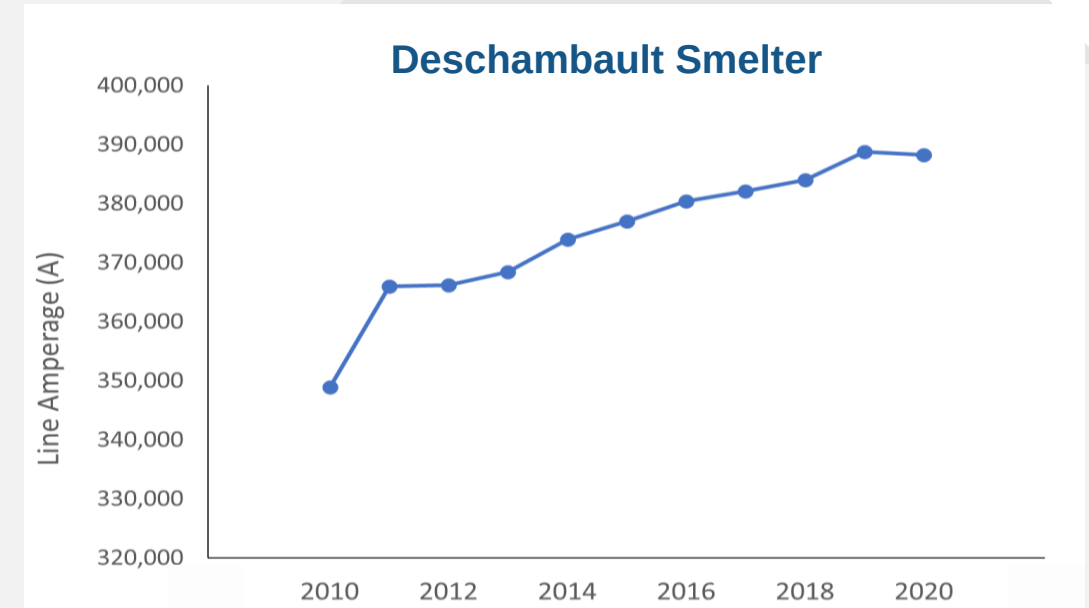
New alloys including heat treatment free alloys for large automotive die castings

Creeping capacity through innovative process enhancements

Capacity creep examples



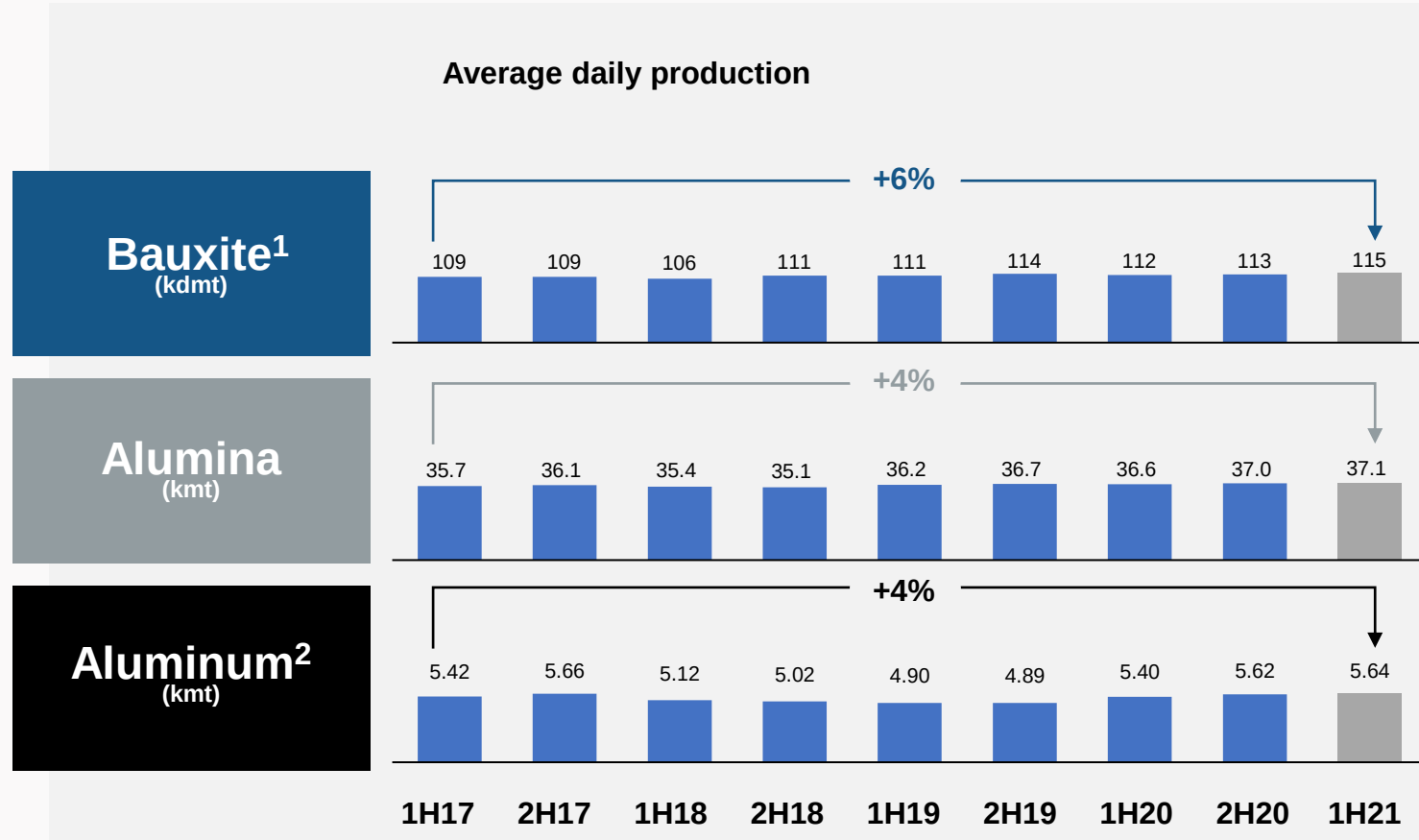
- Process yield technology
- Digestion extraction technology
- Process modelling and optimization
- Operational and process best practices
- Reliability improvements



- Pot design and technology
- Operational and process best practices
- Modelling and optimization of pot parameters
- Environmental technology

Increasing production volumes across all segments

Half-yearly production, 1H17 – 1H21



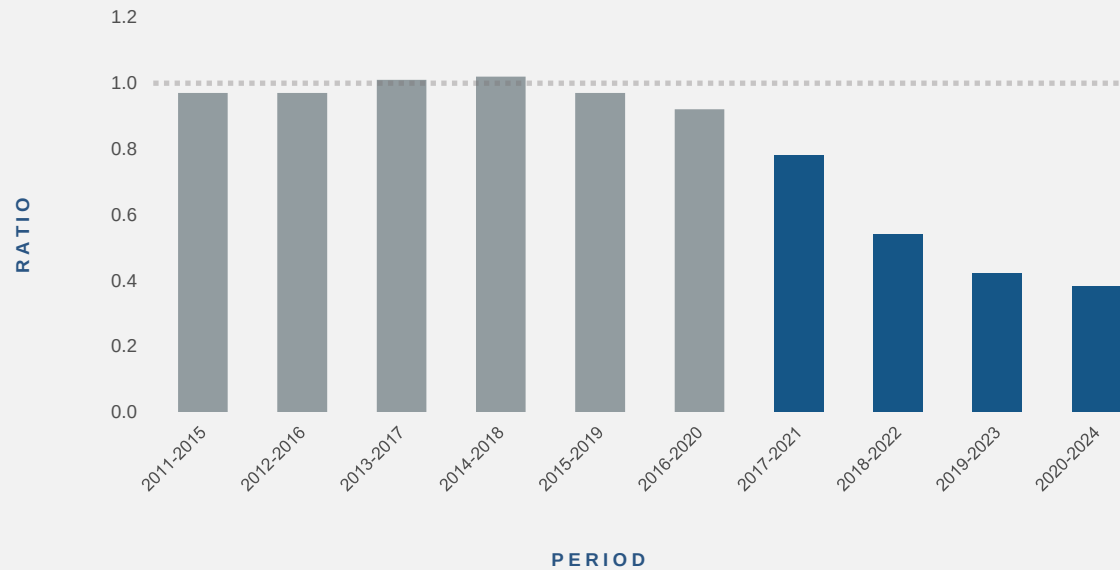
- Bauxite segment continuously increasing production, creeping wholly-owned assets
- Alumina continuing production at or near record levels through operating stability and creep projects
- Aluminum production benefiting from capacity creep and operating stability with some offset due to pots out of service

1. Wholly-owned mines

2. Locations in the Operations portfolio for the complete period

Progressive, biodiverse mine rehabilitation

Ratio Of Clearing To Mine Rehabilitation Area



Planned increases in rehabilitation rates at our operating Bauxite mines drive towards minimum footprints



92.8%

Average botanical species richness in Jarrah Forest mine restoration for the last 20 years

Strengthening social performance management plans

Alcoa's Social Management System is made up of 4 Standards mapped to the SDGs¹



- **Alcoa's Social Management System is a sum of four standards:**
 1. Social Performance Management Standard
 2. Indigenous and Land Connected Peoples Standard
 3. Cultural Heritage Resource Management Standard
 4. Human Rights Standard
- **SP360 is Alcoa's implementation approach** to meet best practices in securing our Social License to Operate
- **Tied to formal 'kick-off' timelines specific to our mining, refining and smelting operations,** our implementation approach permits the flexibility to construct at 'fit-for-purpose' roll-out strategy for each location.

Alcoa committed to full compliance with GISTM¹

GISTM strives to achieve zero harm to people and the environment. This Standard aims to prevent catastrophic failure and enhance the safety of all mine tailings facilities using an integrated and multidisciplined approach.

Alcoa is committed to conformance to the Standard by August 5, 2023 for extreme/very high consequence tailings facilities, and August 5, 2025 for all remaining tailings facilities.

We have completed a gap analysis, revised the policy and are updating standards, systems and processes to match our commitments including a [project execution plan](#) GISTM.

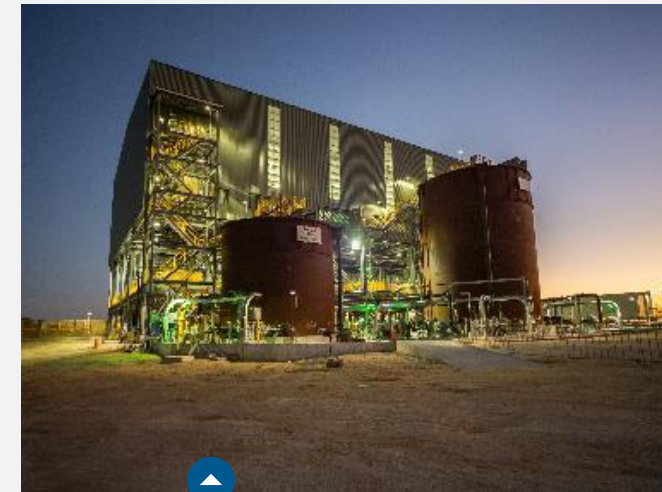
The GISTM will [further enhance our existing strong standards and systems](#).



**Alumar Residue Storage
Area 5**



**Kwinana Residue Storage
Area H**



**Kwinana Bauxite Residue
Filtration**

1. Global Industry Standard for Tailings Management (GISTM) is a joint initiative between The International Council on Mining and Metals (ICMM), United Nations Environmental Program and Principles for Responsible Investment; Alcoa as a member of the ICMM and is committed to conformance to the standard

Productivity program to offset cost challenges

Productivity
pipeline focused
on addressing
controllable
costs



Underlying cost increases

All facilities: Labor inflation
All facilities: Increasing stakeholder expectations
Refining: Impoundments governance
Refining: Declining Bauxite grades

Cyclical cost increases

Mining: Longer haul and higher strip ratios
Refining: Periodic major maintenance
Smelting: Higher number of pot relines
Smelting: Higher freight costs
Casting: VAP labor, alloying materials and consumables

Investments in the future

- Increased **resource knowledge** and extended **long-term mine planning**
- **Decarbonization** and **waste reuse**
- Good **work design**
- Digital and advanced **analytics**

Performance issues

Mining: Short-term mine plan
Refining: Ship unloader and washer failure, power outages
Smelting: Lower energy efficiency

Alcoa Operations – in summary

Alcoa Operations



Creating value for our stockholders

- Across 19 locations, we operate some of the best assets in the world.
- We are amongst the top operators in the industry for mining, refining, smelting and casting.
- The Alcoa Business System drives our diligence in planning, execution, check and adjust.
- With a high-level of expertise and focus, our dedicated global team works safely, sustainably and smartly every day to ‘deliver today’ and ‘improve tomorrow’.
- Now is the right time – and we are the right company – to lead our industry to a more sustainable future.

Growth opportunities

NOVEMBER 2021

TIM REYES

Executive Vice President and Chief Commercial Officer



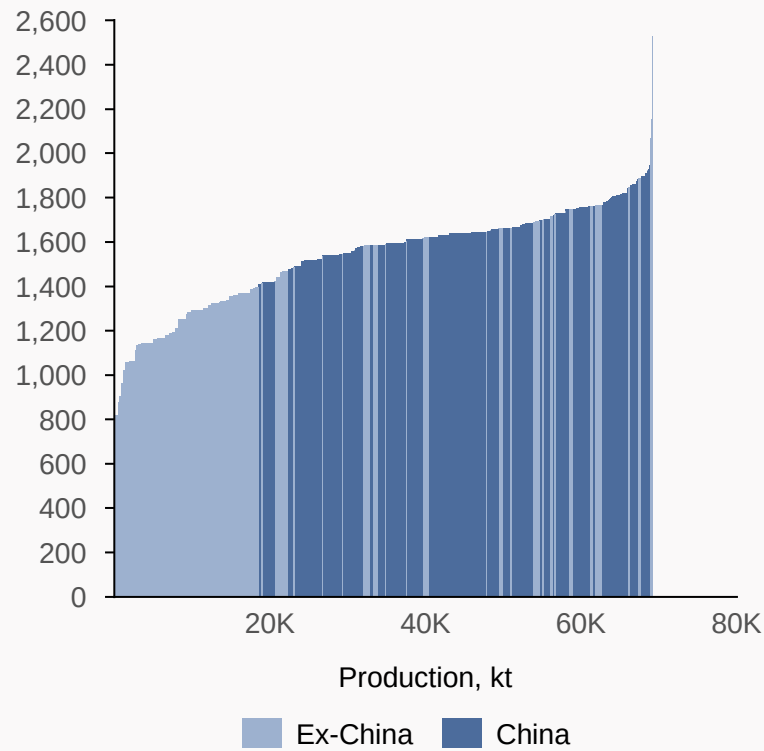
Aluminum



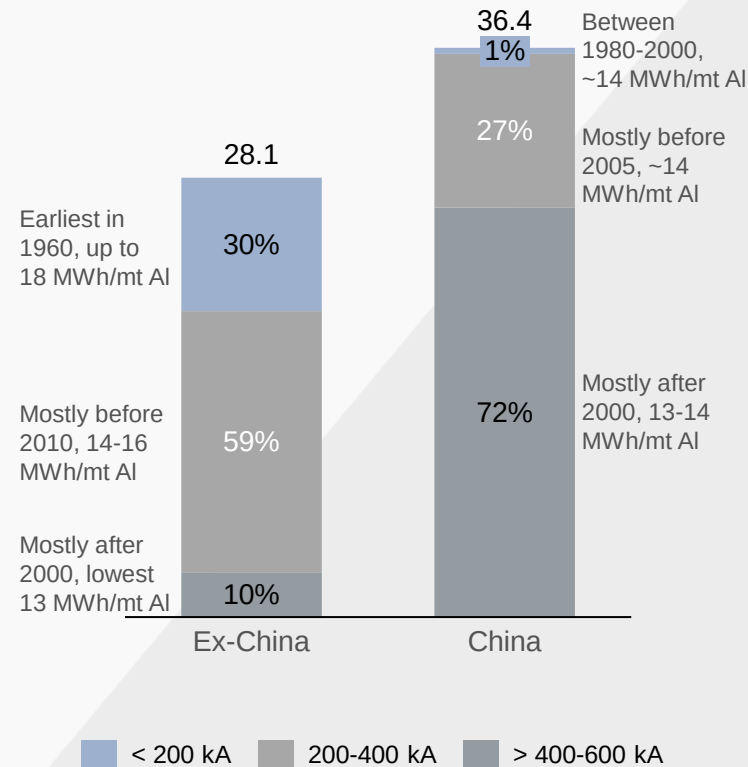
Low-cost, renewable energy key to maintain competitiveness

Smelter cost curve and technology by region

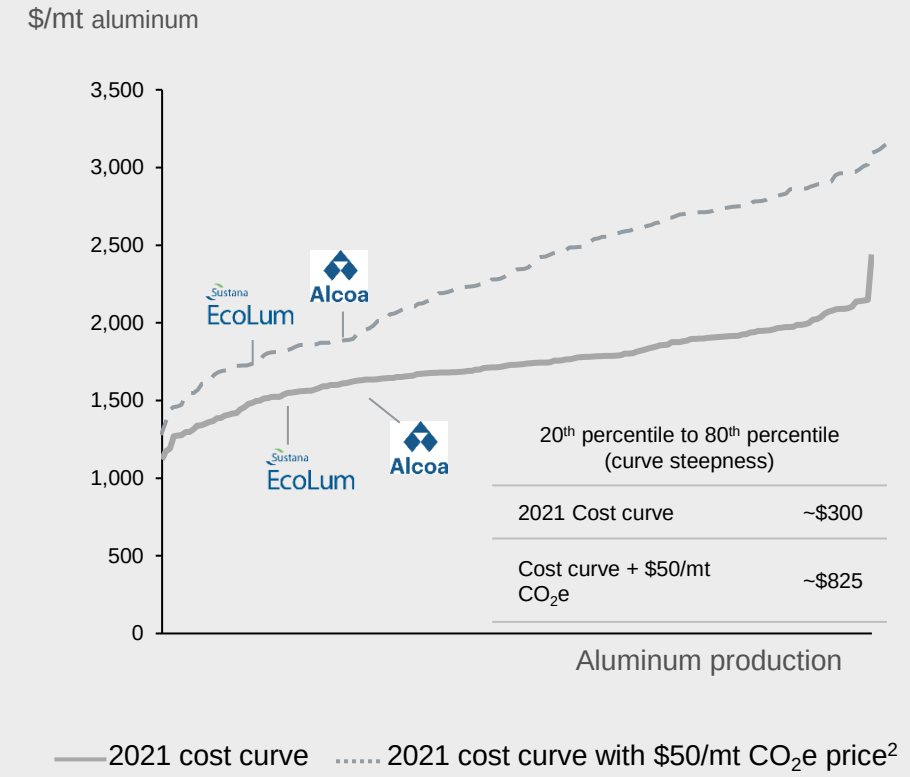
2021 Smelter operating cost¹ (\$/mt)



Smelting potlines by technology (Mmt)



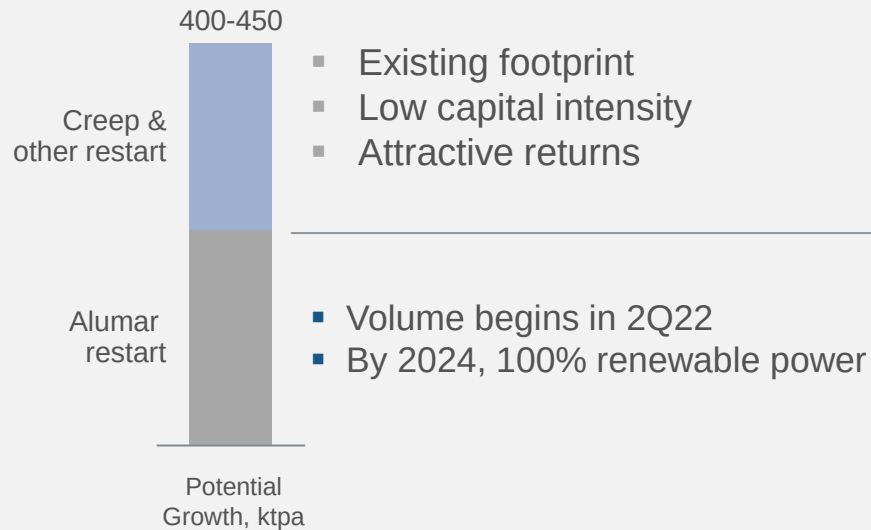
Primary aluminum: 2021 global cost curve



Aluminum: creep, restarts & breakthrough technology

Aluminum growth program

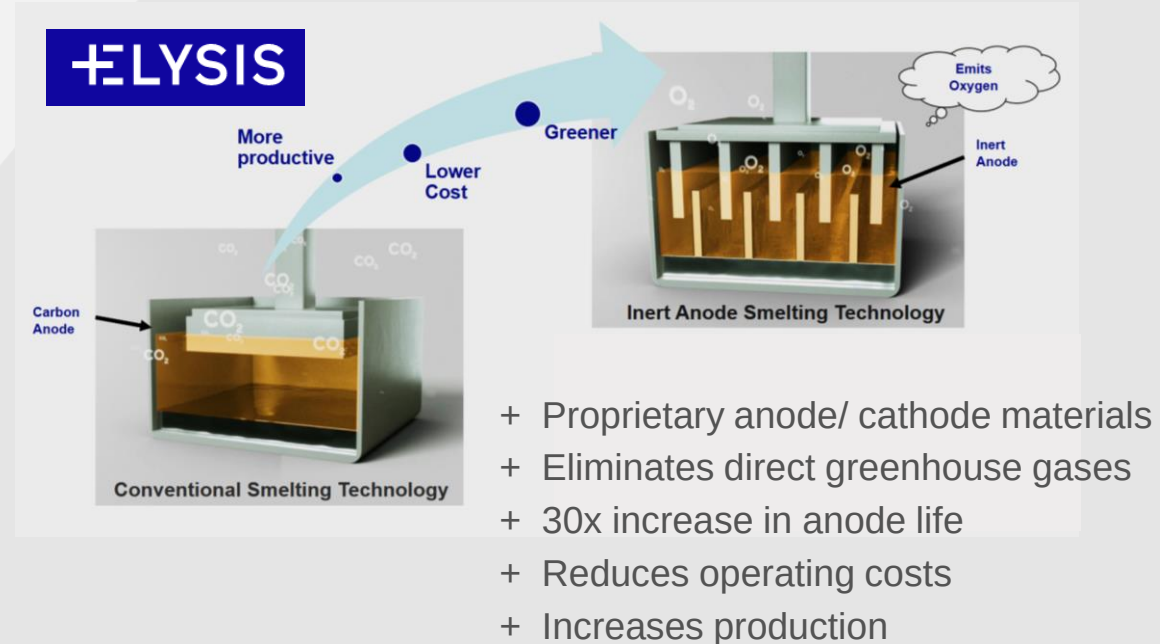
**Growth from creep and restarts
all supported by renewable energy
(20%+ production by 2030 vs. 2020)**



2019 SUCCESSES:

Deschambault creep +26ktpa, Bécancour smelter restart

A breakthrough aluminum smelting technology



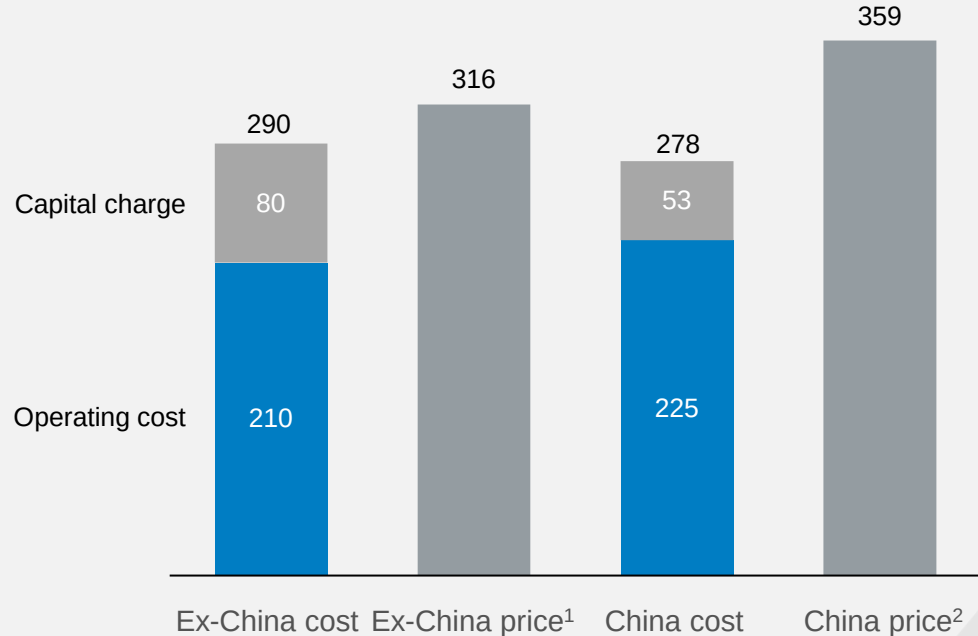
Alumina



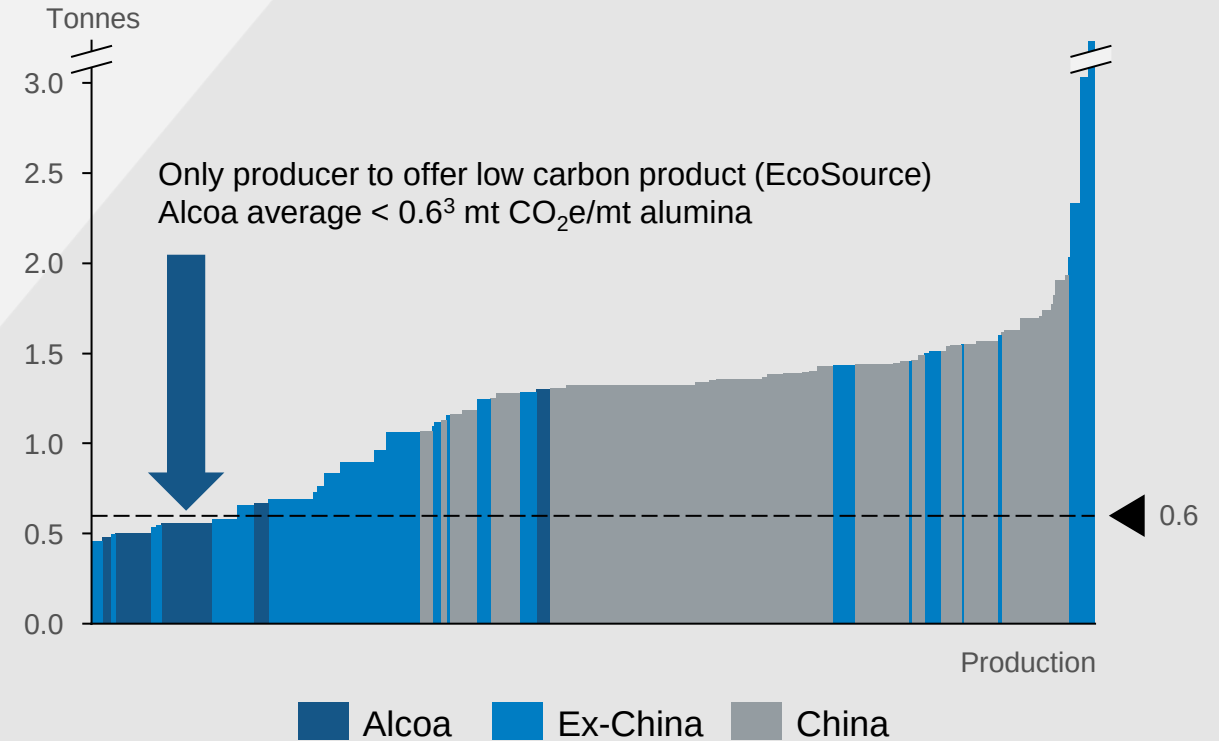
Alcoa leads industry as a low carbon alumina producer

2021 alumina production and carbon intensity

2021 Alumina cost and price (\$/mt)



2021 Alumina CO₂e intensity (mt CO₂e/mt alumina, Scope 1 + Scope 2, from mining to refining)



Alcoa alumina contributes less than 1.2 mt CO₂e/mt aluminum vs. global alumina industry average of 2.3 mt CO₂e/mt aluminum

Opportunities provide optionality to grow in alumina

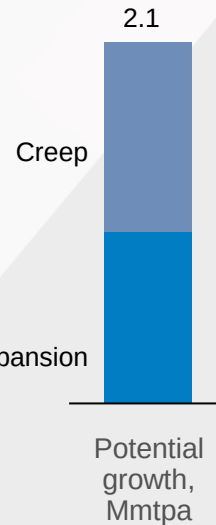
Alumina growth opportunities

Conditions To Grow

Capital and cost advantages arising from in-situ mine/refineries and bauxite quality



Growth in Brazil and Australia could deliver 15%+ Alcoa production growth by 2030 vs. 2020



Expansion and creep:

- Growth in existing assets is low risk
- Low capital intensity
- Access to large bauxite deposits
- Utilization of existing infrastructure

Projects since 2007: Alumar Unit 2 2.0 Mtpa¹, two Pinjarra creep projects to reach 4.7 Mtpa

1. Total of unit 2, including partner shares

Entering the growing high-purity alumina market

Description of HPA joint development project

High Purity Alumina (HPA)

- 65% interest in joint development project with FYI Resources
- Deal structure provides speed to market for attractive returns
- Demonstration facility de-risks entry into a new market with new technology

Phases of development

Stage 1 ▶

- Alcoa of Australia contributes \$5 million for project development activities
- Production trials
- Detailed design of an estimated 1,000 mtpa demonstration facility

Stage 2 ▶

- Demonstration facility constructed
- Detailed engineering undertaken for a full-scale 8,000 mtpa HPA plant

Stage 3 ▶

- Start of construction for the full-scale plant

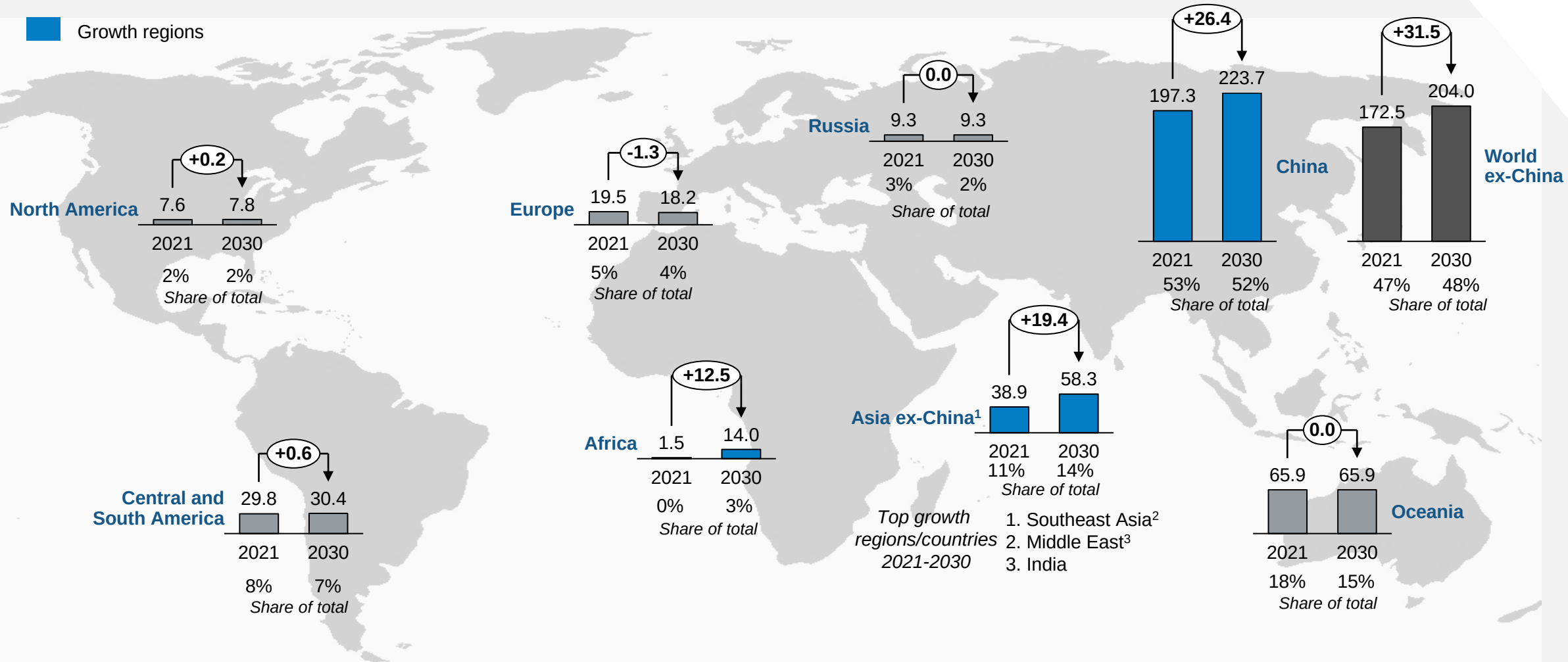
Bauxite



Asia to drive growth in bauxite consumption

Bauxite regional consumption projections (seaborne + integrated, dry Mmt)

Growth regions



Source: CRU, CM Group. Note: 1. Asia ex-China includes Middle East. Comparing 2030 production to 2021: Southeast Asia (+7.7 Mmt), India (+6.7 Mmt), Middle East (+5.0 Mmt). 2. Southeast Asia includes Malaysia, Vietnam, Indonesia and other countries in the region. 3. Middle East includes Turkey.

Global bauxite reserves support demand for growth

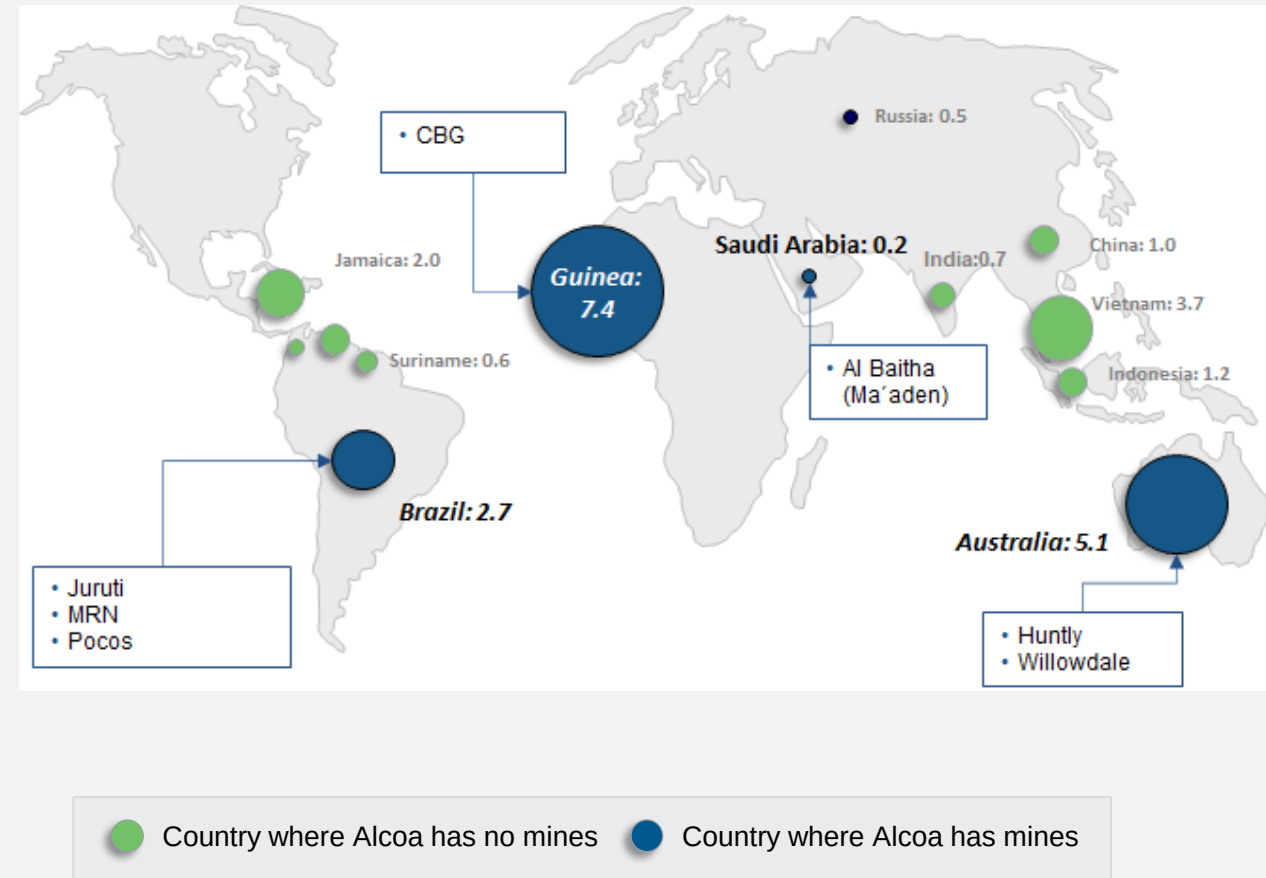
2020 global bauxite reserves (billions of metric tonnes) and Alcoa mines worldwide

Global

Reserves: **30 billion mt**

Resources: **55-75 billion mt**

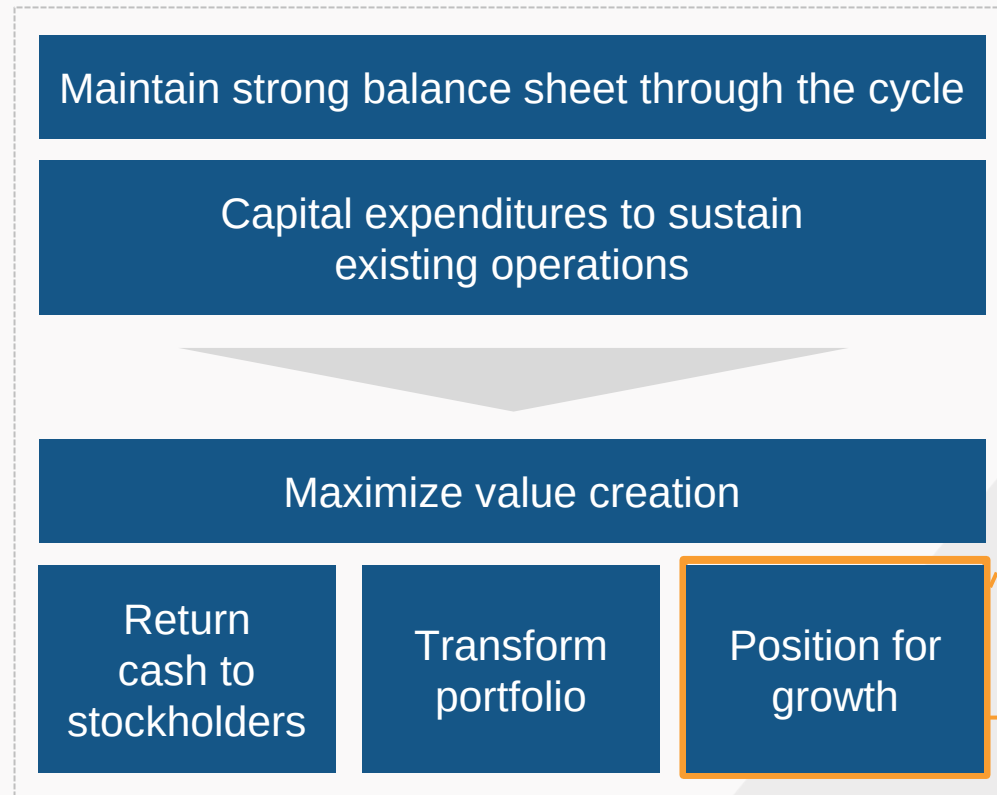
5Mmtpa+ potential growth in regions that value **responsible mining** and where Alcoa can leverage its **social license to operate**



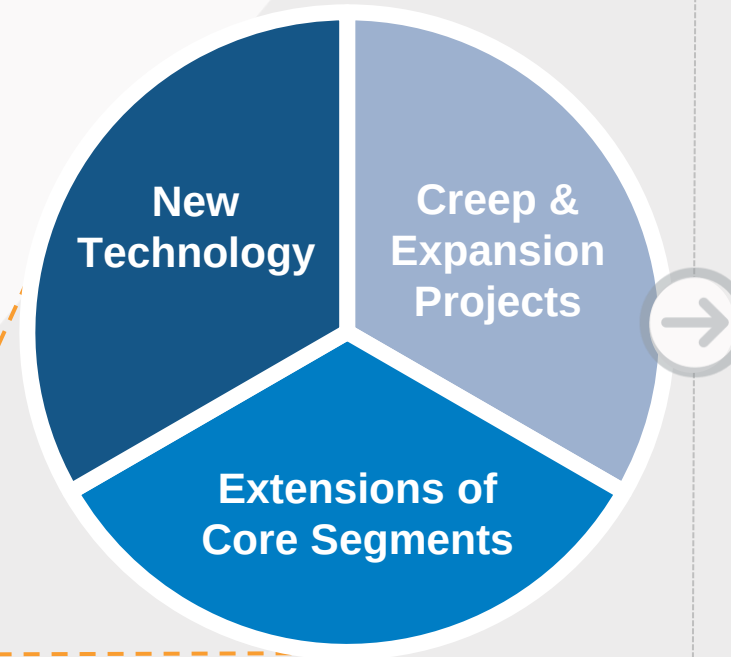
All growth contributes to Alcoa goals

Capital allocation framework, growth opportunities and goals

Capital allocation framework



Growth opportunities



Alcoa goals

- Generate strong returns throughout market cycles
- Maximize asset potential
- Sustainable future for the industry

Breakthrough technologies

NOVEMBER 2021

BEN KAHR

Executive Vice President and Chief Innovation Officer



Technology portfolio supports growth and sustainability

Technology discussion summary

Alcoa's Technology portfolio addresses 3 key needs



Technologies suitable for retrofit and growth opportunities



1. Create structural advantages in key businesses which support future growth
2. Provide technical pathway to net zero 2050 ambition
3. Support vision to reinvent the aluminum industry for a sustainable future

ELYSIS™ – joint venture for inert anode technology that eliminates greenhouse gas emissions from smelting

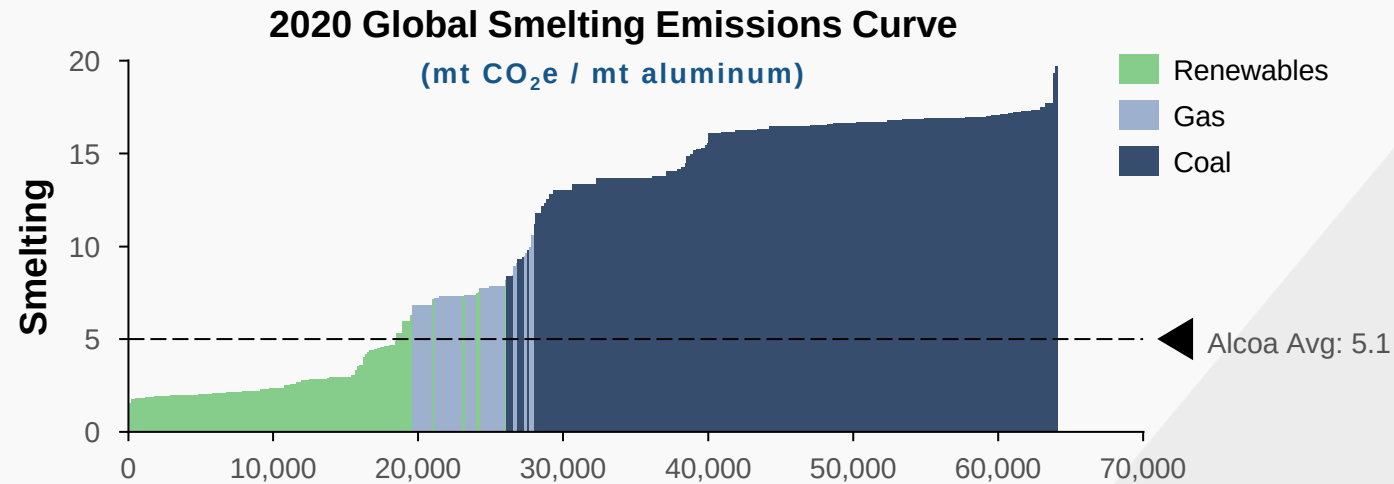
Refinery of the Future – simplified refinery design including two key technologies that eliminate CO₂ when connected to a renewable grid

- **Mechanical vapor recompression (MVR)** – reduces ~70% of refinery carbon emissions, replacing fossil-fuel driven boiler systems
- **Electric calcination** – electric alternative which also provides significant water savings

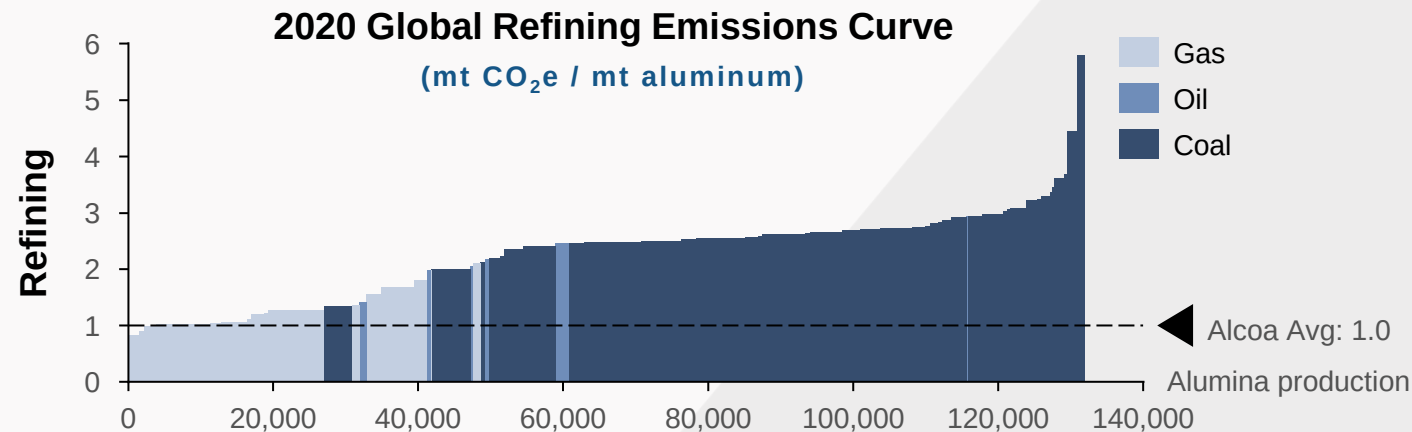
ASTRAEA™ technology – creating high purity aluminum from post-consumer scrap

Energy source is the leading driver for carbon intensity

Scope 1&2 carbon emissions for aluminum smelting and alumina refining



- Pre-2010 capacity: 9.5 mt CO₂e / mt aluminum
- Post-2010 capacity: 13.3 mt CO₂e / mt aluminum
- Announced projects for next 10 years:
 - 6 Mmt renewable-based
 - 1 Mmt natural gas-based
 - 4 Mmt coal-based



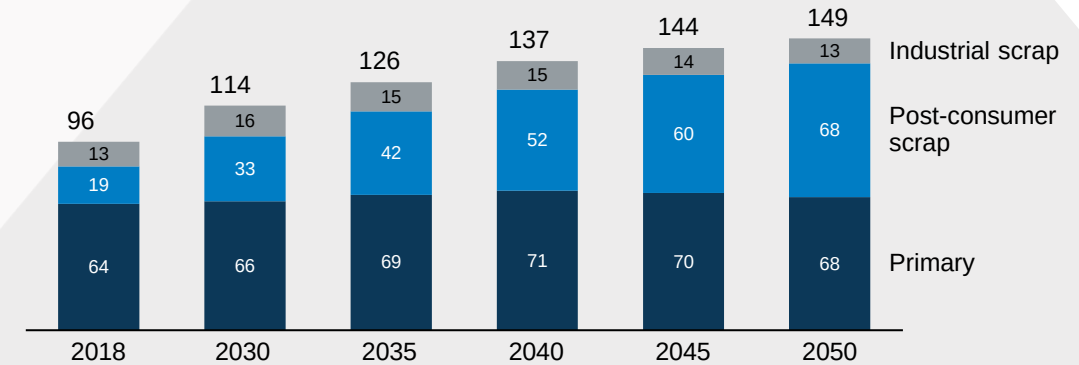
- Pre-2010 capacity: 2.2 mt CO₂e / mt aluminum
- Post-2010 capacity: 2.6 mt CO₂e / mt aluminum
- Announced projects for next 10 years:
 - 2 Mmt natural gas-based
 - 32 Mmt coal-based

1.5 Degree scenario requires emission reduction of 97%

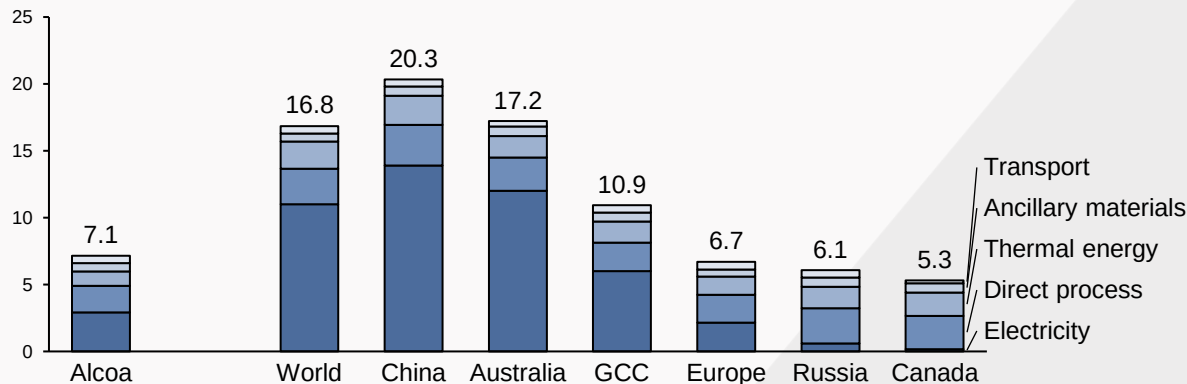
Industry volume and emissions projections based on IAI study

- International Energy Agency (IEA) defining industry-specific targets
- International Aluminum Institute (IAI) translating to volume and intensity
 - Total emissions intensity reduced by 97% from 2018 levels
 - Post-consumer scrap increased by 250%

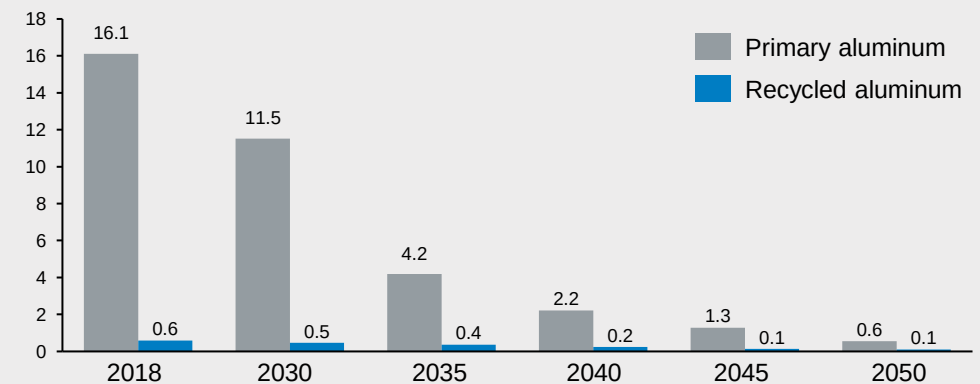
IAI projected global supply for 1.5-degree scenario, Mmt



Scope 1, 2 and 3 smelting carbon intensity, 2020¹



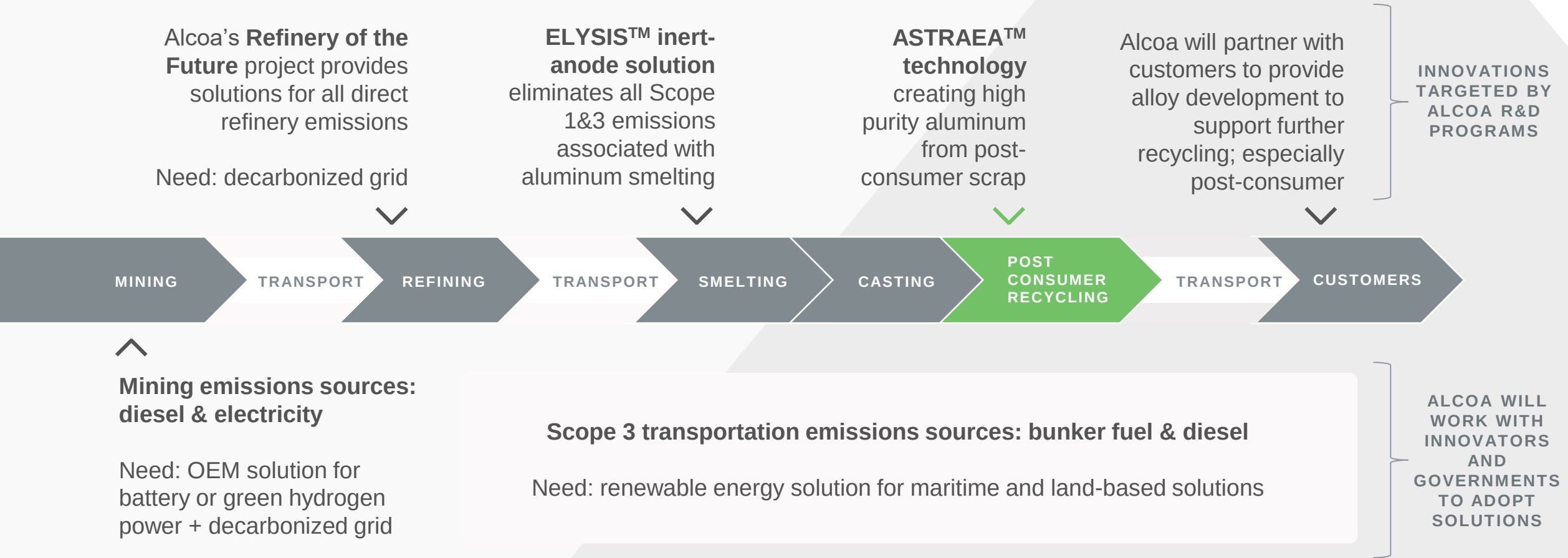
IAI emissions pathway for 1.5-degree scenario



1. Emissions (mt CO₂ / mt Aluminum) include Scope 1, 2, and 3 except for downstream customers beyond midstream producers such as rolling mills, extrusion plants, etc. Emissions within the average include Scope 3 emissions from raw material suppliers and transportation but exclude alloying agents. Does not include Scope 3 resulting from use of externally sold bauxite and alumina. Data from Alcoa internal data for Alcoa-specific electricity, direct process, and thermal energy. Data from IAI all else.

R&D program focused on upstream aluminum value chain

Technology solutions roadmap for Alcoa system



ELYSIS™ provides both a retrofit and growth opportunity

Summary of ELYSIS technology value

What is ELYSIS?

Largest R&D program for Alcoa

Joint venture between Alcoa, Rio Tinto, and Investissement Québec

Technology replacement for Hall-Heroux

Aluminum production eliminating all direct CO₂ and emitting oxygen

The future of aluminum smelting



BENEFIT	RETROFIT	GROWTH
Environmental benefit	Complete elimination of direct smelting CO ₂ and fossil fuel related emissions	
Operating cost	Savings associated with calcined coke, coal tar pitch, carbon plant energy and labor, and part of anode setting costs	
CO ₂ cost exposure	Complete elimination of direct emissions	
Technology	Modernized for the future	

Refinery of the Future - sustainable alumina production

Summary of Refinery of the Future program

Program aspirations

R&D programs addressing both sustainability improvements and growth limitations

Designing for both retrofit and growth

Sustainability:

- Elimination of fossil fuels and conversion to renewable grid power
- Target of zero fresh residue deposits
- 60-70% reduction in freshwater usage

Growth:

- Significant flowsheet simplification
- Modular construction

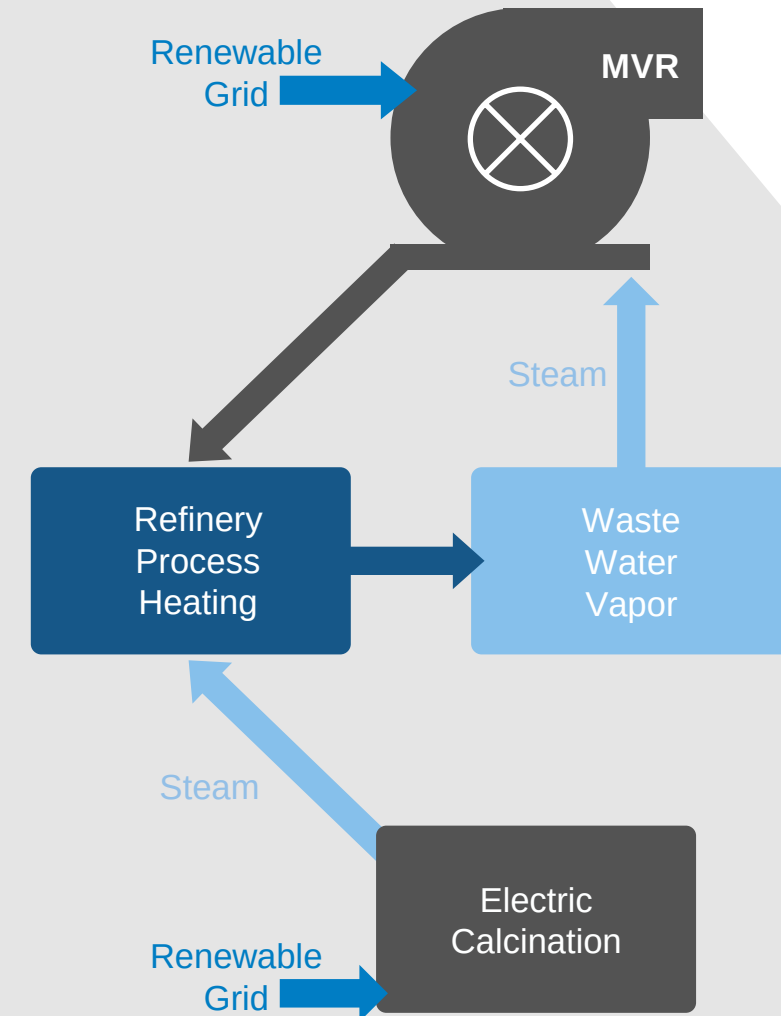
Key Elements

Mechanical vapor recompression (MVR)

- Replacement for traditional steam-driven powerhouse powered by fossil fuels
- Uses 1/3 of equivalent energy input
- Eliminates up to 35% of freshwater usage
- Currently preparing for first trial at Wagerup

Electric calcination – R&D stage

- All calcination fossil fuels is eliminated
- Steam is generated from calciners, replacing boiler steam or MVR load
- Eliminates up to 35% of freshwater usage



Reinventing recycling: creating high purity aluminum from scrap

Summary of ASTRAEA™ technology and competing processes

Proprietary process purifying any molten scrap to ~P0101 quality

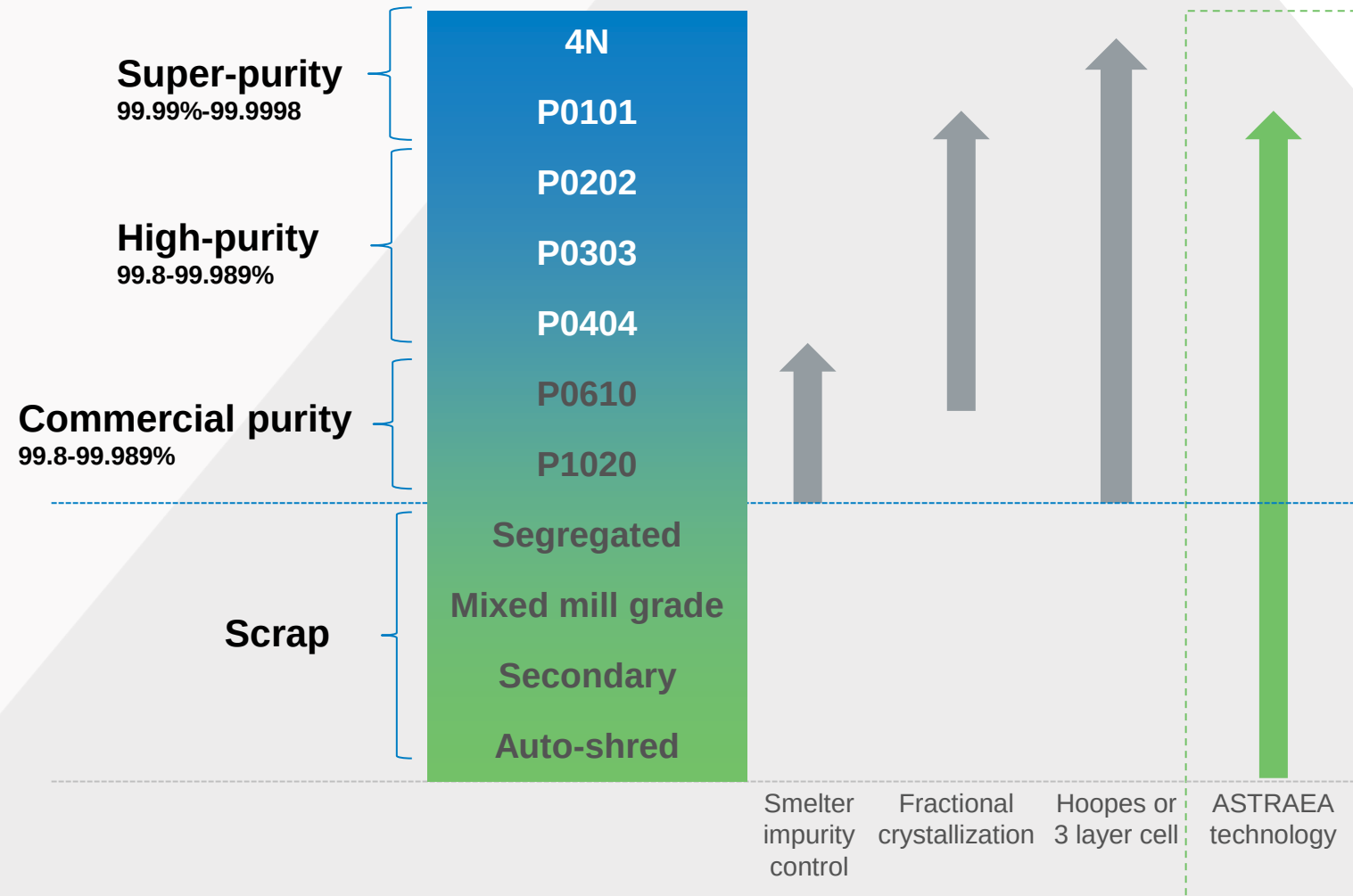
Target raw material: Zorba – auto shred aluminum scrap

- Current 1.3 Mmt/yr long position in North America being ships to Southeast Asia
- As cars convert from internal combustion to electric, this process provides a new use for domestic scrap stream

New supply chain design:

- Traditional: Mine – refinery – smelter
- New: Car shredder – ASTRAEA technology

In addition to Zorba, any low-quality aluminum scrap can be considered as feedstock



R&D program focused on key decarbonization levers

Closing summary



Key R&D programs support both growth and sustainability programs



Each project will have a customized stage-gate process aimed at balancing risk and time to market



For projects where CO2 elimination is a core element, government partnership will be key



Target periods for industrial deployment, investment size, and expected return being determined as part of development process

R&D INVESTMENT SCHEDULE, \$M

	<u>2021</u>	<u>2022</u>	<u>2023</u>
ELYSIS (Equity ¹)	~20	~50	~10
MVR (R&D Expense)	~2	~2	~20*
Electric Calcination (R&D Expense)	~1	~2	~2
ASTRAEA™ technology (R&D Expense)	~5	~5	~20*

*Represent major investment years for pilot facilities

1. The ELYSIS partnership is funded by contributions from the owners. Alcoa's basis in the partnership has been reduced to zero for its share of losses incurred to date. Unrecognized losses as of September 30, 2021 of \$44 will be recognized upon additional contributions into the partnership as Equity in net loss of affiliated companies in Alcoa's statement of consolidated operations.

Capital allocation and governance

NOVEMBER 2021

WILLIAM OPLINGER

Executive Vice President and Chief Financial Officer



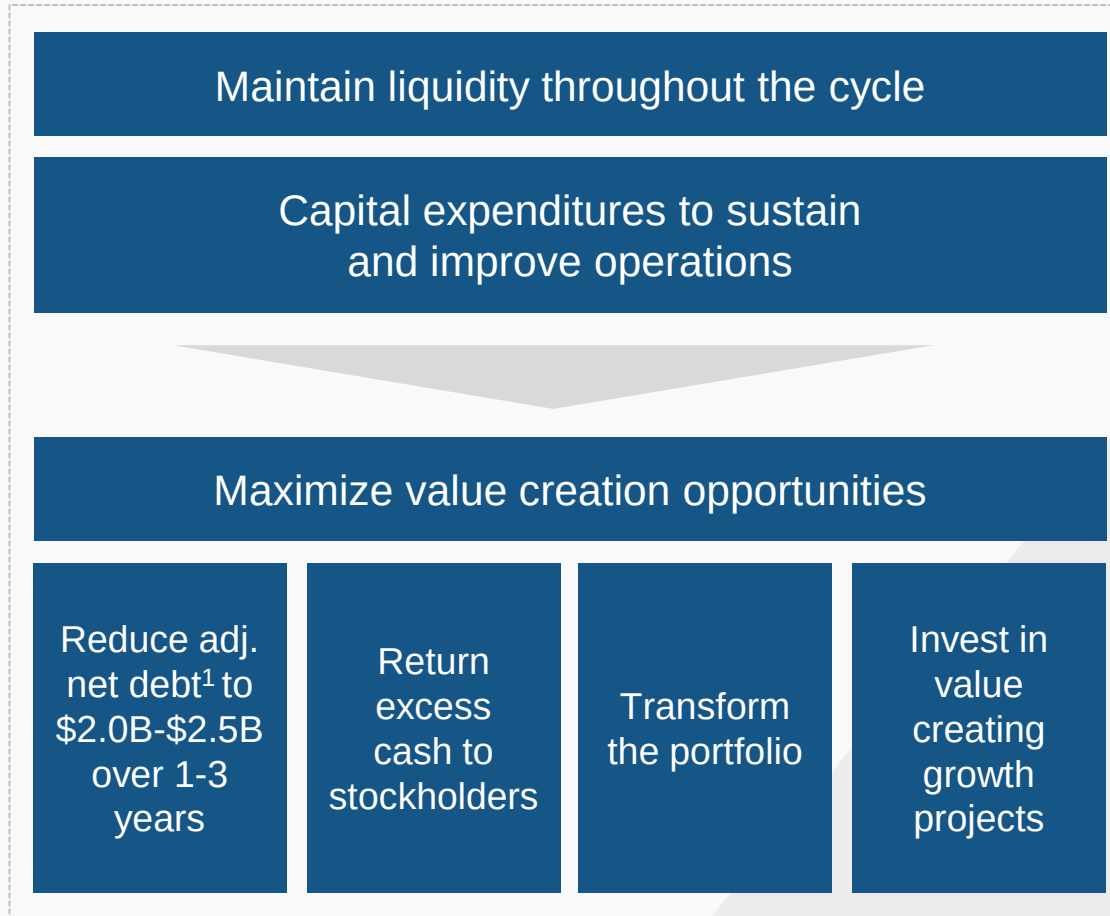
Alcoa formed in 2016 with strong governance profile

Key governance elements

- ✓ Annually elected 10 member Board of Directors (9 independent)
- ✓ Non-executive Board Chairman (separate roles of Chairman and CEO)
- ✓ Stockholders holding 25% of shares have right to call special meeting
- ✓ Proxy access for Director elections
- ✓ Delaware incorporation
- ✓ Long term incentive program aligned with stockholder interests
- ✓ Annual say on pay vote

Former capital allocation framework

Capital allocation framework and considerations, as of October 2021



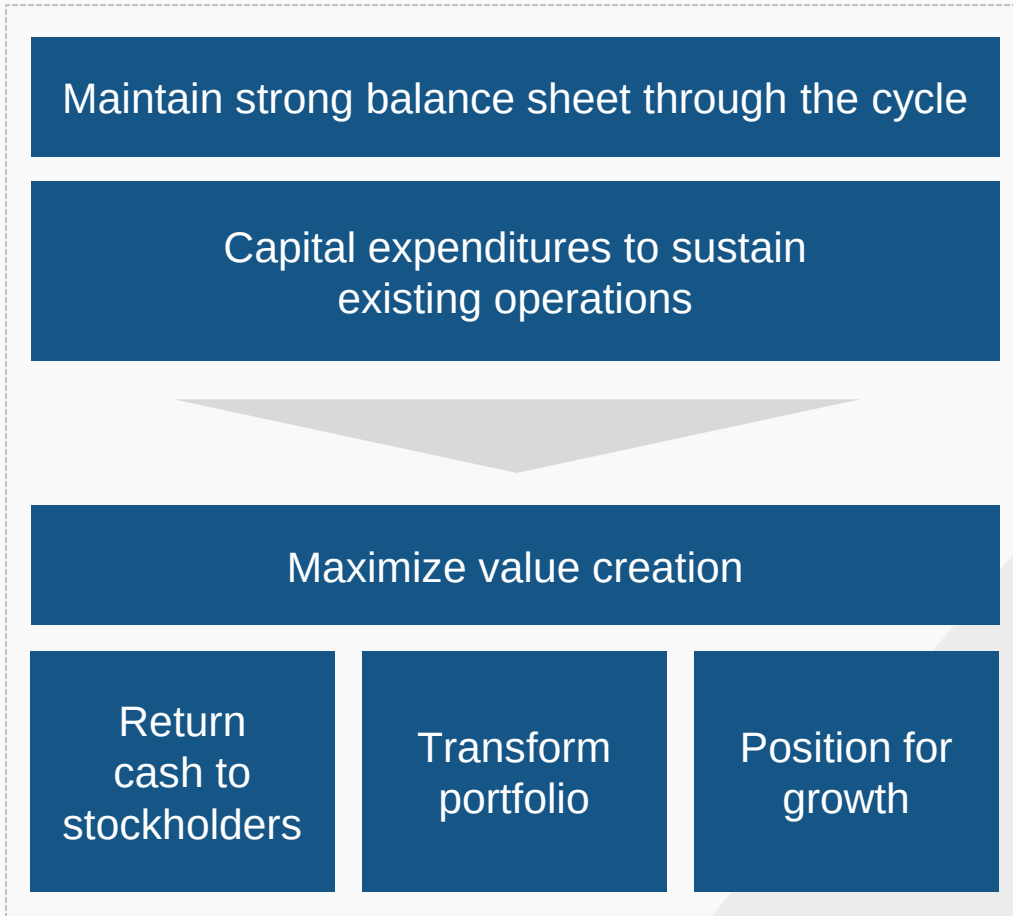
- \$1 billion target for minimum cash balance; \$1.4 billion at September 30, 2021
- Sustaining capital expenditures of ~\$375 million, return seeking capital of ~\$40 million, per 2021 outlook

-
- At \$1.7 billion, below target range of proportional adjusted net debt
 - \$150 million available of existing \$200 million buyback authorization; **new buyback authorization of \$500 million; new quarterly cash dividend program, \$0.10/share payable in 4Q21**
 - Portfolio review and transformation over the next 3 years; remaining capacity: 2 Mmt refining and 0.8 Mmt smelting
 - Major growth projects on hold

1. Adjusted net debt defined as the Alcoa proportional share of net debt plus net pension and OPEB liability.

Refreshed capital allocation framework

Capital allocation framework and considerations, as of November 2021



Strong balance sheet:

- Keep cash balance and net debt at comfortable levels
- Redeemed 2026 notes (\$500 million) on September 30, 2021

Capital expenditures:

- Sustaining capital expenditures of \$375 million in 2021, \$450 million in 2022

Return cash to stockholders:

- Existing \$200 million buyback program has \$150 million available
- In October 2021:
 - Announced quarterly cash dividend program, \$0.10/share quarterly dividend payable 4Q21
 - Authorized additional \$500 million share buyback program

Continue portfolio transformation through 2023

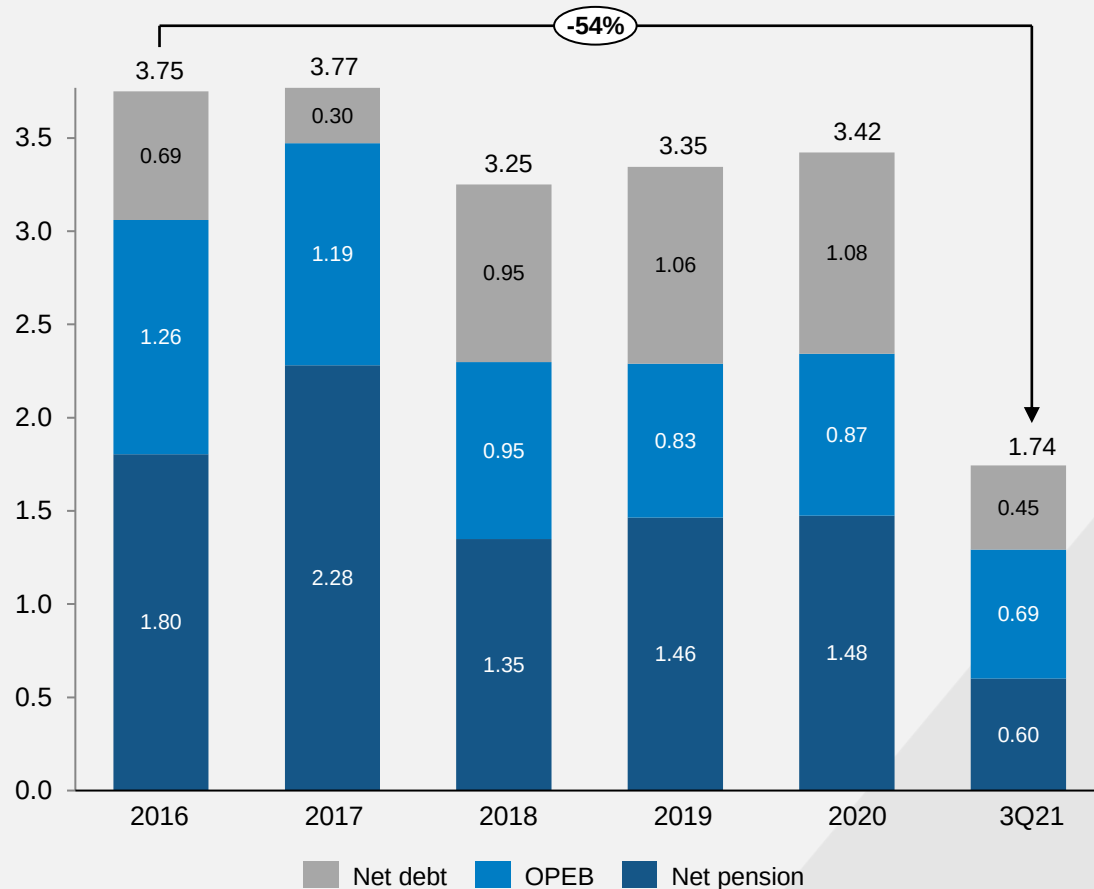
Position for value creating growth; key timeframe ~2024

- Expansions and/or breakthrough technology implementations

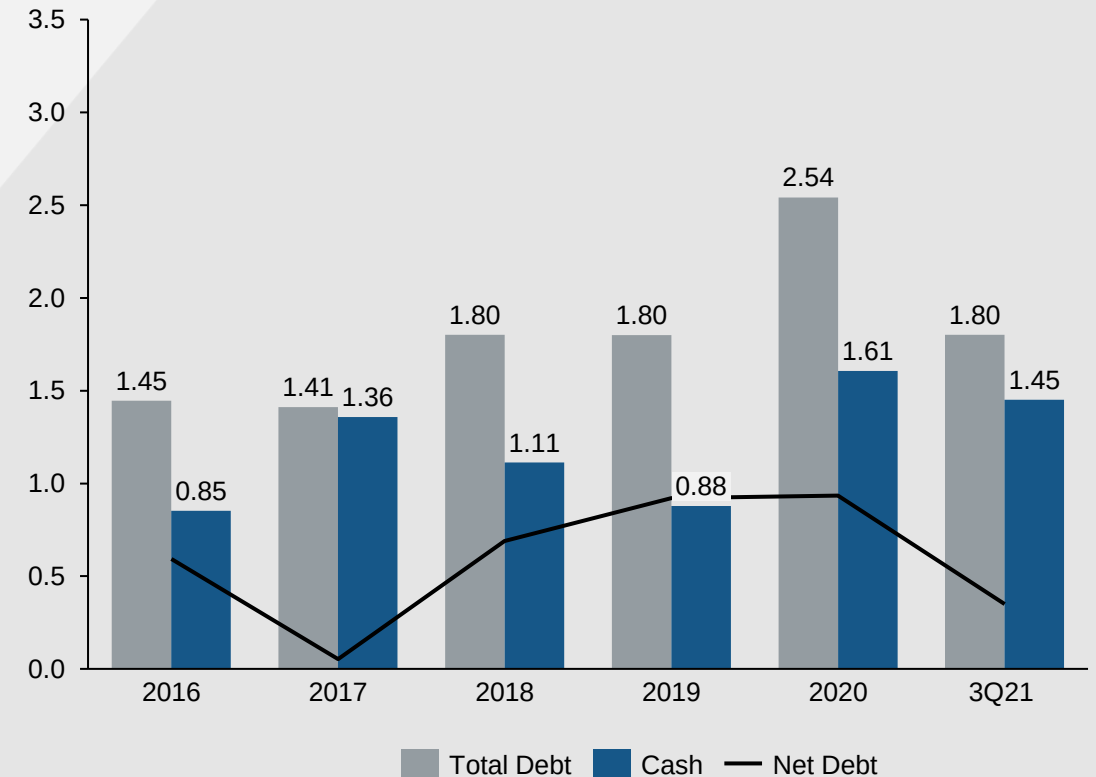
Paid down debt while balancing target cash

Annual net debt overview since 2016 separation

Components of proportional adj. net debt, \$B



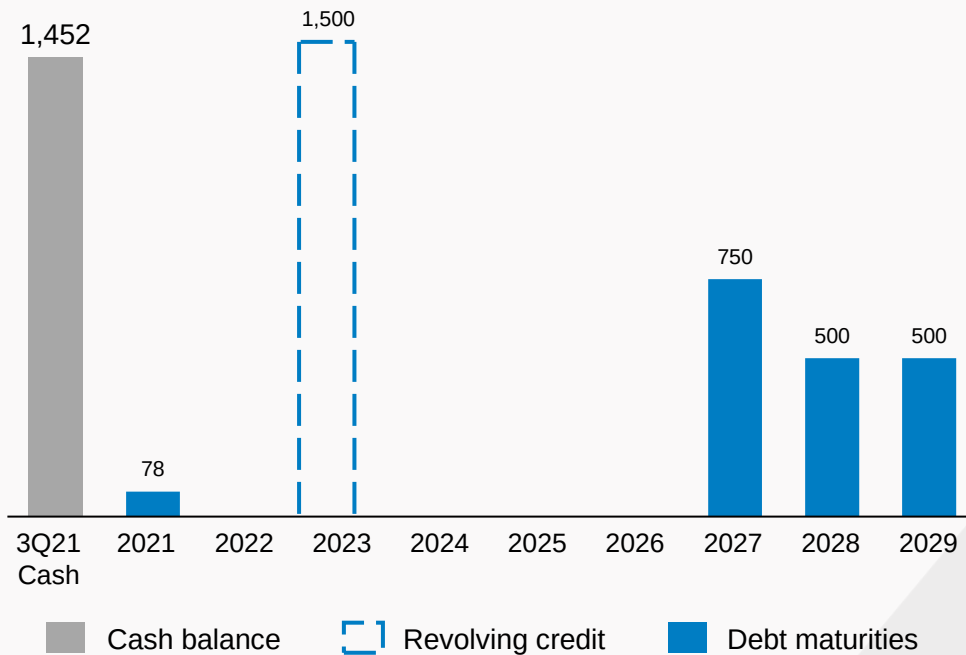
Components of consolidated net debt, \$B



Open debt profile, reduced pension cash requirements

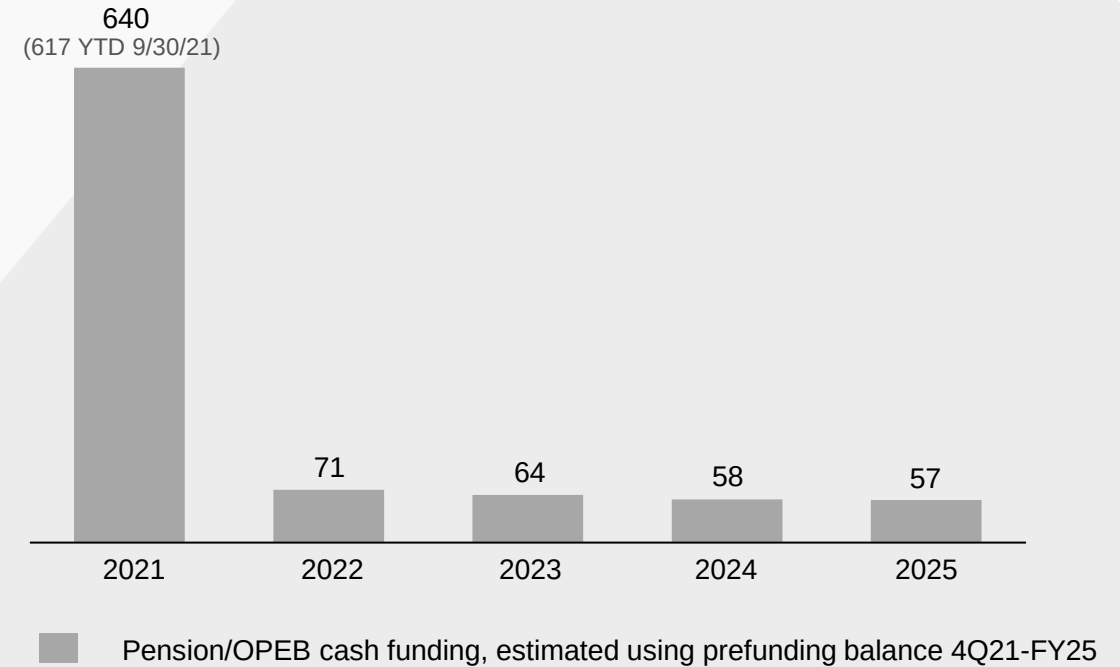
Debt maturity outlook to 2029; pension funding expectations through 2025

Cash balance and maturity profile, \$M



- \$750M 2027 senior note: 5.50% coupon, callable 2023
- \$500M 2028 senior note: 6.125% coupon, callable 2023
- \$500M 2029 senior note: 4.125% coupon, callable 2024
- Average coupon rate: 5.25%
- Annual interest expense: ~\$95 million

Estimated global pension/OPEB funding, \$M

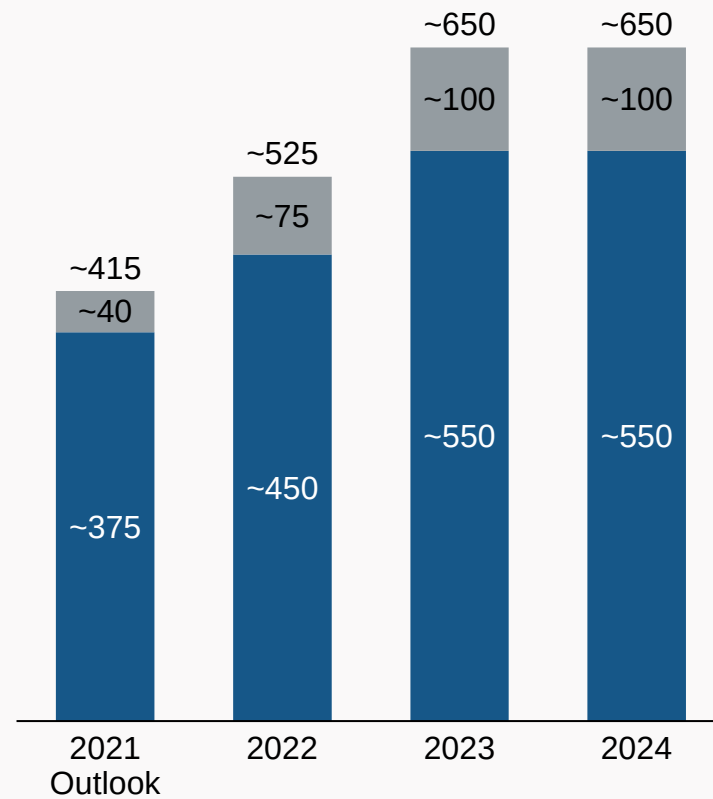


- Global funded status of >90%, U.S. funded status ~100%
- U.S. pension prefunding balance of ~\$1 billion
- Expected cash funding does not include risk transfer costs not funded by prefunding balance, if any

Increased capital spending expected in next three years

Capital expenditure expectations, 2021-2024, excluding innovation projects

Expected future capital expenditures, \$M¹



Return-seeking examples

- Well defined production creep
- Cast house product improvements

Sustaining examples

- Mine moves
- Impoundments

Major innovation development projects not included

ELYSIS™ carbon free smelting

- In scale-up construction and trials; 2024 commercialization target

Mechanical vapor recompression (MVR)

- In feasibility studies; targeting late 2023 for scale technology tests

High purity alumina (HPA)

- In first phase of three phase, multi-year development project

ASTRAEA™ post consumer scrap to purity

- In developmental phase; if viable, preparing for pilot plant investment decision in 2024

Return seeking Sustaining

1. AWAC portion of capex outlook: ~50% of return-seeking capital expenditures and ~65% of sustaining capital expenditures

Optionality of key innovation project cash flows...

Key decision points and expected funding levels for major innovation projects, \$M

	Conditional investment	2022	2023	2024	2025	2026+
ELYSIS carbon free smelting process		~50	~10	As ELYSIS owner, 150-200 in 2024-2025 for customer raw materials production facility and engineering; As adopter, first opportunity beginning in 2024; scale TBD		
Mechanical vapor recompression		~2	~20	~30	Additional projects to be based upon results of first trials	
Refinery electric calcination		~2	~2	~10	Additional projects to be based upon results of first trials	
ASTRAEA™ scrap metal purification		~5	~20	Scale pilot/demonstration facility 150-200 in 2024-2025; Full scale implementation facility 500-600 in 2025-2026+		
High purity alumina process		~50 Phase 2	~200 Phase 3			

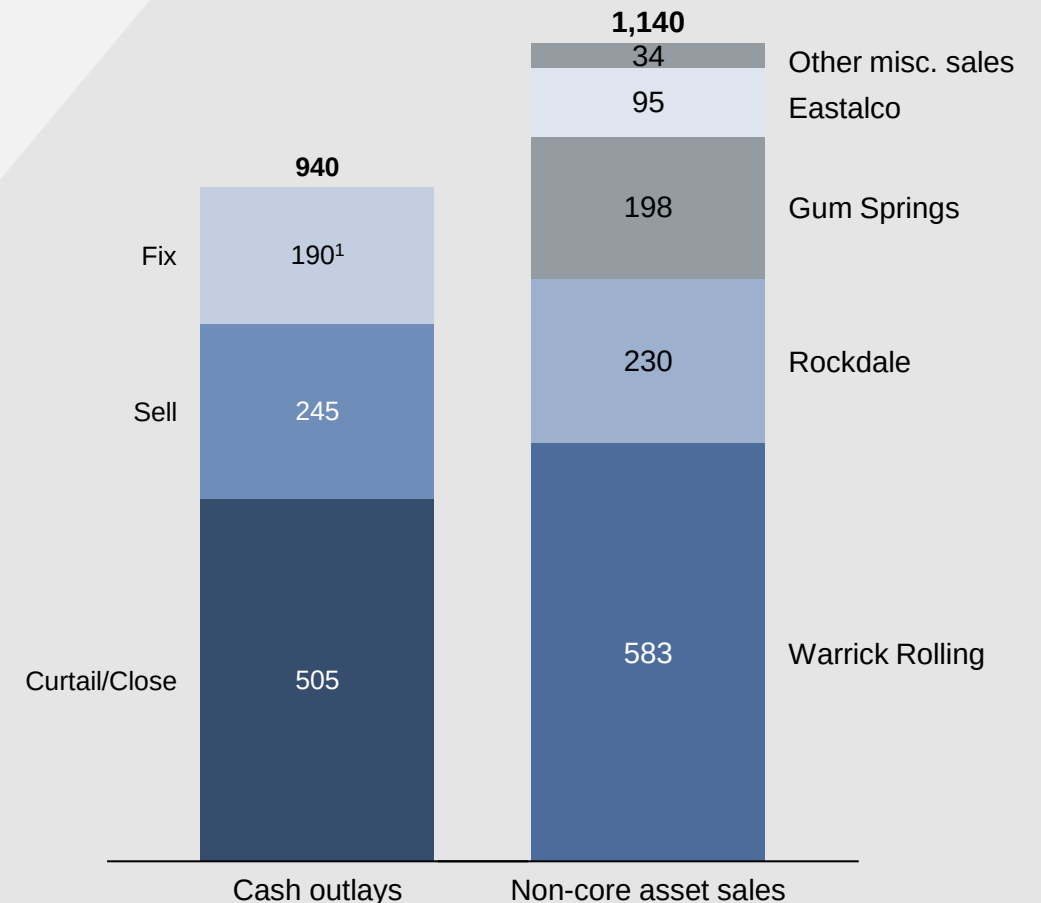
Non-core asset sales exceed portfolio action cash outlays

Portfolio actions and expected cash impacts FY17 – current

Portfolio action cash outlays 2017 – current, \$M

Action	Asset	Timing	Cash Outlay (\$M)
Fix	Warrick smelter restart	2018	
	Portland smelter restart	2018	
	Portland smelter repower	2021	
	Bécancour smelter restart	2019	
	Total Fix		\$190¹
Sell	Portovesme	2017	
	Aviles / La Coruña	2019	
	Ma'aden Rolling	2019	
	Total Sell		\$245
Curtail/close	Suralco closure	2016	
	Rockdale power and closure	2017	
	Wenatchee power	2018	
	Point Comfort closure	2019	
	Intalco curtailment	2020	
	Total Curtail/close		\$505

Cash impacts of portfolio actions 2017- current, \$M



1. Spend to date does not include \$75M of restart costs for Alumar restart to begin in 4Q21

An even stronger, more sustainable aluminum producer

Update on key strategic actions announced in October 2019

Key strategic actions that met target

New operating model – met target

Created a leaner, more integrated, operator-centric Alcoa

New operating model in place since early 2020 generating cost efficiencies and more connected and aligned organization

Non-core asset sales – exceeded target

Generated ~\$1 billion cash through non-core asset sales

With Rockdale site sale, non-core asset sales have exceeded \$500 million to \$1 billion net cash proceeds target, now at ~\$1.1 billion

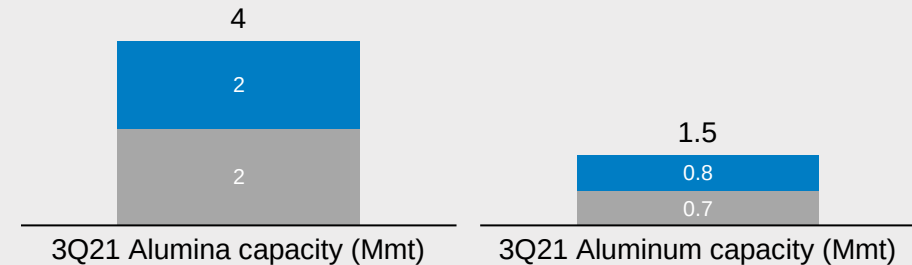
Progressing well on portfolio review

Portfolio review – on target

Positioning to lead in an evolving sustainable world

Asset reviews actioned since October 2019 announcement

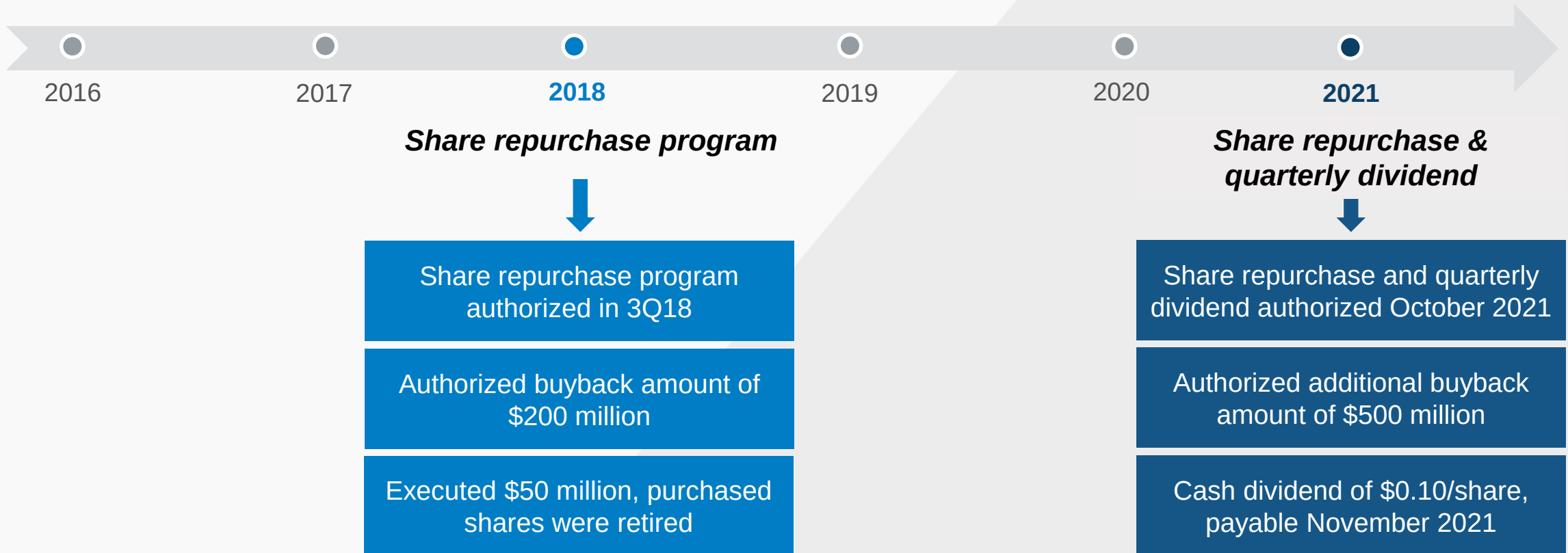
■ Remaining under review ■ Actioned



Roughly halfway through portfolio review in both alumina refining and aluminum smelting

More capital returns to stockholders authorized

Actions taken to return cash to our stockholders



Where we are going

NOVEMBER 2021

ROY HARVEY

President and Chief Executive Officer



Strong, focused, and ready for tomorrow

Key elements defining today's Alcoa

Values – simple guide to all our actions, especially our safety culture

Operations – excellence in all segments, setting production records

Financial – balance sheet strengthened and cash flowing

Portfolio – fix/curtail/close/sell has been a major focus in refining and smelting

Technology – transformative technology development programs underway

Organization – leaner, more connected operating model

Capital allocation – conservative and balanced approach

Environmental and Social – low carbon intensity, socially responsible

Governance – stockholder focused governance framework



Lightweight, recyclable aluminum is metal for the future

100%

Aluminum is infinitely recyclable

90%

Recycling aluminum saves more than 90% of the energy needed to make new aluminum

1/3

Aluminum is 1/3 the weight of steel, meaning parts can be made thicker and stronger while reducing weight

44

Aluminum in autos saves 44 million tonnes of CO₂ emissions



Companies responsibly producing aluminum poised to benefit

Factors that are expected to improve aluminum demand and constrain supply

Aluminum is a solution for a more sustainable world

Aluminum is a material of choice in a sustainable economy, with properties well-suited to help advance toward a zero carbon world

- Aluminum demand expected to continue to grow as its strength, light weight, corrosion resistance, and conductivity outshine competing materials in everyday applications as well as to provide ESG-driven solutions
- Aluminum supply constraints are systemic due to conflict between majority coal-fired energy sources for smelters and refineries, process carbon emissions, and global carbon reduction initiatives
- China, long term source of new supply, appears to be constraining further supply growth as it battles to reduce energy intensity and carbon emissions
- All producers seeking renewable energy sources for existing and any future projects

Alcoa uniquely positioned as aluminum decarbonizes

Required for net zero aluminum industry

More renewable energy sources across all phases of production (electricity decarbonization)



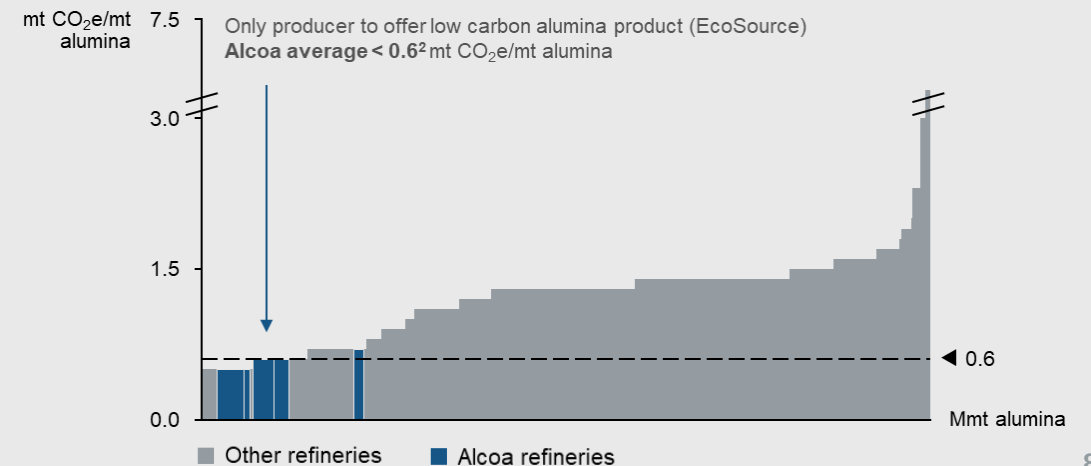
How Alcoa fits those requirements

Already 78% renewable energy powering smelters

Operating lowest carbon emission intensity refinery system

Lowest carbon emitting refinery system

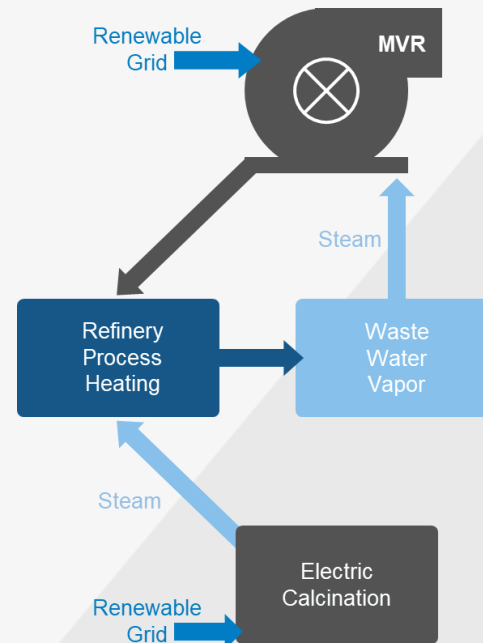
CO₂e intensity (mt CO₂e/mt alumina, Scope 1 + Scope 2 from mining to refining), 2021



Alcoa uniquely positioned as aluminum decarbonizes

Required for net zero aluminum industry

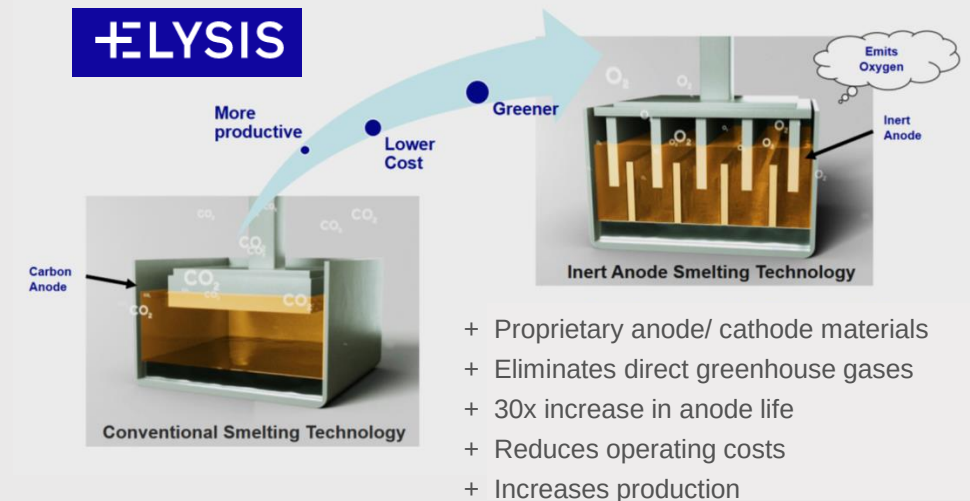
Decarbonized smelting and refining process (direct emissions potential)



How Alcoa fits those requirements

Already one of the lowest scope 1 and 2 producers

Developing breakthrough technologies to decarbonize smelting (ELYSIS) and refining (Refinery of the Future, with MVR and electric calcination)



Alcoa uniquely positioned as aluminum decarbonizes

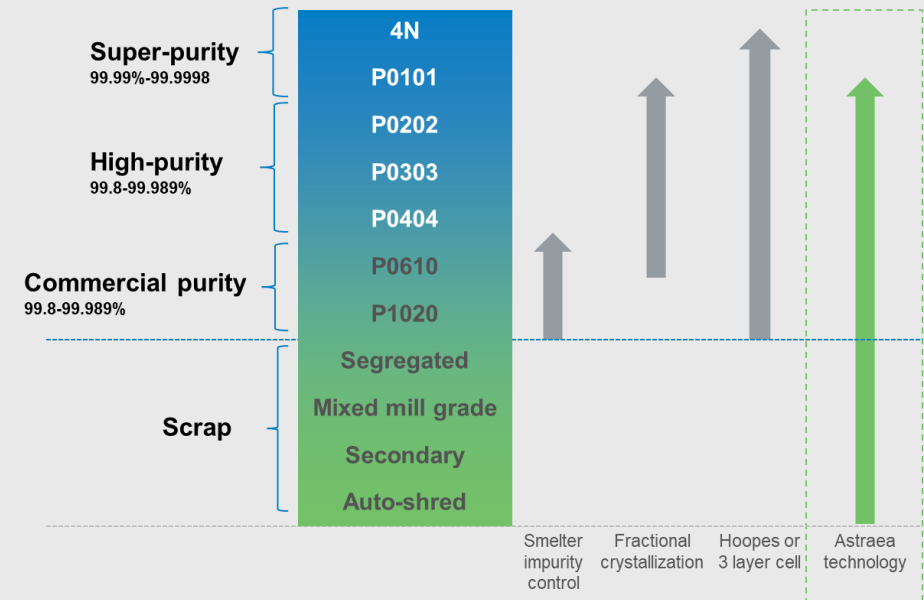
Required for net zero aluminum industry

More recycled aluminum as percentage of total aluminum demand (recycling and resource efficiency)



How Alcoa fits those requirements

Reinventing recycling: developing ASTRAEA™ technology that creates high purity aluminum from low grade post consumer scrap



Alcoa uniquely positioned as aluminum decarbonizes

Required for net zero aluminum industry

Stakeholders demanding responsibly produced aluminum

Global sustainability recognition

- Dow Jones Sustainability North American Index
- Top 100 World's Most Admired Companies — Fortune Magazine
- Bloomberg Gender-Equality Index
- S&P Global Top Performing Company — The Sustainability Yearbook 2020

How Alcoa fits those requirements

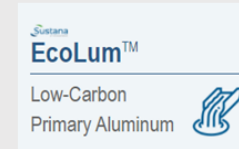
Recognized for environmental and social performance excellence, providing value to our communities

Selling Sustana low carbon, recycled content products

Sustana family of products helps customers lower CO₂



- Less than 0.6 mt CO₂e emissions (scope 1 and 2) from bauxite and alumina



- Less than 4.0 mt CO₂e emissions (scope 1 and 2) from bauxite, alumina, smelting and casting



- Minimum 50% recycled content

Alcoa is ready



The world is decarbonizing, and aluminum is part of the solution

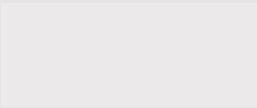
Alcoa has a 135-year history of aluminum technological and operational excellence, reborn five years ago as an upstream aluminum producer

Alcoa's great progress over these five years has strengthened it and readied it to thrive through the cycle



Alcoa is already well positioned to prosper in a decarbonizing world that demands more aluminum, constrains carbon-based energy and rewards aluminum producers already low on the carbon curve

As importantly, Alcoa has technologies under development that could completely change the industry by lowering costs, improving efficiencies, removing carbon from production processes and increasing recyclability



Appendix



Net debt reconciliation

	FY16			FY17			FY18			FY19			FY20			3Q21		
\$M	Cons.	NCI	Alcoa Prop.	Cons.	NCI	Alcoa Prop.	Cons.	NCI	Alcoa Prop.	Cons.	NCI	Alcoa Prop.	Cons.	NCI	Alcoa Prop.	Cons.	NCI	Alcoa Prop.
Short-term borrowings	\$1	\$-	\$1	\$8	\$-	\$8	\$-	\$-	\$-	\$-	\$-	\$-	\$77	\$31	\$46	\$77	\$31	\$46
Long-term debt due within one year	21	-	21	16	-	16	1	-	1	1	-	1	2	-	2	1	-	1
Long-term debt, less amount due within one year	1,424	1	1,423	1,388	7	1,381	1,801	34	1,767	1,799	31	1,768	2,463	-	2,463	1,724	-	1,724
Total debt	1,446	1	1,445	1,412	7	1,405	1,802	34	1,768	1,800	31	1,769	2,542	31	2,511	1,802	31	1,771
Less: Cash and cash equivalents	853	100	753	1,358	252	1,106	1,113	296	817	879	167	712	1,607	176	1,431	1,452	124	1,328
Net debt	593	(99)	692	54	(245)	299	689	(262)	951	921	(136)	1,057	935	(145)	1,080	350	(93)	443
Plus: Net pension liability	1,818	14	1,804	2,280	(1)	2,281	1,354	5	1,349	1,482	18	1,464	1,503	28	1,475	606	6	600
Plus: OPEB liability	1,286	30	1,256	1,218	27	1,191	973	23	950	848	22	826	892 ¹	24	868 ¹	717	24	693
Adjusted net debt	\$3,697	\$(55)	\$3,752	\$3,552	\$(219)	\$3,771	\$3,016	\$(234)	\$3,250	\$3,251	\$(96)	\$3,347	\$3,330	\$(93)	\$3,423	\$1,673	\$(63)	\$1,736

1. Includes OPEB liabilities of approximately \$83 million related to the Warrick rolling mill sale which was a negotiated estimate used at December 31, 2020 and subsequently trued up in 2021. Recorded in Liabilities held for sale.

Net debt is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management assesses Alcoa Corporation's leverage position after considering available cash that could be used to repay outstanding debt.

Adjusted net debt and proportional adjusted net debt are also non-GAAP financial measures. Management believes that these additional measures are meaningful to investors because management also assesses Alcoa Corporation's leverage position after considering available cash that could be used to repay outstanding debt and net pension/OPEB liability, net of the portion of those items attributable to noncontrolling interest (NCI).

