Investor Presentation

May 2022

Alcoa

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 “aims,” “ambition,” “anticipates,” “believes,” “could,” “develop,” “endeavors,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “outlook,” “potential,” “plans,” “projects,” “reach,” “seeks,” “sees,” “should,” “strive,” “targets,” “will,” “working,” “would,” 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 (including our ability to execute on strategies related to environmental, social and governance matters); 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 to the global economy and our industry, business and financial condition caused by various worldwide or macroeconomic events, such as the COVID-19 pandemic and the ongoing conflict between Russia and Ukraine, and related regulatory developments; (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) changes in global economic and financial market conditions generally, such as inflation and interest rate increases, 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 or disruption to energy or raw materials supply, and to the supply chain including logistics; (g) the inability to execute on strategies related to or achieve improvement in profitability and margins, cost savings, cash generation, revenue growth, fiscal discipline, environmental- and social-related goals and targets (including due to delays in scientific and technological developments), or strengthening of competitiveness and operations anticipated from portfolio actions, operational and productivity improvements, technology advancements, and other initiatives; (h) 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; (i) political, economic, trade, legal, public health and safety, and regulatory risks in the countries in which Alcoa Corporation operates or sells products; (j) labor disputes and/or work stoppages and strikes; (k) the outcome of contingencies, including legal and tax proceedings, government or regulatory investigations, and environmental remediation; (l) the impact of cyberattacks and potential information technology or data security breaches; (m) risks associated with long-term debt obligations; (n) the timing and amount of future cash dividends and share repurchases; (o) 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; 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, 2021, the Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, 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.

Any information contained in the following slides that has been previously publicly presented by Alcoa speaks as of the date that it was originally presented, as indicated. Alcoa is not updating or affirming any of such information as of today’s date. The provision of this information shall not imply that the information has not changed since it was originally presented.

Important information

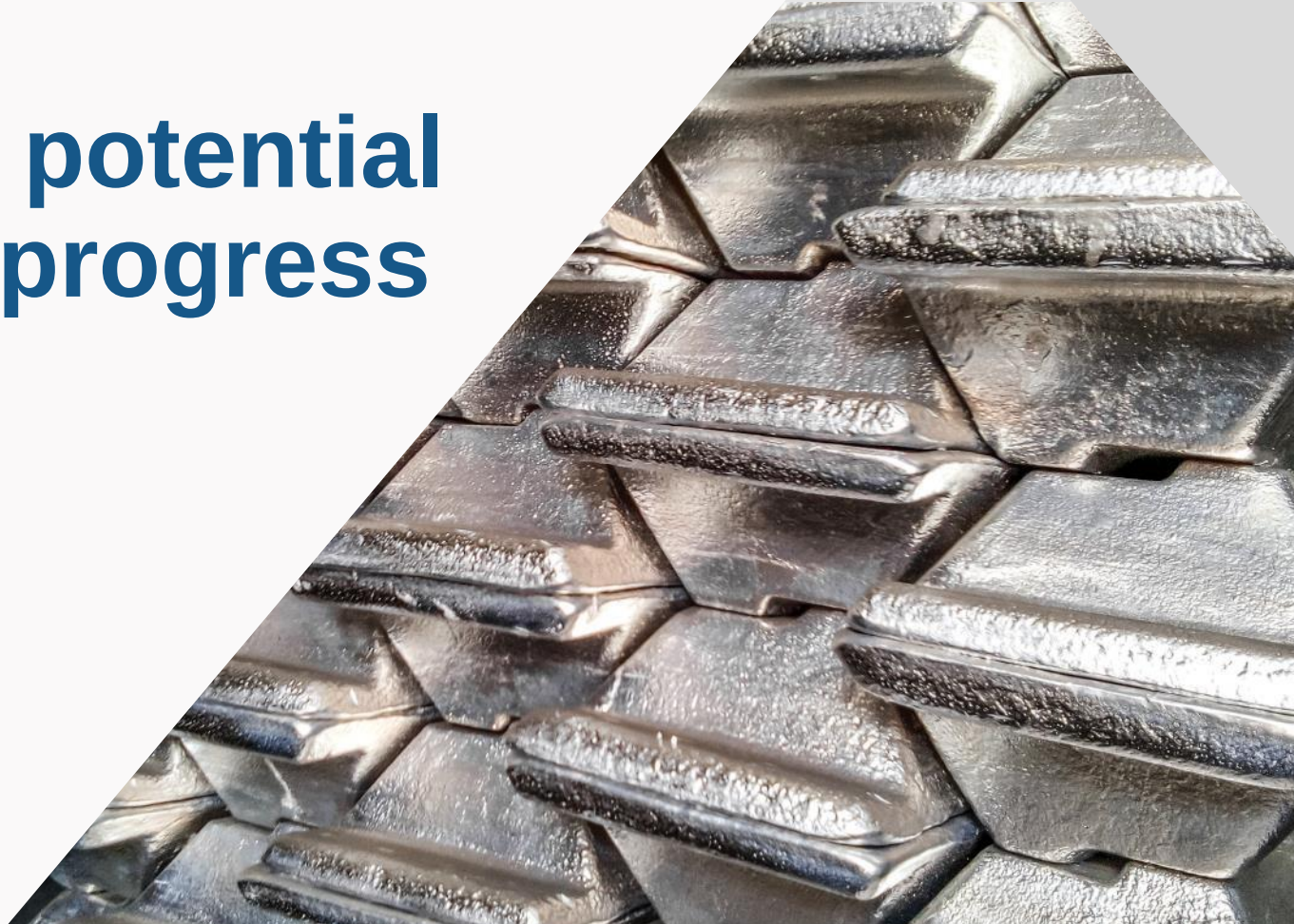
Non-GAAP Financial Measures

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.

Turn raw potential into real progress



Alcoa

An upstream aluminum company built to perform in all cycles

Global operations and summary of business segments

Global operations by product



- 12,200 global employees
- Ownership in 27 sites on six continents in nine countries
- Highly rated for corporate governance

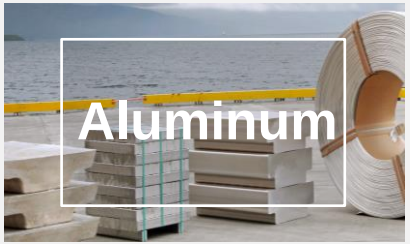
Three business segments



- First quartile of bauxite cost curve
- 48.1Mdmt shipments in 2021
- 93% of shipments to own refineries
- World's second largest bauxite miner, using sustainable methods



- First quartile of alumina cost curve
- 13.9Mmt shipments in 2021
- 71% of shipments to third parties
- Offering EcoSource™ alumina, made with low carbon emitting processes



- Second quartile of cost curve
- 3.0Mmt shipments in 2021
- 81% renewable energy powering smelters, targeting 85%
- Offering Sustana™ brand EcoLum™ and EcoDura™ aluminum products

Executing on strategic priorities has led to transformation

Comparing Alcoa's key business information 2016 – 1Q22

Alcoa of 2016 – 2017

Operations:
- Strong safety culture
- Headquartered in New York, NY
- Six business units and six product segments
- 43 global operating locations

Financial (fiscal year end 2017):
- No capital return programs in place
- Proportional adjusted net debt of $3.8B
- Net pension/OPEB liability of $3.5B
- 3rd party realized aluminum price $2,224/mt
- Adjusted earnings per share of $3.34

ESG related innovations:
- Introduced some Sustana products in late 2016
- Developing inert anode technology
- 35% CO_2e emission intensity reduction by 2030, measured from 2005 baseline
- Zero locations ASI certified

Reduce Complexity →

Drive Returns →

Advance Sustainably →

Alcoa of today

Operations:
- Strong safety culture
- Headquartered in Pittsburgh, PA
- Zero business units and three product segments
- 27 global operating locations

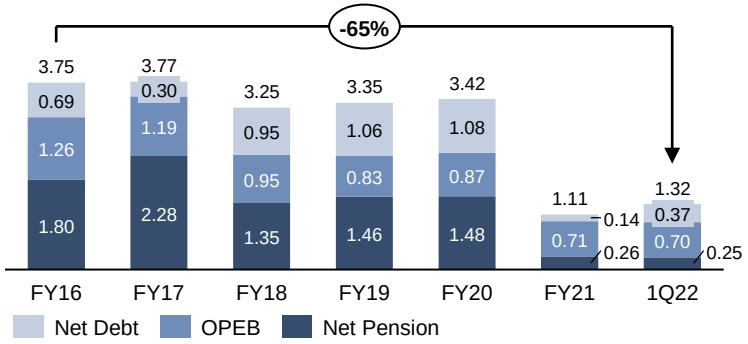
Financial (first quarter 2022):
- Quarterly cash dividend, share buyback program
- Proportional adjusted net debt of $1.3B
- Net pension/OPEB liability $0.9B
- 3rd party realized aluminum price $3,861/mt
- 1Q22 Adjusted earnings per share of $3.06

ESG related innovations:
- Full line of Sustana alumina and aluminum products
- ELYSIS™ – inert anode technology joint venture
- Announced suite of R&D projects and ambition to achieve net zero carbon by 2050
- 15 locations ASI certified; Chain of Custody certification

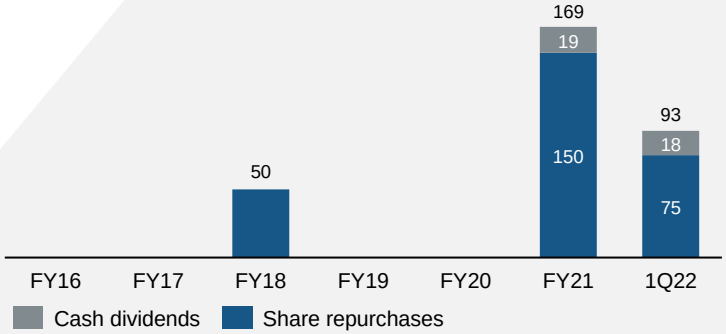
Strengthened balance sheet coincides with capital returns

Balance sheet and capital return metrics, FY16 – 1Q22

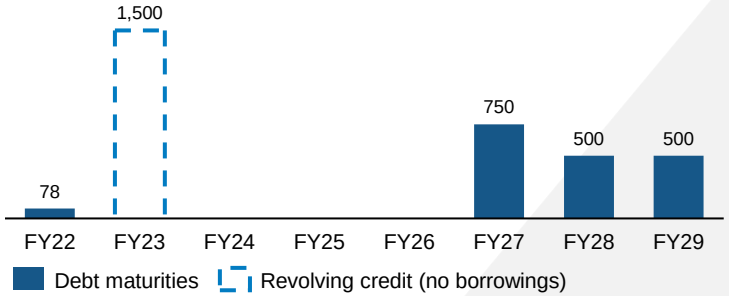
Proportional adjusted net debt, $B



Cash returns to stockholders, $M



Debt maturity profile, $M



- Substantially lower net debt, net pension and OPEB in FY21 and 1Q22 reflects strengthened balance sheet
- No significant debt maturities until 2027
- 84% of all capital returns have been paid in the last two quarters; as of 3/31/22, $425 million remains under existing share buyback program

Reinvent the aluminum industry for a sustainable future



Alcoa

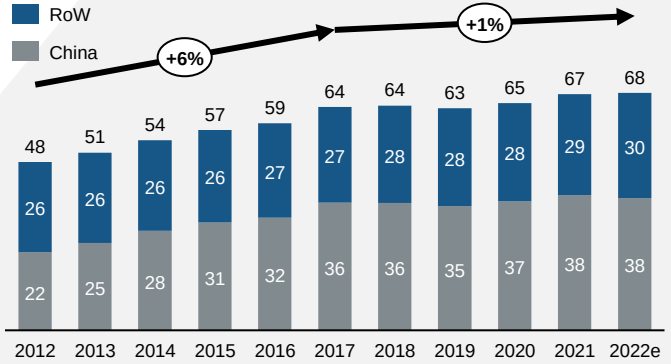
2022 prices higher; supply growth slows and inventories fall

Primary aluminum pricing environment, supply and inventory levels

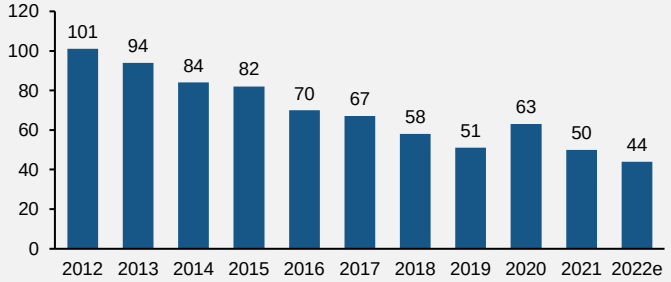
Aluminum prices ($/tonne)



Primary aluminum supply



Global stocks, days of consumption[2], Mmt



1. Represents average LME price only. 2. Estimate of year-end primary inventories, excluding fake semis; source: CRU

Growing demand, lagging supply in short and long run

Aluminum supply and demand market dynamics

Current market conditions

Supply constraints

- Lower inventories, high transportation costs and supply disruptions continue
- European energy dynamics and Russian supply chain uncertainties are risks to production
- China continues to enforce capacity limitations

Growing demand

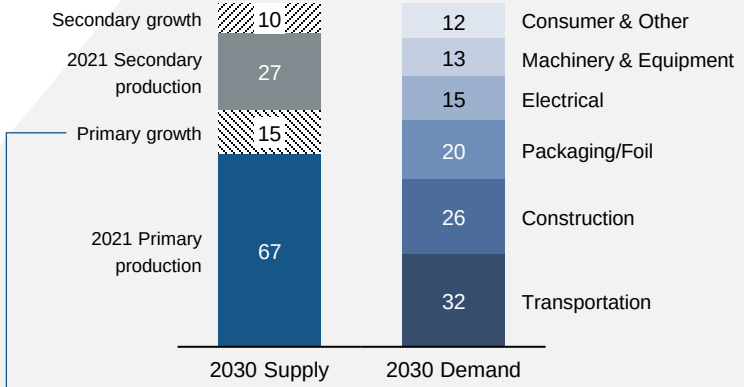
- GDP forecast indicates year over year global aluminum demand growth of two percent
- Aluminum products serve wide variety of end markets
- EV and renewables outlook brightening further

Alcoa well positioned

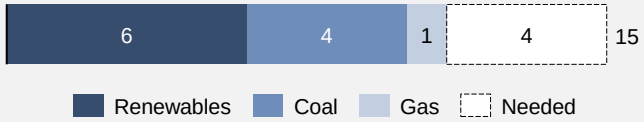
- Value add products are contracted on an annual basis
- Advantaged as domestic supplier in Europe and Americas given logistics challenges of imports
- Limited exposure to rising energy costs

Long term market outlook, 2022 – 2030

Global aluminum semis supply/demand, Mmt



Potential primary smelter projects by energy source, Mmt



Project pipeline could be insufficient to meet demand by 2030

Sources: CRU, Nordpool, OMIE

Offering the industry's broadest suite of green products

Summary of Sustana products and position on carbon emissions curves

Alcoa Sustana product line

Sustana EcoSource™
Smelter-Grade Alumina

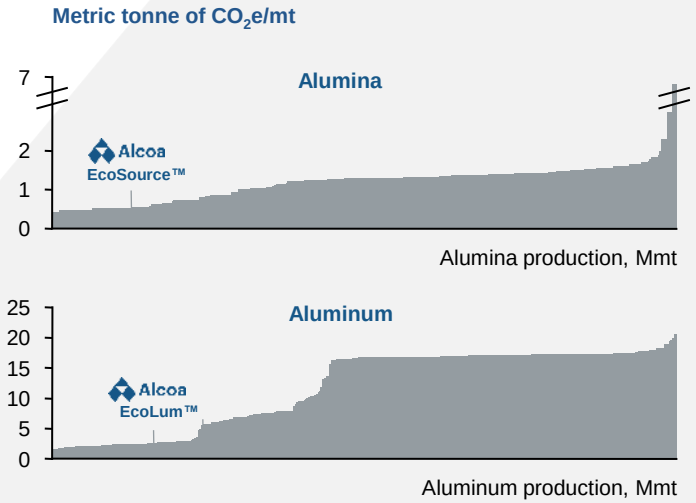
- Less than 0.6mt CO_2e emissions (scope 1 and 2) from bauxite and alumina
- Lowest CO_2e intensity product and refinery portfolio in the industry
- Available from all Alcoa smelter grade alumina refineries

Sustana EcoLum™
Low-Carbon Primary Aluminum

- Less than 4.0mt CO_2e emissions (scope 1 and 2) from bauxite, alumina, smelting and casting
- Available globally in all cast shapes

Sustana EcoDura™
Aluminum with Recycled Content

- Minimum 50% recycled content
- Available globally



ASI certifications available for all products and 15 sites

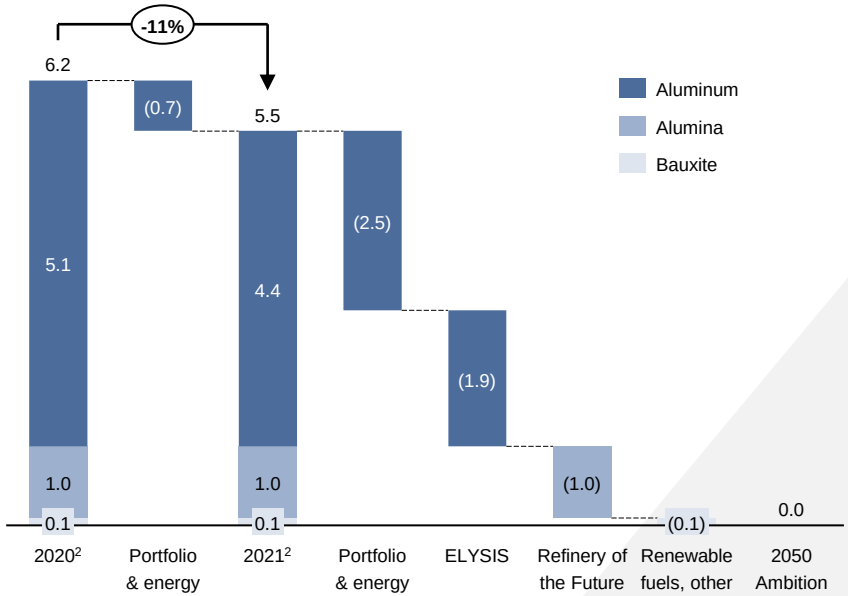
Learn more at www.Alcoa.com/sustana

Sources: IAI, CRU, Alcoa analysis

Expected pathways to support net zero ambition

Potential impact of select R&D programs and strategic actions on Alcoa's carbon emissions

Estimated Alcoa scope 1+2 emissions reductions by segment, CO_2e/tonne[1]



- **Portfolio review and energy transformation** – deploy renewable energy solutions and fix, curtail, close or sell remaining assets under review
- **ELYSIS** – inert anode solution to eliminate carbon emissions from aluminum smelting process
- **Refinery of the Future –** alumina production using technology that limits energy emissions and freshwater usage, minimizes bauxite residue, and uses renewable energy
- **Renewable fuels –** transition from fossil fuels to electric vehicles for transport and major equipment

1. Reductions in CO_2e/tonne depend on various factors, including access to cost effective renewable energy, successful deployment of R&D projects with acceptable returns, and ability to complete portfolio review. See also the risk factors discussed in Part I Item 1A of Alcoa Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2021.
2. Source: 2020 and 2021 Alcoa Sustainability Reports

The right company

The right industry

The right time



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

Alcoa's great progress over these five years leaves it well positioned to prosper in a 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

With our progress to date and our aspirations for the future we believe that Alcoa is the right company, in the right industry, at the right time

1Q22 Financial and other information as presented on April 20, 2022

Alcoa

Adjusted EBITDA excluding special items of $1.07 billion

Alcoa values, strategic priorities, and key takeaways for 1Q22



OUR VALUES

Act with Integrity

Operate with Excellence

Care for People

Lead with Courage

1Q22 Takeaways

- Continued focus on safety initiatives and eliminating serious injuries
- Solid performance despite volatile markets and logistics challenges
  - Net income attributable to Alcoa of $469 million
  - Adjusted net income of $577 million
  - Adjusted EBITDA excluding special items of $1.07 billion
  - Paid quarterly cash dividend and repurchased 1.0 million shares
  - Proportional adjusted net debt at $1.31 billion, cash balance of $1.55 billion
- Continued work on strategic actions
  - Fully curtailed San Ciprián smelter potrooms, casthouse operation continuing
  - Alumar and Portland smelter restart processes ongoing
  - Agreed to sell interest in MRN in Brazil
  - Restructuring charge of $77 million for Avilés and La Coruña settlement offer
- Strong aluminum fundamentals supported highest quarterly average LME aluminum price since 1988

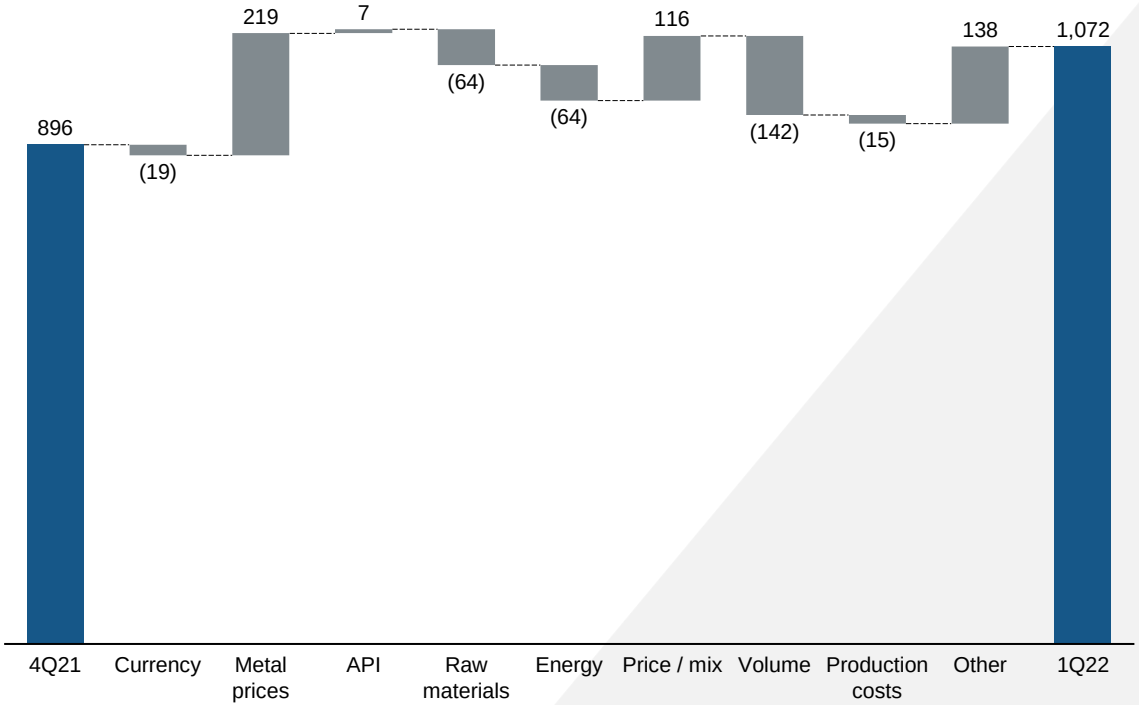
Adj. EBITDA excl. special items tops $1 billion for first time

Quarterly income statement highlights

M, Except per share amounts	1Q21	4Q21	**1Q22**	Prior year change	Sequential change
Income statement highlights					
Revenue	$2,870	$3,340	**$3,293**	$423	$(47)
Net income (loss) attributable to Alcoa Corporation	$175	$(392)	**$469**	$294	$861
Diluted earnings (loss) per share	$0.93	$(2.11)	**$2.49**	$1.56	$4.60
Adjusted income statement highlights					
Adjusted EBITDA excluding special items	$521	$896	**$1,072**	$551	$176
Adjusted net income attributable to Alcoa Corporation	$150	$475	**$577**	$427	$102
Adjusted diluted earnings per share	$0.79	$2.50	**$3.06**	$2.27	$0.56

Favorable metal prices drive higher Adjusted EBITDA

Adjusted EBITDA excluding special items sequential changes, $M

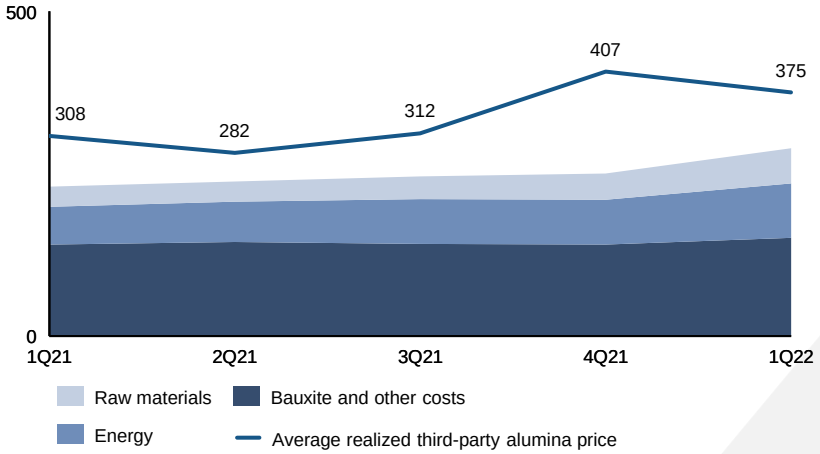


	4Q21	1Q22	Change
Bauxite	$49	$38	$(11)
Alumina	503	262	(241)
Aluminum	523	713	190
Segment total	1,075	1,013	(62)
Transformation	(10)	(14)	(4)
Intersegment eliminations	(121)	102	223
Other corporate	(48)	(29)	19
Total	$896	$1,072	$176

Margins remain strong

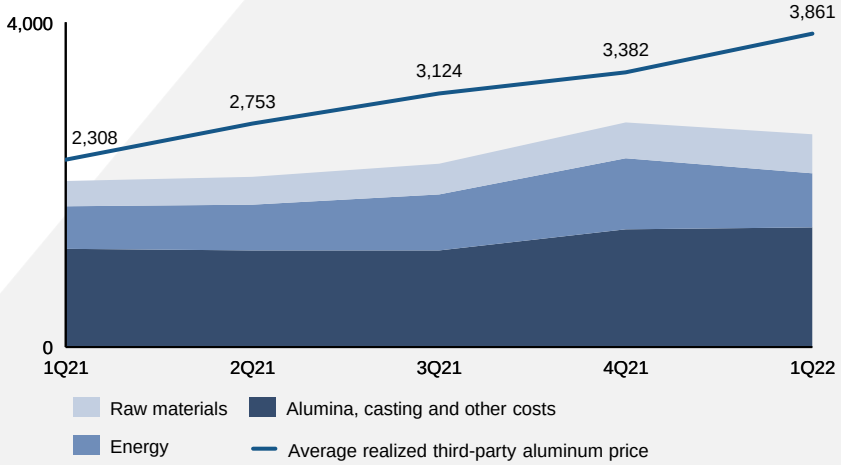
Alcoa Alumina and Aluminum segment cash costs and realized prices 1Q21 – 1Q22

Alumina



- Integrated mines co-located with refineries control bauxite and logistics costs
- Long term energy contracts have limited spot exposure (less than 10%), primarily Spain
- Caustic bought globally; Alcoa portfolio is most efficient caustic user per tonne of alumina produced

Aluminum



- Long term energy contracts have limited spot exposure; ~60% linked to aluminum prices
- Carbon products (coke and pitch) bought globally and usage rates consistent with most other smelters
- Alumina transferred at market, but higher alumina prices are net positive for Alcoa

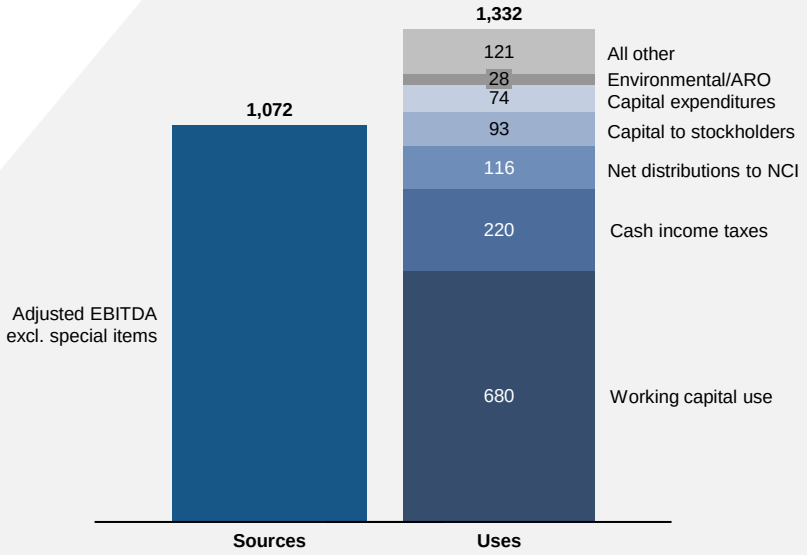
Return on equity 50.4%, 1Q22 cash balance of $1.55 billion

Key metrics and March 31, 2022 YTD cash flow information

Key financial metrics

1Q22 Days working capital (DWC)	1Q22 YTD Return on equity
49 Days	**50.4%**
2022 YTD Capital expenditures	**1Q22 Proportional adjusted net debt**
$74M	**$1.31B**
1Q22 YTD Free cash flow less net NCI distributions	**1Q22 Cash balance**
$(156)M	**$1.55B[1]**

YTD Cash flow information, $M

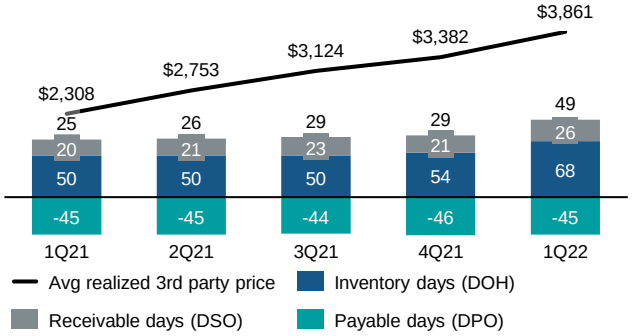


1. Excludes $111 million in restricted cash

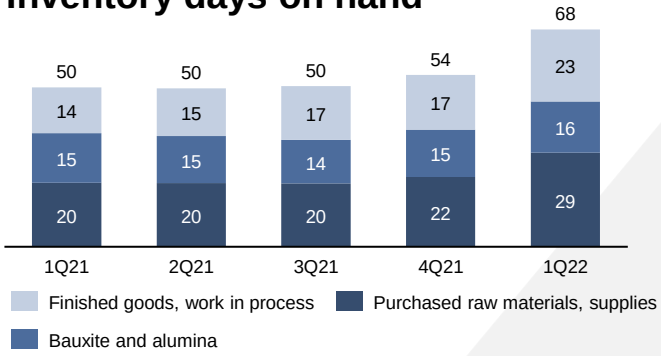
Working capital increased with prices, logistics challenges

Days working capital (DWC) levels, days of inventories, and key drivers

Days working capital and aluminum pricing



Inventory days on hand



Key drivers of sequential DWC change

- Inventory (14 days):
  - Price impacts (9 days): Higher raw materials inventory (7 days) and higher finished goods inventory (2 days)
  - Portfolio (2 days): Metal purchases to serve annual contracts related to Alumar smelter restart
  - Logistics (2 days): Higher finished goods inventory due to logistics constraints in North America (1 day) and shipment delays in Australia and Alumar refineries (1 day)
- Receivables (5 days):
  - Metal prices continue to drive valuation increase in receivables

2022 Outlook

FY22 Key metrics as of March 31, 2022

Income statement excl. special items impacts

	1Q22 YTD Actual	FY22 Outlook
Bauxite shipments (Mdmt)	10.9	46.0 – 47.0
Alumina shipments (Mmt)	3.2	14.2 – 14.4
Aluminum shipments (Mmt)	0.6	2.5 – 2.6
Transformation (adj. EBITDA impacts)	$(14)M	~ $(75)M
Intersegment elims. (adj. EBITDA impacts)	$102M	Varies
Other corporate (adj. EBITDA impacts)	$(29)M	~ $(140)M
Depreciation, depletion and amortization	$160M	~ $645M
Non-operating pension/OPEB expense	$16M	~ $65M
Interest expense	$25M	~ $105M
Operational tax expense[1]	$216M	Varies
Net income of noncontrolling interest	$93M	40% of AWAC NI

Cash flow impacts

	1Q22 YTD Actual	FY22 Outlook
Pension / OPEB required cash funding	$18M	~ $75M
Additional pension funding	-	Will vary based on market conditions and cash availability
Early debt repayment	-	
Stock repurchases and dividends	$93M	
Return-seeking capital expenditures[2]	$8M	~ $75M
Sustaining capital expenditures[2]	$66M	~ $450M
Payment of prior year income taxes[3]	$162M	~ $325M
Current period cash taxes[1]	$58M	Varies
Environmental and ARO payments[4]	$28M	~ $160M
Impact of restructuring and other charges	$5M	TBD

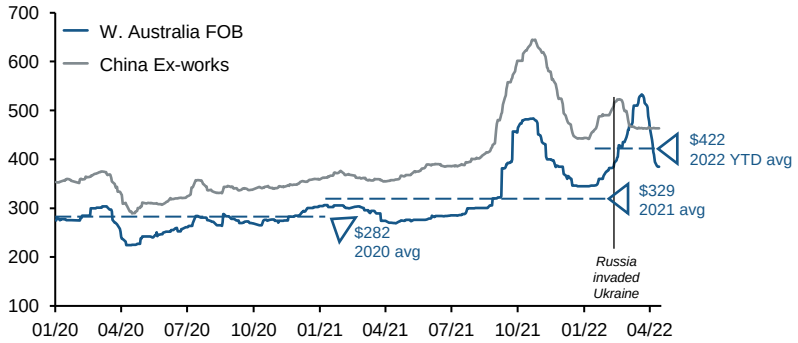
Additional market sensitivities and business information are included in the appendix.

1. Estimate will vary with market conditions and jurisdictional profitability.
2. AWAC portion of FY22 outlook: ~55% of return-seeking capital expenditures and ~65% of sustaining capital expenditures.
3. Net of pending tax refunds.
4. As of March 31, 2022, the environmental remediation reserve balance was $310M and the ARO liability was $751M.

Volatile market conditions push 1Q22 market pricing higher

Aluminum and alumina price environment and market commentary

Alumina prices ($/tonne)



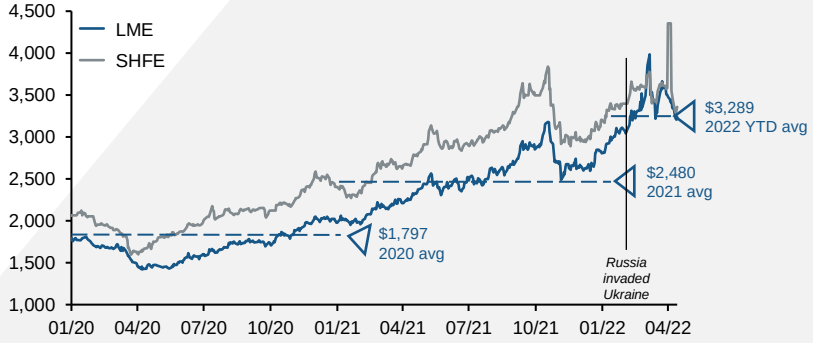
Market dynamics

- China refineries resumed production after winter Olympics curtailment
- Nikolayev (Ukraine) refinery disruption made the ex-China market tight in early March
- Australian export ban to Russia disrupts market in mid-March
- Seeing opportunistic exports out of China to Russia

Commercial

- Dynamic alumina pricing in disrupted markets
- Alcoa's lower relative caustic usage and integrated bauxite supply chain remain a competitive advantage

Aluminum prices ($/tonne)



Market dynamics

- Demand growth still positive but lower due to automotive outlook, Russia/Eastern Europe impacts; risk with inflationary impacts
- European energy situation and uncertainties surrounding Russian supply chain are risks to production
- China continues to enforce capacity limitations
- Price support due to supply disruptions, lower inventories and high transportation costs

Commercial

- Favorable quarterly 1Q22 and spot value add product (VAP) premiums
- Well-positioned as domestic supplier in Europe and Americas versus import competition given logistics challenges

Source: LME, SHFE, Platts. SHFE and China Ex-Works prices include value-added tax (VAT). Prices updated through April 14, 2022

Navigating today's unstable world; positioned for the future

Challenges of volatile markets and why Alcoa is prepared

Meeting current challenges

- Raw materials and energy inflation
  - Raw materials purchased globally; costs manageable with opportunities to arbitrage markets
  - Alcoa refineries use less caustic per tonne of alumina produced
  - Energy contracts reduce exposure to spot pricing at smelters, refineries
- Logistics and pandemic disruptions
  - Located close to customer markets; have modal flexibility for shipments
  - Well established procedures guiding ongoing operations
- No longer trading with Russian businesses
  - Limited initial exposure to Russian customers or suppliers

Prepared for the future

- Organization is lean and cost-focused; first quartile cost positions in bauxite and alumina, second quartile in aluminum
- Lowest carbon intensity refining system and one of lowest carbon intensity smelting systems
- Actions improve already strong portfolio: San Ciprián potrooms curtailed while casthouse operates, Alumar and Portland restarts underway, MRN bauxite mine interest sale agreement
- Financial strength from low debt load and well-funded pension obligations; strong liquidity with ample cash position and no major near term debt maturities
- Continued investment in technologies for future success, including ELYSIS™ zero carbon smelting, Refinery of the Future, and ASTRAEA™ high purity recycling system

Delivering today and excited for tomorrow

1Q22 Summary

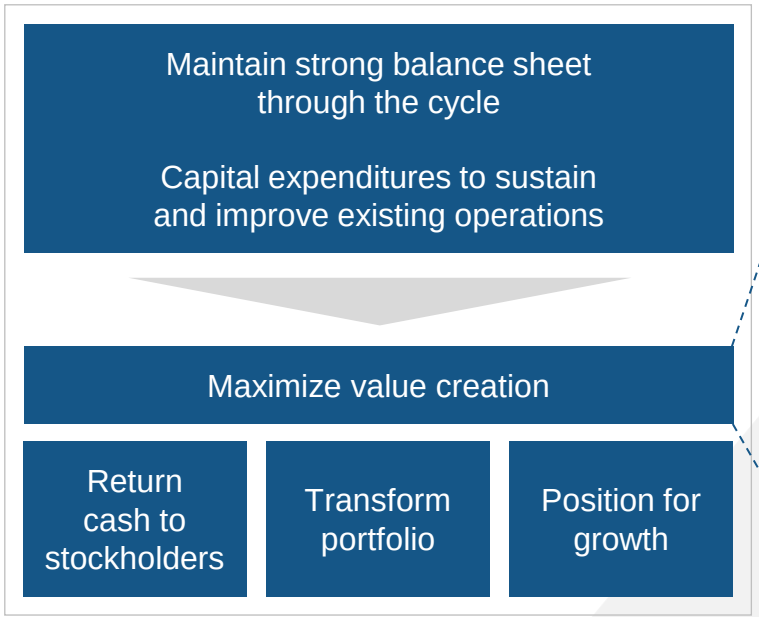


- **Delivered outstanding results amid volatile markets**
  Adjusted EBITDA of $1.07B and return on equity of 50% during continued stable operations; unrestricted cash of $1.55B
- **Progressed strategic actions**
  Strengthened the portfolio with restart activities at Alumar and Portland, San Ciprián 2-year curtailment, MRN mine sale
- **Provided capital returns**
  Repurchased 1.0 million shares of common stock, paid second quarterly cash dividend of $0.10 per share
- **Positioned to succeed in a sustainable world**
  Continued to sell sustainable products and invest in technologies leveraging industry-leading environmental and social standards

Maximizing value creation through balanced uses of cash

Capital allocation framework considerations

Capital allocation framework



Maximize value creation

Return cash to stockholders:

- Paid quarterly cash dividend of $0.10/share in 4Q21 and 1Q22
- Repurchased 3.2 million shares in 4Q21, 1.0 million shares in 1Q22

Transform portfolio:

- Restarting Alumar smelter production based on renewable energy
- Curtailed San Ciprián smelter, seeking energy solution for 2024 restart
- Restarting portion of Portland smelter, exploring renewable energy options

Position for value creating growth; key timeframe 2024 - 2025

- Implement breakthrough technologies, when proven, with potential to transform the industry
- Fund projects that are expected to provide returns to stockholders greater than cost of capital

Quarterly income statement

Quarterly income statement

M, Except realized prices and per share amounts	1Q21	4Q21	**1Q22**	Prior Year Change	Sequential Change
Realized primary aluminum price ($/mt)	$2,308	$3,382	**$3,861**	$1,553	$479
Realized alumina price ($/mt)	$308	$407	**$375**	$67	$(32)
Revenue	$2,870	$3,340	**$3,293**	$423	$(47)
Cost of goods sold	2,292	2,383	**2,181**	(111)	(202)
SG&A and R&D expenses	59	78	**53**	(6)	(25)
Adjusted EBITDA	519	879	**1,059**	540	180
Depreciation, depletion and amortization	182	165	**160**	(22)	(5)
Other income, net	(24)	(298)	**(14)**	10	284
Interest expense	42	28	**25**	(17)	(3)
Restructuring and other charges, net	7	1,055	**125**	118	(930)
Provision for income taxes	93	298	**210**	117	(88)
Net income (loss)	219	(369)	**553**	334	922
Less: Net income attributable to noncontrolling interest	44	23	**84**	40	61
Net income (loss) attributable to Alcoa Corporation	$175	$(392)	**$469**	$294	$861
Diluted earnings (loss) per share	$0.93	$(2.11)	**$2.49**	$1.56	$4.60
Diluted average shares[1]	188.8	185.7	**188.5**	(0.3)	2.8

1. For 4Q21, share equivalents related to employee stock-based compensation were excluded from Diluted average shares as the impact was anti-dilutive given a net loss attributable to Alcoa Corporation.

Special items

Breakdown of special items by income statement classification – gross basis

M, Except per share amounts	1Q21	4Q21	**1Q22**	**Description of significant 1Q22 special items**
Net income (loss) attributable to Alcoa Corporation	$175	$(392)	**$469**	
Diluted earnings (loss) per share	$0.93	$(2.11)	**$2.49**	
Special items	$(25)	$867	**$108**	
Cost of goods sold	*1*	*16*	***12***	Alumar and Portland smelter restart costs
SG&A and R&D expenses	*1*	*1*	***1***	
Restructuring and other charges, net	*7*	*1,055*	***125***	Avilés and La Coruña settlement offer, MRN investment impairment
Other income, net	*(32)*	*(249)*	***(15)***	Mark to market energy contracts
Provision for income taxes	*(2)*	*107*	***(6)***	Tax on special items
Noncontrolling interest	*-*	*(63)*	***(9)***	Partner's share of special items
Adjusted net income attributable to Alcoa Corporation	$150	$475	**$577**	
Adjusted diluted earnings per share	$0.79	$2.50	**$3.06**	

Quarterly income statement excluding special items

Quarterly income statement excluding special items

M, Except realized prices and per share amounts	1Q21	4Q21	**1Q22**	Prior Year Change	Sequential Change
Realized primary aluminum price ($/mt)	$2,308	$3,382	**$3,861**	$1,553	$479
Realized alumina price ($/mt)	$308	$407	**$375**	$67	$(32)
Revenue	$2,870	$3,340	**$3,293**	$423	$(47)
Cost of goods sold	2,291	2,367	**2,169**	(122)	(198)
COGS % of Revenue	79.8%	70.9%	**65.9%**	(13.9)% pts.	(5.0)% pts.
SG&A and R&D expenses	58	77	**52**	(6)	(25)
SG&A and R&D % of Revenue	2.0%	2.3%	**1.6%**	(0.4)% pts.	(0.7)% pts.
Adjusted EBITDA	521	896	**1,072**	551	176
Depreciation, depletion and amortization	182	165	**160**	(22)	(5)
Other expenses (income), net	8	(49)	**1**	(7)	50
Interest expense	42	28	**25**	(17)	(3)
Provision for income taxes	95	191	**216**	121	25
Operational tax rate	32.8%	25.5%	**24.4%**	(8.4)% pts.	(1.1)% pts.
Adjusted net income	194	561	**670**	476	109
Less: Adjusted net income attributable to noncontrolling interest	44	86	**93**	49	7
Adjusted net income attributable to Alcoa Corporation	$150	$475	**$577**	$427	$102
Adjusted diluted earnings per share	$0.79	$2.50	**$3.06**	$2.27	$0.56
Diluted average shares	188.8	189.9	**188.5**	(0.3)	(1.4)

1Q22 Financial summary

Three months ending March 31, 2022, excluding special items

$M	Bauxite	Alumina	Aluminum[3]	Transformation	Intersegment eliminations	Other corporate	Alcoa Corporation
Total revenue	$213	$1,273	$2,395	$7	$(595)	-	$3,293
Third-party revenue	$43	$855	$2,388	$3	-	$4	$3,293
Adjusted EBITDA[1]	$38	$262	$713	$(14)	$102	$(29)	$1,072
Adjusted EBITDA margin %	*17.8%*	*20.6%*	*29.8%*				*32.6%*
Depreciation, depletion and amortization	$35	$50	$69	-	-	$6	$160
Other (income) expenses, net[2]	-	$(1)	$(39)	-	-	$41	$1
Interest expense							$25
Provision for income taxes							$216
Adjusted net income							$670
Net income attributable to noncontrolling interest							$93
Adjusted net income attributable to Alcoa Corporation							$577

1. Includes the Company's proportionate share of earnings from equity investments in certain bauxite mines, hydroelectric generation facilities, and an aluminum smelter located in Brazil, Canada, and/or Guinea.
2. Amounts for Alumina and Aluminum represent the Company's proportionate share of earnings from its equity investment in the Saudi Arabian joint venture.
3. Third-party energy sales volume, revenue and adjusted EBITDA in Brazil were 918GWh, $21M and $4M, respectively.

1Q22 Adjusted EBITDA drivers by segment

Adjusted EBITDA excluding special items sequential changes by segment, $M

Segment	Adjusted EBITDA 4Q21	Currency	Metal prices	API	Raw materials	Energy	Price/mix	Volume	Production costs	Other	Adjusted EBITDA 1Q22
Bauxite	$49	(2)	0	0	0	(1)	2	(17)	(1)	8	$38
Alumina	$503	(15)	0	(129)	(42)	(39)	61	(77)	(9)	9	$262
Aluminum	$523	(2)	224	(27)	(22)	(24)	53	(48)	(5)	41	$713
Segment Total	**$1,075**	**(19)**	**224**	**(156)**	**(64)**	**(64)**	**116**	**(142)**	**(15)**	**58**	**$1,013**

Aluminum value chain

1Q22 Alcoa product shipments by segment



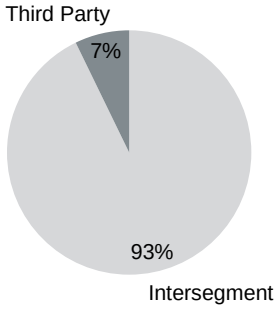
10.9 Mdmt shipments

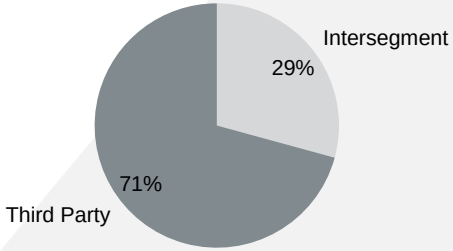


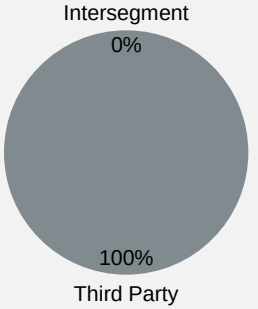
3.2 Mmt shipments



0.6 Mmt shipments



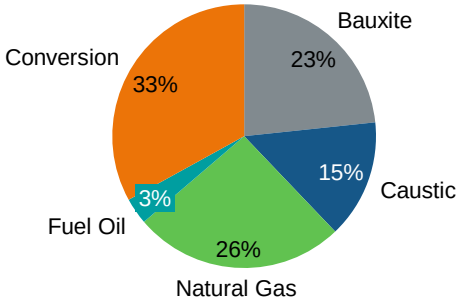




Composition of alumina and aluminum production costs

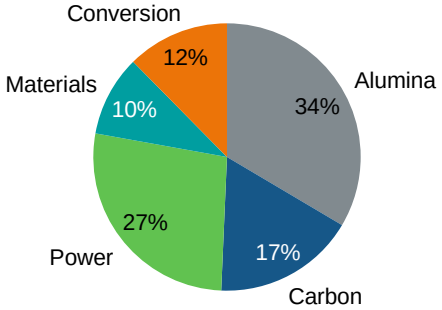
Alcoa 1Q22 production cash costs

Alumina refining



Input Cost	Inventory Flow	Pricing Convention	FY22 Annual Cost Sensitivity
Caustic Soda	5 - 6 Months	Quarterly, Spot	$10M per $10/dmt
Natural Gas	1 Month	Quarterly, 85% with CPI adjustment	$11M per $0.10/GJ
Fuel Oil	1 - 2 Months	Prior Month	$2M per $1/barrel

Aluminum smelting



Input Cost	Inventory Flow	Pricing Convention	FY22 Annual Cost Sensitivity
Alumina	~2 Months	API on a 6 to 8 month average	$44M per $10/mt
Petroleum Coke	1 - 2 Months	Quarterly	$8M per $10/mt
Coal Tar Pitch	1 - 2 Months	Quarterly	$2M per $10/mt

2022 Business information

Estimated annual Adjusted EBITDA sensitivities

$M Segment	LME + $100/mt	API + $10/mt	Midwest + $100/mt	Europe + $100/mt	Japan + $100/mt	AUD + 0.01 0.72[1]	BRL + 0.10 5.25[1]	CAD + 0.01 1.27[1]	EUR + 0.01 1.12[1]	ISK + 10 128.18[1]	NOK + 0.10 8.85[1]
Bauxite						(4)	2				
Alumina		123				(16)	5		(1)		
Aluminum	189	(42)	124	69	17	(3)	(1)	4	1	10	3
Total	189	81	124	69	17	(23)	6	4	0	10	3

Pricing conventions

Segment	Third party revenue
Bauxite	▪ Negotiated prices
Alumina	▪ ~95% of third-party smelter grade alumina priced on API/spot ▪ API based on prior month average of spot prices
Aluminum	▪ LME + regional premium + product premium ▪ Primary aluminum 15-day lag ▪ Brazilian hydroelectric sales at market prices

Regional premium breakdown

Regional premiums	% of 2022 Primary aluminum shipments
Midwest	~50%
Rotterdam Duty Paid	~40%
CIF Japan	~10%

1. Average 1Q22 exchange rates

Currency impacts on Adjusted EBITDA

Currency balance sheet revaluation and EBITDA sensitivities ($M, except currencies)

Balance sheet revaluation impact

	AUD	BRL	CAD	EUR	ISK	NOK	Total
1Q21 revaluation	4.5	4.6	(0.3)	0.3	(0.8)	(2.0)	6.2
6/30/21 currencies	0.75	4.95	1.24	1.19	123.79	8.58	
2Q21 revaluation	3.0	(8.4)	0.5	(0.8)	0.0	0.3	(5.4)
2Q21 sequential impact	(1.5)	(13.0)	0.8	(1.1)	0.8	2.3	(11.7)
9/30/21 currencies	0.72	5.42	1.27	1.17	129.24	8.70	
3Q21 revaluation	6.2	3.7	0.3	0.4	0.0	(1.3)	9.3
3Q21 sequential impact	3.2	12.1	(0.2)	1.2	0.0	(1.6)	14.7
12/31/21 currencies	0.73	5.63	1.26	1.14	129.79	8.76	
4Q21 revaluation	(0.9)	1.1	0.5	(1.8)	(1.2)	(1.7)	(4.0)
4Q21 sequential impact	(7.1)	(2.6)	0.2	(2.2)	(1.2)	(0.4)	(13.3)
3/31/22 currencies	0.75	4.75	1.25	1.11	127.86	8.67	
1Q22 revaluation	(1.1)	(11.0)	(2.6)	(3.3)	(0.9)	(2.5)	(21.4)
1Q22 revaluation sequential impact	**(0.2)**	**(12.1)**	**(3.1)**	**(1.5)**	**0.3**	**(0.7)**	**(17.4)**

Currency annual sensitivity and actual impact

	+0.01 AUD	+0.10 BRL	+0.01 CAD	+0.01 EUR	+ 10 ISK	+0.10 NOK	Total
2022 EBITDA sensitivity	**(23)**	**6**	**4**	**0**	**10**	**3**	
1Q21 currency avg.	0.77	5.46	1.27	1.21	128.02	8.51	
2Q21 currency avg.	0.77	5.31	1.23	1.20	123.74	8.38	
2Q21 currency impact	1.3	(2.1)	(3.4)	0.3	(1.2)	(0.9)	(6.0)
3Q21 currency avg.	0.73	5.22	1.26	1.18	126.04	8.75	
3Q21 currency impact	21.1	(1.0)	1.6	2.3	0.4	1.5	25.9
4Q21 currency avg.	0.73	5.58	1.26	1.14	129.94	8.73	
4Q21 currency impact	3.1	3.9	0.0	2.9	0.3	(0.5)	9.7
1Q22 currency avg.	0.72	5.25	1.27	1.12	128.18	8.85	
1Q22 currency impact	**1.9**	**(5.0)**	**0.6**	**0.1**	**(0.4)**	**0.8**	**(2.0)**
Total 1Q22 EBITDA currency impact[1]	**1.7**	**(17.1)**	**(2.5)**	**(1.4)**	**(0.2)**	**0.1**	**(19.4)**

Totals may not tie due to rounding

1. Total EBITDA currency impact includes balance sheet revaluation based on change in quarter end currency rates and income statement currency impacts based on change in quarterly average currency rates

Additional business considerations

Items expected to impact Adjusted EBITDA for 2Q22

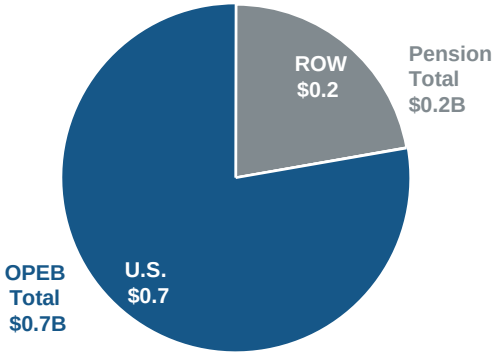
For the second quarter, based on today's prices, we expect both alumina and aluminum realized third party prices to be higher than the first quarter, with that benefit partly offset by ~$115 million of higher energy and raw materials costs. Higher shipments, sequentially, are expected to more than offset remaining costs pressures and other factors.

- Viewed by segment, excluding indexed sales prices or currency impacts:
  - In Bauxite, we expect adjusted EBITDA to be approximately $10 million, as one time benefits in the first quarter do not recur and we slow production rates in Juruti in response to ceasing supply to Russian businesses.
  - In Alumina, we expect approximately $85 million in higher energy and raw materials costs, with two thirds being related to San Ciprián refinery energy costs; we also expect higher shipments to fully offset higher maintenance and other costs.
  - In the Aluminum segment, we expect alumina costs to increase approximately $35 million, and expect improved shipment volumes to provide a $50 million benefit, more than offsetting $30 million of higher raw materials and energy impacts, as well as higher maintenance costs of $10 million.
- Estimate intersegment profit elimination for every $10/mt decrease in API prices to be a $7 million to $9 million favorable impact based on comparison of the average API of the last two months of each quarter (API is based on average of prior month spot prices); consider intersegment eliminations as component of minority interest calculation.
- Computed using quarter end exchange rates, 1Q22 Adjusted EBITDA included an unfavorable balance sheet revaluation impact of $21 million ($17 million unfavorable sequentially compared to 4Q21); impacts related to balance sheet revaluation are not incorporated into the currency sensitivities provided for Adjusted EBITDA.
- In addition, the Company expects 2Q22 operational tax expense to approximate $220 million to $230 million based on recent pricing.

Pension and OPEB summary

Net pension and OPEB liability and financial impacts

Net liability as of March 31, 2022[1]



Estimated GAAP pension funding status as of March 31, 2022

- U.S. greater than 100%
- Worldwide greater than 95%

U.S. pension contributions currently not tax deductible

Estimated financial impacts, $M

Expense impact	**2022**
Segment pension	$15
Segment OPEB	5
Corporate pension & OPEB	-
Total adj. EBITDA impact	**20**
Non-operating	65
Special items (curtailment/settlement)	-
Total expense impact	**$85**

Cash flow impact	**2022**
Minimum required pension funding[2]	$15
OPEB payments	60
Total cash impact	**$75**

1. The impact on the combined pension and OPEB liability of a 25 basis point change in the weighted average discount rate is approximately $150 million. In 4Q21, the asset allocation for the U.S. pension plans transitioned to a 90% hedge of U.S. Treasury interest rate risk for the U.S. gross pension liability, limiting the net exposure to changes in pension discount rates.
2. U.S. minimum required pension cash funding for 2022 is $0 as it is Alcoa's intention to use prefunding balance.

Investments summary

Investments listing and income statement location

Investee	Country	Nature of Investment[4]	Ownership Interest	Carrying Value as of March 31, 2022	Income Statement Location of Equity Earnings
ELYSIS™ Limited Partnership	Canada	Aluminum smelting technology	48.235%		
Ma'aden Aluminium Company[1]	Saudi Arabia	Aluminum smelter	25.1%		
Ma'aden Bauxite and Alumina Company[1]	Saudi Arabia	Bauxite mine and Alumina refinery	25.1%[5]		
Subtotal Ma'aden and ELYSIS™				***$738M***	***Other expenses, net***
Consorcio Serra do Facão	Brazil	Hydroelectric generation facility	34.97%		
Energetica Barra Grande S.A.	Brazil	Hydroelectric generation facility	42.18%		
Halco Mining, Inc.[2]	Guinea	Bauxite mine	45.0%[5]		
Manicouagan Power Limited Partnership	Canada	Hydroelectric generation facility	40.0%		
Mineração Rio do Norte S.A. (MRN)	Brazil	Bauxite mine	18.2%[5,6]		
Pechiney Reynolds Quebec, Inc.[3]	Canada	Aluminum smelter	50.0%		
Subtotal other				***$486M***	***COGS***
Total investments				**$1,224M**	

1. Alcoa Corporation has an investment in a joint venture related to the ownership and operation of an integrated aluminum complex (bauxite mine, alumina refinery, and aluminum smelter) in Saudi Arabia. The joint venture is owned 74.9% by the Saudi Arabian Mining Company (known as "Ma'aden") and 25.1% by Alcoa Corporation.
2. Halco Mining, Inc. owns 100% of Boké Investment Company, which owns 51% of Compagnie des Bauxites de Guinée (CBG).
3. Pechiney Reynolds Quebec, Inc. owns a 50.1% interest in the Bécancour smelter in Quebec, Canada thereby entitling Alcoa Corporation to a 25.05% interest in the smelter. Through two wholly-owned Canadian subsidiaries, Alcoa Corporation also owns 49.9% of the Bécancour smelter.
4. Each of the investees either owns the facility listed or has an ownership interest in an entity that owns the facility listed.
5. A portion or all of each of these ownership interests are held by majority-owned subsidiaries that are part of AWAC.
6. Alcoa Corporation announced the sale of its investment in MRN which is expected to close in the second quarter of 2022.

Alcoa sustainability goals

Alcoa strategic long-term sustainability goals, baseline and progress

Goal	Description	2015 Baseline	2020 Progress
Safety	Zero fatalities and serious injuries (life-threatening, life-altering injury or illness)	5 fatal or serious injuries/illnesses	1 fatal or serious injury/illness
Diversity and inclusion	Attain an inclusive 'everyone culture' that reflects the diversity of the communities in which we operate	N/A	15.6% global women
Mine rehabilitation	Maintain a corporate-wide running 5-year average ratio of 1:1 or better for active mining disturbance (excluding long-term infrastructure) to mine rehabilitation	N/A	0.92:1
Bauxite residue	From a 2015 baseline, reduce bauxite residue land requirements per metric ton of alumina produced by 15% by 2030	53.2 m2/kmt Ala	12.8% reduction
Waste	From a 2015 baseline, reduce landfilled waste 15% by 2025 and 25% by 2030	146.6 mt	14.4% reduction
Water	From a 2015 baseline, reduce the intensity of our total water use from Alcoa-defined water-scarce locations by 5% by 2025 and 10% by 2030	3.37 m3/mt	3% reduction
Greenhouse gas emissions	Align our greenhouse gas (direct + indirect) emissions reduction targets with the 2ºC decarbonization path by reducing greenhouse gas intensity by 30% by 2025, and 50% by 2030 from a 2015 baseline	7.10 mt CO_2e/mt	14.6% reduction
Sustainable value chain	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	N/A	New indigenous peoples policy

Source: 2020 Sustainability Report; 2021 report expected to be published in 2Q22

Production and capacity information

Alcoa Corporation annual consolidated amounts as of March 31, 2022

Bauxite production, Mdmt

Mine	Country	2021 Production
Darling Range	Australia	34.7
Juruti	Brazil	5.8
Poços de Caldas	Brazil	0.4
Trombetas (MRN)	Brazil	2.0
Boké (CBG)	Guinea	3.5
Al Ba'itha[1]	Saudi Arabia	1.2
Total		**47.6**

Alumina refining, kmt

Facility	Country	Capacity	Curtailed
Kwinana	Australia	2,190	-
Pinjarra	Australia	4,700	-
Wagerup	Australia	2,879	-
Poços de Caldas	Brazil	390	214
São Luís (Alumar)	Brazil	2,084	-
San Ciprián	Spain	1,600	-
Total		**13,843**	**214**
Ras Al Khair[1]	*Saudi Arabia*	*452*	-

Aluminum smelting, kmt

Facility	Country	Capacity	Curtailed
Portland[2]	Australia	197	30
São Luís (Alumar)[3]	Brazil	268	268
Baie Comeau	Canada	312	-
Bécancour	Canada	347	-
Deschambault	Canada	287	-
Fjarðaál	Iceland	351	-
Lista	Norway	94	-
Mosjøen	Norway	200	-
San Ciprián[4]	Spain	228	228
Intalco	U.S.	279	279
Massena West	U.S.	130	-
Warrick	U.S.	269	108
Total		**2,962**	**913**
Ras Al Khair[1]	*Saudi Arabia*	*202*	-

1. The Company's proportionate share of earnings from its equity investment in the Saudi Arabian joint venture does not impact adjusted EBITDA.
2. On November 7, 2021, the Company announced that the Portland Aluminium joint venture plans to restart a portion of the curtailed capacity at its aluminum smelter in the State of Victoria in Australia, with metal production expected to start in the third quarter of 2022. Once the restart is complete, Portland Aluminium will operate at approximately 95 percent of total capacity and Alcoa Corporation will have approximately 186,000 mtpy of its consolidated capacity at Portland operating.
3. On September 20, 2021, the Company announced plans to restart 268,000 metric tons per year (mtpy) of aluminum capacity at the Alumar smelter in São Luís, Brazil. The Company expects full capacity to be operational in the fourth quarter of 2022.
4. On December 29, 2021, the Company announced a two-year curtailment of the San Ciprián smelter's 228,000 metric tons of annual capacity, and a commitment by the Company to begin the restart of the smelter in January 2024. In January 2022, the smelter curtailment was completed.

Valuation framework

Valuation framework key considerations

				LTM ending 3/31/22 Adj. EBITDA excl. special items
Business Operations	+	Bauxite	Economic value using market multiple of: i. AWAC joint venture, minus small portions of AWAC JV in Aluminum and Transformation ii. Ownership in certain mines and refineries outside the JV	$151M
	+	Alumina		$1,037M
	+	Aluminum	Economic value using market multiple of: i. Smelters, casthouses, and energy assets ii. Smelters and casthouses restart optionality	$2,309M
	-	Non-segment expenses (income)	Economic value using market multiple of: i. Net corporate expenses and Transformation	$183M
	=	Enterprise value		
Financial Considerations	-	Noncontrolling interest	Implied value of noncontrolling interest in AWAC JV, based on Alumina Limited's observed enterprise value	
	-	Debt & debt-like items[1]	Book value of debt of $1.8B ($1.8B, >95% Alcoa), pension & OPEB net liabilities of $0.9B ($0.9B, >95% Alcoa; U.S. contributions not tax deductible), environmental & ARO liabilities of $0.8B ($1B, ~75% Alcoa)	
	+	Cash & equity investments[1]	Cash position of $1.4B ($1.6B, ~90% Alcoa) plus carrying value of investments in the Ma´aden joint venture and ELYSIS of $0.6B ($0.7B, ~85% Alcoa)	
	=	Equity value		

1. Dollar amounts reflect Alcoa Corporation's consolidated balance sheet values as of March 31, 2022. The "Alcoa" percentages exclude amounts attributable to Alcoa Corporation's partner in the AWAC JV.

Adjusted EBITDA reconciliation

$M	1Q21	2Q21	3Q21	4Q21	FY21	1Q22
Net income (loss) attributable to Alcoa	**$175**	**$309**	**$337**	**$(392)**	**$429**	**$469**
Add:						
Net income attributable to noncontrolling interest	44	41	33	23	141	84
Provision for income taxes	93	111	127	298	629	210
Other income, net	(24)	(105)	(18)	(298)	(445)	(14)
Interest expense	42	67	58	28	195	25
Restructuring and other charges, net	7	33	33	1,055	1,128	125
Depreciation, depletion and amortization	182	161	156	165	664	160
Adjusted EBITDA	**519**	**617**	**726**	**879**	**2,741**	**1,059**
Special items before tax and noncontrolling interest	2	1	2	17	22	13
Adjusted EBITDA excl. special items	**$521**	**$618**	**$728**	**$896**	**$2,763**	**$1,072**

Alcoa Corporation's definition of Adjusted EBITDA is net margin plus an add-back for depreciation, depletion, and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; Research and development expenses; and Provision for depreciation, depletion, and amortization. Adjusted EBITDA is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because Adjusted EBITDA provides additional information with respect to Alcoa Corporation's operating performance and the Company's ability to meet its financial obligations. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies.

Free cash flow reconciliation

$M	1Q21	2Q21	3Q21	4Q21	FY21	1Q22
Cash (used for) provided from operations	$6	$(86)[1]	$435	$565	$920	$34
Capital expenditures	(75)	(79)	(83)	(153)	(390)	(74)
Free cash flow	**(69)**	**(165)**	**352**	**412**	**530**	**(40)**
Contributions from noncontrolling interest	-	-	8	13	21	46
Distributions to noncontrolling interest	(62)	(75)	(40)	(38)	(215)	(162)
Free cash flow less net distributions to noncontrolling interest	**$(131)**	**$(240)**	**$320**	**$387**	**$336**	**$(156)**

Free cash flow and Free cash flow less net distributions to noncontrolling interest are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews cash flows generated from operations after taking into consideration capital expenditures and net distributions to noncontrolling interest. Capital expenditures are necessary to maintain and expand Alcoa Corporation's asset base and are expected to generate future cash flows from operations, while net distributions to noncontrolling interest are necessary to fulfill our obligations to our joint venture partners. It is important to note that Free cash flow and Free cash flow less net distributions to noncontrolling interest do not represent the residual cash flows available for discretionary expenditures since other non-discretionary expenditures, such as mandatory debt service requirements, are not deducted from the measure.

1. Cash used for operations in 2Q21 includes discretionary pension funding of $500 million.

Net debt reconciliation

$M	1Q21 Cons.	1Q21 NCI	1Q21 Alcoa Prop.	4Q21 Cons.	4Q21 NCI	4Q21 Alcoa Prop.	1Q22 Cons.	1Q22 NCI	1Q22 Alcoa Prop.
Short-term borrowings	$77	$31	$46	$75	$30	$45	$75	$30	$45
Long-term debt due within one year	745	-	745	1	-	1	1	-	1
Long-term debt, less amount due within one year	2,214	-	2,214	1,726	-	1,726	1,727	-	1,727
Total debt	3,036	31	3,005	1,802	30	1,772	1,803	30	1,773
Less: Cash and cash equivalents	2,544	134	2,410	1,814	177	1,637	1,554	152	1,402
Net debt (net cash)	**492**	**(103)**	**595**	**(12)**	**(147)**	**135**	**249**	**(122)**	**371**
Plus: Net pension / OPEB liability	2,139	49	2,090	973	15	958	950	15	935
Adjusted net debt	**$2,631**	**$(54)**	**$2,685**	**$961**	**$(132)**	**$1,093**	**$1,199**	**$(107)**	**$1,306**

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. When cash exceeds total debt, the measure is expressed as net cash.

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).

Days working capital reconciliation

$M	1Q21	2Q21	3Q21	4Q21	1Q22
Receivables from customers	$587	$644	$769	$757	$952
Add: Inventories	1,417	1,547	1,702	1,956	2,495
Less: Accounts payable, trade	1,284	1,392	1,482	1,674	1,645
DWC working capital	$720	$799	$989	$1,039	$1,802
Sales[1]	$2,551	$2,833	$3,109	$3,340	$3,293
Number of days in the quarter	90	91	92	92	90
Days Working Capital[2]	**25**	**26**	**29**	**29**	**49**

1. Excludes Warrick rolling mill sales in 1Q21.
2. Days Working Capital = DWC working capital divided by (Sales / number of days in the quarter).

Annualized Return on Equity (ROE)

ROE Reconciliation and calculation information as of March 31, 2022

$M	1Q21	1Q22
Numerator:		
Net (loss) income attributable to Alcoa Corporation	$175	$469
Add: Special items[1]	(25)	108
ROE Adjusted Net income YTD	**$150**	**$577**
ROE Adjusted Net income multiplied by four	**$600**	**$2,308**
Denominator[2]:		
Total assets	$14,931	$15,988
Less: Total Liabilities	10,058	9,731
Less: Noncontrolling Interest	1,625	1,678
Shareholders' Equity	**$3,248**	**$4,579**
ROE	**18.5%**	**50.4%**

$$\text{ROE \%} = \frac{\text{(Net Loss/Income Attributable to Alcoa + Special Items)}}{\text{(Total Assets – Total Liabilities – Noncontrolling Interest)}^2} \times 100$$

$$\text{1Q21 YTD ROE \%} = \frac{\text{(\$175 – \$25) x 4}}{\text{(\$14,931 – \$10,058 – \$1,625)}} \times 100 = 18.5\%$$

$$\text{1Q22 YTD ROE \%} = \frac{\text{(\$469 + \$108) x 4}}{\text{(\$15,988 – \$9,731 – \$1,678)}} \times 100 = 50.4\%$$

1. Special items include provisions for interest expense, income taxes, and noncontrolling interest.
2. Denominator calculated using quarter ending balances.

Glossary of terms

Abbreviations listed in alphanumeric order

Abbreviation	Description
% pts	Percentage points
1H##	Six months ending June 30
1Q##	Three months ending March 31
2H##	Six months ending December 31
2Q##	Three months ending June 30
3Q##	Three months ending September 30
4Q##	Three months ending December 31
Adj.	Adjusted
API	Alumina Price Index
ARO	Asset retirement obligations
AUD	Australian dollar
AWAC	Alcoa World Alumina and Chemicals
B	Billion
BRL	Brazilian real
CAD	Canadian dollar
CIF	Cost, insurance and freight
CO_2e	Carbon dioxide equivalent
COGS	Cost of goods sold
Cons.	Consolidated
CPI	Consumer Price Index
dmt	Dry metric ton
DWC	Days working capital
EBITDA	Earnings before interest, taxes, depreciation and amortization
Elims.	Eliminations
EPS	Earnings per share
ERISA	Employee Retirement Income Security Act of 1974
EUR	Euro
Est.	Estimated
excl. or ex.	Excluding

Abbreviation	Description
FOB WA	Freight on board Western Australia
FY##	Twelve months ending December 31
GAAP	Accounting principles generally accepted in the United States of America
GJ	Gigajoule
GWh	Gigawatt hour
ISK	Icelandic krona
JV	Joint venture
kmt/kdmt	Thousand metric tonnes/Thousand dry metric tonnes
LME	London Metal Exchange
LTM	Last twelve months
M	Million
Mdmt	Million dry metric tons
Mmt	Million metric tons
mt	Metric ton
NCI	Noncontrolling interest
NI	Net income
NOK	Norwegian krone
OPEB	Other postretirement employee benefits
PBT	Profit before taxes
Prop.	Proportional
R&D	Research and development
RoW	Rest of world
SEC	Securities and Exchange Commission
SG&A	Selling, general administrative and other
SHFE	Shanghai Futures Exchange
TBD	To be determined
U.S.	United States of America
USD	United States dollar
YTD, YoY	Year to date, year over year


Alcoa