

Alcoa Corporation

Q4'23 miss, Q1'24E MTM EBITDA below consensus: reduce price objective

Reiterate Rating: NEUTRAL | PO: 33.00 USD | Price: 26.75 USD

Reiterate Neutral on weak Q1'24, San Ciprián uncertainty

Alcoa (AA) reported Q4'23 adjusted EBITDA of \$89 million (m), below BofAe and Bloomberg consensus of \$110m/\$111m. The miss versus BofAe was driven by lower profitability in the Alumina segment (FX/weaker mix) and higher intersegment eliminations. AA flagged that it is taking steps to improve profitability and sees up to \$645m of annualized EBITDA benefit from 2024-25. This is largely in line with our view but likely to be more back-end loaded. For Q1'24, AA expects \$40m in sequential headwinds across both segments, which largely offsets the anticipated benefit from the mark-to-market (MTM) higher on alumina pricing. As a result, we lower our Q1'24E / 2024E EBITDA estimates by 40% / 9% and reduce our price objective (PO) to \$33 per share from \$36 (methodology unchanged). We reiterate our Neutral rating given weaker near-term profitability and an uncertain outlook for San Ciprián, balanced by our medium-term positive aluminum view.

2024 alumina production guidance lower; spending higher

For 2024, AA guided for alumina/aluminum shipments to be consistent with last year. However, the alumina production guide was cut 9% lower year over year (YoY) on a previously announced full curtailment at Kwinana. Aluminum production is guided to increase 7% YoY due to the ongoing restart at the Alumar/Warrick smelters. 2024 capex, environmental and asset retirement obligation (ARO) payments are guided to increase by \$110m+ YoY. At San Ciprián, AA is negotiating with Spanish authorities, seeking a viable long-term solution. The refinery generated a \$150m+ loss in 2023. A restart of the smelter per the original agreement could quickly exhaust cash reserves. Globally, AA expects the alumina market to be net short but sees a slight surplus in aluminum (see page 3 for more details).

Q1'24 MTM EBITDA implies downside risk to consensus

For Q1'24, AA guided for \$40m of headwinds related to higher maintenance and hedge programs. This largely offsets the positive alumina pricing MTM. We lower our Q1'24E EBITDA estimate to \$97m (from \$162m), implying downside risk to Bloomberg consensus of \$133m. Our 2024E EBITDA estimate declines to \$1.35 billion (from \$1.48) and EPS estimate to \$1.26 (from \$1.99).

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	4.93	(2.27)	1.26	5.61	7.51
GAAP EPS	(0.56)	(3.65)	1.26	5.61	7.51
EPS Change (YoY)	-28.2%	NM	NM	345.2%	33.9%
Consensus EPS (Bloomberg)			0.34	2.26	2.67
DPS	0.40	0.40	0.40	0.40	0.40
Valuation (Dec)					
P/E	5.4x	NM	21.2x	4.8x	3.6x
GAAP P/E	NM	NM	21.2x	4.8x	3.6x
Dividend Yield	1.5%	1.5%	1.5%	1.5%	1.5%
EV / EBITDA*	3.6x	15.1x	6.0x	3.4x	2.8x
Free Cash Flow Yield*	7.2%	-9.2%	-0.6%	17.2%	25.9%
* For full definitions of <i>iQ</i> method ^{≤M} measures, see page 6.					

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Refer to important disclosures on page 7 to 9. Analyst Certification on page 5. Price
Objective Basis/Risk on page 5.

Timestamp: 19 January 2024 09:11AM EST

19 January 2024

Equity

Key Changes		
(US\$)	Previous	Current
Price Obj.	36.00	33.00
2024E Rev (m)	11,391.4	11,231.0
2025E Rev (m)	13,407.3	12,232.3
2026E Rev (m)	14,211.0	12,828.8
2024E EPS	1.99	1.26
2025E EPS	5.39	5.61
2026E EPS	7.54	7.51

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Stock Data

Price	26.75 USD
Price Objective	33.00 USD
Date Established	19-Jan-2024
Investment Opinion	C-2-7
52-Week Range	23.07 USD - 55.74 USD
Mrkt Val (mn) / Shares Out	4,774 USD / 178.5
(mn)	
Free Float	99.0%
Average Daily Value (mn)	190.29 USD
BofA Ticker / Exchange	AA / NYS
Bloomberg / Reuters	AA US / AA.N
ROE (2024E)	5.2%
Net Dbt to Eqty (Dec-2023A)	14.8%
ESGMeter™	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to "BofA ESGMeter Methodology".

iQprofile[™] Alcoa Corporation

US\$ Millions) Return on Capital Employed Return on Equity	20224				
Return on Equity	2022A	2023A	2024E	2025E	2026
	2.9%	-2.7%	3.3%	10.2%	12.2%
	18.4%	-8.7%	5.2%	20.8%	22.79
Operating Margin	5.5%	-3.3%	5.6%	14.1%	17.59
Free Cash Flow	342	(440)	(30)	823	1,23
Qmethod SM – Quality of Earnings*					
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Cash Realization Ratio	0.9x	NM	2.3x	1.4x	1.4
Asset Replacement Ratio	0.8x	0.8x	0.8x	0.9x	1.0
Tax Rate	91.8%	NM	41.7%	30.0%	30.09
Net Debt-to-Equity Ratio	6.8%	14.8%	14.9%	3.0%	-10.69
Interest Cover	6.5x	-3.2x	5.8x	15.9x	20.7
ncome Statement Data (Dec)					
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Sales	12,451	10,551	11,231	12.232	12,82
% Change	2.5%	-15.3%	6.4%	8.9%	4.99
Gross Profit	2,239	738	1,579	2,646	3,10
% Change	-25.3%	-67.0%	113.9%	67.6%	17.39
EBITDA	2,224	536	1,354	2,406	2,880
% Change	-20.0%	-75.9%	152.6%	77.8%	19.79
Net Interest & Other Income	33	(241)	(197)	(174)	(174
Net Income (Adjusted)	890	(405)	226	1,016	1,359
% Change	-31.4%	NM	NM	348.5%	33.79
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Net Income from Cont Operations (GAAP)	59	(773)	253	1,088	1,45
Depreciation & Amortization	617	632	676	638	60
Change in Working Capital	(903)	(262)	(48)	(69)	(118
Deferred Taxation Charge	257	(54)	0	0	(
Other Adjustments, Net	792	548	(360)	(235)	(100
Capital Expenditure	(480)	(531)	(550)	(600)	(600
Free Cash Flow	342	-440	-30	823	1,23
% Change	-35.5%	NM	93.3%	NM	50.2%
Share / Issue Repurchase	(478)	1	0	0	(7.1
Cost of Dividends Paid	(72)	(72)	(71)	(71)	(71
Change in Debt	3	55	0	0	
Balance Sheet Data (Dec)	20224	20224	20245	20255	2025
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Cash & Equivalents	1,363	944	903	1,602	2,702
Trade Receivables Other Current Assets	778	656	640 2,645	670	70.
	3,109	2,805	,	2,640	2,70
Property, Plant & Equipment	6,493	6,785	6,659	6,621	6,620
	3,040 14,783	2,968 14,158	3,328	3,563	3,66
Other Non-Current Assets	14,763	•	14,175 79	15,096 79	16,38 9
Other Non-Current Assets Total Assets	1				
Other Non-Current Assets Total Assets Short-Term Debt	2,002	79			
Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities	3,003	2,951	2,796	2,819	2,85
Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt	3,003 1,806	2,951 1,732	2,796 1,732	2,819 1,732	2,859 1,732
Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt Other Non-Current Liabilities	3,003 1,806 3,401	2,951 1,732 3,550	2,796 1,732 3,480	2,819 1,732 3,414	2,859 1,732 3,350
Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt	3,003 1,806	2,951 1,732	2,796 1,732	2,819 1,732	2,859 1,732

Company Sector

Non-Ferrous-Mining

Company Description

Alcoa (AA) is a vertically integrated aluminum company, involved in bauxite mining, alumina refining, and aluminum smelting, in addition to cast aluminum products and some energy assets. Revenue in 2022 was \$12.5bn.

Investment Rationale

We rate AA at Neutral. We are bullish aluminum, but cautious in the more immediate term. Further, AA is in a period of transition (cost reductions) that we think will take longer than previously expected. We like AA's first quartile costs in bauxite/alumina. But its aim to move to first quartile in aluminum is challenged in our view. AA also aims to be the lowest carbon emitter in the industry. It is well positioned given its proprietary technology Elysis, set to begin commercialization in 2024.

Key Drivers 2024E 2025E 2026E

Stock Data	
Average Daily Volume	7,113,629

Quarterly Earnings Estimates

	2023	2024
Q1	-0.23A	-0.92E
Q2	-0.35A	0.32E
Q3	-1.13A	0.85E
Q4	-0.56A	0.99E

Q4'23 Results

Exhibit 1: AA Q4'23 results versus consensus and recent quarters

Reported adjusted EBITDA of \$89m was below BofAe and consensus estimates; the miss versus BofAe was mainly due to lower profitability in Alumina segment (FX/weaker mix) and higher intersegment eliminations.

								Bloomberg	
(US\$mn, US\$/share)	Q4'23A	Q4'22A	YoY	Q3'23A	QoQ	Q4'23E	Var.	Cons.	Var.
Net sales	2,524	2,663	-5%	2,546	-1%	2,676	-6%	2,612	-3%
SG&A	64	64	0%	56	14%	65	-1%	52	24%
DD&A	163	147	11%	163	0%	171	-4%	168	-3%
Adj EBITDA	89	29	207%	70	27%	110	-19%	111	-20%
Diluted EPS, Adjusted	(0.56)	(0.70)	nm	(1.14)	nm	(1.13)	nm	(0.84)	nm
Operating Cash Flow	198	118	68%	69	nm	17	nm	(23)	nm
FCF	10	(53)	nm	(76)	nm	(179)	nm	(164)	nm
Capex	188	171	10%	145	30%	196	-4%	195	-3%
Net Debt (cash)	867	444	95%	884	-2%	1,039	-17%	1,022	-15%
Cash & equivalents	944	1,363	-31%	926	2%	771	22%	730	29%
Bauxite									
Production (M dmt)	10.4	10.6	-2%	10.7	-3%	11.0	-5%	10.5	-1%
Alumina									
Production (kmt)	2,789	3,017	-8%	2,805	-1%	3,000	-7%	3,140	-11%
3rd party shipments (kmt)	2,259	2,210	2%	2,374	-5%	2,380	-5%		
Intersegment shipments (kmt)	1,176	1,029	14%	966	22%	1,020	15%		
Total shipments	3,435	3,239	6%	3,340	3%	3,400	1%		
External realized price (\$/mt)	344	342	0%	354	-3%	357	-4%	339	1%
Aluminum									
Primary aluminum production (kmt)	541	516	5%	532	2%	540	0%	537	1%
Total shipments (kmt)	623	641	-3%	623	0%	650	-4%		
Avg price realization (\$/mt)	2,678	2,889	-7%	2,647	1%	2,719	-2%		

Source: Company reports, BofA Global Research. Cons = consensus. Var = variance.

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2024 alumina production guidance lower; spending higher

For 2024, Alcoa guided for alumina/aluminum shipments to be largely consistent with the prior year. However, alumina production was guided to be 9% lower YoY due to previously announced full curtailment at Kwinana (see our 9 January 2024 note). Aluminum production is guided to increase 7% YoY due to ongoing restart of Alumar and Warrick smelters. 2024 capex is expected to be ~\$20m YoY higher at \$550m (but lower than \$650m guidance provided two years ago at the 2021 investor day). However, environmental and ARO payments are guided to increase >\$90m YoY to \$295m, due to accelerated mine rehabilitation in Australia and Brazil, higher spending at Kwinana and increased remediation at previously closed sites. In alumina, Alcoa expects the global market to be net short in 2024, given steady demand, low inventory and reduced supply (Kwinana closure, China refinery curtailments and Guinea bauxite supply concerns). In aluminum, Alcoa expects a slight surplus market, with supply constrained (by China capacity cap/ hydropower shortages) and potential moderate demand recovery in Western markets.

Exhibit 2: Alcoa 2024 guidance

Alumina production cut 9%; capex/environmental and ARO spending to increase YoY.

	2023 guidance	Actual	Var.	2024 guidance	YoY
Alumina production (Mmt)	n/a	10.9	nm	9.8 - 10.0	-9%
Alumina shipments (Mmt)	12.7 - 12.9	12.8	1%	12.7 - 12.9	0%
Aluminum production (Mmt)	n/a	2.1	nm	2.2 - 2.3	7%
Aluminum shipments (Mmt)	2.5 - 2.6	2.5	0%	2.5 - 2.6	2%
Sustaining Capex (\$M)	450	447	-1%	460	3%
Return Seeking Capex (\$M)	90	84	-7%	90	7%
Environmental and ARO payments (\$M)	195	202	4%	295	46%

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Source: Company reports.

Model Changes

Exhibit 4: AA key estimate changes 2024E EBITDA is 9% lower mainly due to lower MTM pricing for Q1'24; EPS is down 26% due to lower EBITDA and higher depreciation.

	2023E		2024E			2025E			
(US\$mn, US\$/share)	Old	New	Var.	Old	New	Var.	Old	New	Var.
Net sales	10,632	10,551	-1%	11,390	11,231	-1%	13,407	12,232	-9%
SG&A	227	226	0%	240	205	-15%	220	220	0%
DD&A	640	632	-1%	626	676	8%	626	638	2%
Adj EBITDA	557	536	-4%	1,481	1,354	- 9 %	2,408	2,406	0%
Diluted EPS, Adjusted	-2.84	-2.27	-20%	1.99	1.26	-37%	5.39	5.61	4%
Operating Cash Flow	-90	91	nm	919	520	-43%	1,587	1,423	-10%
FCF	-629	-440	-30%	319	-30	nm	1,102	823	-25%
Capex	539	531	-1%	600	550	-8%	485	600	24%
Net Debt (Cash)	1,039	867	-17%	810	908	12%	-122	209	nm
Bauxite									
Production (M dmt)	41.6	41.0	-1%	43.3	38.9	-10%	44.1	38.5	-13%
Alumina									
Production (kmt)	11,119	10,908	-2%	11,850	9,975	-16%	12,050	9,500	-21%
3rd party shipments (kmt)	8,819	8,698	-1%	8,820	8,960	2%	8,960	8,750	-2%
Intersegment shipments (kmt)	3,969	4,125	4%	3,780	3,840	2%	3,840	3,750	-2%
Total shipments	12,788	12,823	0%	12,600	12,800	2%	12,800	12,500	-2%
External realized price (\$/mt)	363	360	-1%	346	350	1%	356	356	0%
Cash costs (\$/mt)	409	418	2%	333	329	-1%	318	324	2%
Aluminum									
Primary aluminum production (kmt)	2,113	2,114	0%	2,150	2,250	5%	2,300	2,250	-2%
Total shipments (kmt)	2,496	2,469	-1%	2,600	2,550	-2%	2,800	2,500	-11%
Avg price realization (\$/mt)	2,805	2,786	-1%	3,119	3,094	-1%	3,566	3,565	0%
Cash costs (\$/mt)	2,625	2,601	-1%	2,698	2,667	-1%	2,900	2,760	-5%

Source: BofA Global Research, company reports.

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Price objective basis & risk

Alcoa Corporation (AA)

Our price objective of \$33 for AA is based on 4.5x 2024E EV/EBITDA, 3.5x 2025E EV/EBITDA and 1.0x net asset value (NAV), with each value equally weighted. The 4.5x 2024E EV/EBITDA target multiple is below the global aluminum producer peer average around 5x to reflect our view for an extended turnaround to return to higher-grade bauxite in Western Australia. The 4.5x is also below AA's historical trading average (since 2016 separation) of 5x. The 3.5x 2025E EV/EBITDA multiple is lower than the 2024E multiple to account for time value and significantly higher aluminum price forecast versus spot. The 1.0x price to NAV (P/NAV) target multiple is in line with our broad North American metals and mining coverage.

Downside risks to our price objective are 1) aluminum price weakness, 2) extended delays in getting its bauxite mine approvals in Western Australia, 3) remaining pension liabilities, 4) rising costs for raw materials including electricity, oil, caustic soda, coke, and pitch, 5) power contract negotiation risk (electricity is a large cost component), 6) power disruption risk and other unforeseen weather-related risks, 7) political, regulatory and country risks, 8) unfavorably currencies changes including in the BRL, CAD, EUR, ISK and NOK, and 9) the removal of protective tariffs in key markets.

Upside risks to our price objective are 1) higher aluminum prices, 2) better-thanexpected cost containment, and 3) global demand growth.

Analyst Certification

I, Lawson Winder, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

North America - Metals and Mining Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Agnico Eagle Mines	AEM	AEM US	Lawson Winder, CFA
	B2Gold Corp	YBTO	BTO CN	Harmen Puri
	B2Gold Corp	BTG	BTG US	Harmen Puri
	Barrick Gold	GOLD	GOLD US	Lawson Winder, CFA
	Cameco Corporation	YCCO	CCO CN	Lawson Winder, CFA
	Cameco Corporation	CCJ	CCJ US	Lawson Winder, CFA
	Commercial Metals	CMC	CMC US	Lawson Winder, CFA
	Endeavour Mining	YEDV	EDV CN	Harmen Puri
	Endeavour Mining	EDVMF	EDVMF US	Harmen Puri
	Endeavour Mining PLC	XEDVF	EDV LN	Harmen Puri
	Franco-Nevada	YFNV	FNV CN	Lawson Winder, CFA
	Franco-Nevada	FNV	FNV US	Lawson Winder, CFA
	IAMGOLD	YIMG	IMG CN	Lawson Winder, CFA
	IAMGOLD Corp.	IAG	IAG US	Lawson Winder, CFA
	Ivanhoe Mines	YIVN	IVN CN	Lawson Winder, CFA
	Ivanhoe Mines	IVPAF	IVPAF US	Lawson Winder, CFA
	Lundin Mining	XLPRF	LUMI SS	Lawson Winder, CFA
	Lundin Mining Corp	YLUN	LUN CN	Lawson Winder, CFA
	Lundin Mining Corp	LUNMF	LUNMF US	Lawson Winder, CFA
	MP Materials	MP	MP US	Lawson Winder, CFA
	Newmont Corporation	NEM	NEM US	Lawson Winder, CFA
	Newmont Corporation	XNCRF	NEM AU	Lawson Winder, CFA
	Nucor	NUE	NUE US	Lawson Winder, CFA
	Pan American Silver	PAAS	PAAS US	Lawson Winder, CFA
	Teck Resources	YTECK	TECK/B CN	Lawson Winder, CFA
	Teck Resources Ltd	TECK	TECK US	Lawson Winder, CFA



North America - Metals and Mining Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Triple Flag Precious Metals Corp.	YTFPM	TFPM CN	Lawson Winder, CFA
	Triple Flag Precious Metals Corp.	TFPM	TFPM US	Lawson Winder, CFA
	Wheaton Precious Metals	WPM	WPM US	Lawson Winder, CFA
NEUTRAL				
REUIRAL	Alamos Gold	YAGI	AGI CN	Harmen Puri
	Alamos Gold			
		AGI	AGI US	Harmen Puri
	Alcoa Corporation	AA	AA US	Lawson Winder, CFA
	Cleveland-Cliffs	CLF	CLF US	Lawson Winder, CFA
	First Quantum	FQVLF	FQVLF US	Lawson Winder, CFA
	First Quantum Minerals	YFM	FM CN	Lawson Winder, CFA
	Freeport-McMoRan	FCX	FCX US	Lawson Winder, CFA
	Hudbay Minerals	YHBM	HBM CN	Lawson Winder, CFA
	HudBay Minerals	HBM	HBM US	Lawson Winder, CFA
	Reliance Steel & Aluminum	RS	RS US	Lawson Winder, CFA
	Steel Dynamics	STLD	STLD US	Lawson Winder, CFA
UNDERPERFORM				
	Centerra Gold	YCG	CG CN	Lawson Winder, CFA
	Centerra Gold	CGAU	CGAU US	Lawson Winder, CFA
	Eldorado Gold	EGO	EGO US	Harmen Puri
	Eldorado Gold	YELD	ELD CN	Harmen Puri
	Kinross Gold	KGC	KGC US	Lawson Winder, CFA
	New Gold Inc.	YNGD	NGD CN	Harmen Puri
	New Gold Inc.	NGD	NGD US	Harmen Puri
	Nexa Resources	NEXA	NEXA US	Lawson Winder, CFA
	Royal Gold	RGLD	RGLD US	Lawson Winder, CFA
	SSR Mining Inc.	SSRM	SSRM US	Lawson Winder, CFA
	SSR Mining Inc.	YSSRM	SSRM CN	Lawson Winder, CFA

Pmethod[™] Measures Definitions

Numerator

Business Performance

Return On Capital Employed	NOPAT = (EBIT + Interest Income) \times (1 – Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill
Data was On Facility	Net leaves	Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt - Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt +	Sales
•	Other LT Liabilities	
FV / FBITDA	Enterprise Value	Basic FBIT + Depreciation + Amortization

Denominator

Manethod 3^{ss} is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

Redatabase is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

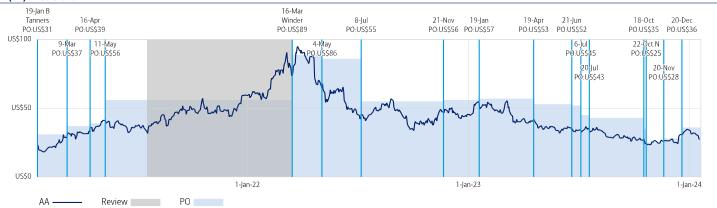
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Disclosures

Important Disclosures

Alcoa (AA) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Non-Ferrous Metals/Mining & Minerals Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	58	53.70%	Buy	26	44.83%
Hold	24	22.22%	Hold	10	41.67%
Sell	26	24.07%	Sell	13	50.00%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

R1 Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster^{R2}

Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Inderperform	N/A	≥ 20%

R2Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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