

CF Industries

Short-term momentum supports our Buy rating, upside from clean ammonia

Reiterate Rating: BUY | PO: 96.00 USD | Price: 76.80 USD

Momentum in 1H keep us Buy-rated

We remain of the view that global nitrogen markets should tighten heading into the spring application season due to anticipated good demand, continued tight supply (European curtailment/Chinese export restrictions) and recent favorable weather allowing for early fieldwork and fertilizer applications. In the US in particular limited net imports should also help. We believe that these drivers will further inflate urea prices and keep ammonia elevated, driving CF shares higher, and we reiterate our Buy rating.

Clean projects progress, more details on blue greenfield

The electrolyzer installation for the production of 20ktpa of green ammonia is mechanically complete, giving CF a first-mover advantage. Orders for carbon capture equipment for the D'ville plant have been placed and mgmt is confident it can produce blue ammonia in 2025. CF has also quantified the estimated capex of its Louisiana greenfield project with Mitsui at ~\$3bn and expects to make a final decision in 2H24. This is a bit later than planned as CF evaluates additional carbon capture opportunities and awaits a more concrete regulatory framework for Japan. We believe that even with no "blue" premium, this project can still generate a double-digit IRR.

Rolling some "blue" value into valuation, raising PO to \$96

We believe that CF is poised to reap significant financial benefits from its brownfield D'ville blue ammonia project in 2025+. The \$85/mt of carbon 45Q credit should translate into \$170mn/yr of cash flow, and we estimate CF's associated opex at \$70mn on a pre-tax basis, for ~\$110mn in after-tax proceeds annually. We estimate the project's NPV at ~\$860mn today, or ~\$4/share. We continue to value CF at 8x 2024E EBITDA (\$92 from \$96 previously due to lower EBITDA estimates), but now add the \$4 NPV to our PO, which moves to \$96 from \$95.

Updating nitrogen price deck, 1Q EBITDA lowered

We are incorporating our updated price deck (see Exh 2-3), and lower our 2024E EBITDA to \$2,431mn from \$2,484mn. Most of the decline stems from Q1 where we now project EBITDA of \$574mn vs \$603mn, as CF's hedges should not allow it to benefit from the recent nat gas price decline, while Tampa ammonia and UAN prices look a bit softer.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	18.66	8.09	6.35	6.20	5.50
GAAP EPS	16.38	7.87	6.35	6.20	5.50
EPS Change (YoY)	184.0%	-56.6%	-21.5%	-2.4%	-11.3%
Consensus EPS (Bloomberg)			6.30	5.57	6.68
DPS	1.50	1.60	2.00	2.40	2.64
Valuation (Dec)					
P/E	4.1x	9.5x	12.1x	12.4x	14.0x
GAAP P/E	4.7x	9.8x	12.1x	12.4x	14.0x
Dividend Yield	2.0%	2.1%	2.6%	3.1%	3.4%
EV / EBITDA*	3.4x	7.3x	8.3x	8.8x	9.9x
Free Cash Flow Yield*	22.5%	14.9%	11.6%	9.3%	8.4%

* For full definitions of *IQmethod*SM 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.

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Timestamp: 16 February 2024 06:23AM EST

16 February 2024

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	95.00	96.00
2024E Rev (m)	6,309.4	6,180.6
2025E Rev (m)	6,597.7	6,441.7
2026E Rev (m)	NA	6,270.7
2024E EPS	6.65	6.35
2025E EPS	6.60	6.20
2026E EPS	NA	5.50
2024E DPS	1.76	2.00

Steve Byrne, CFA

Research Analyst
BofAS
+1 646 855 5746
steve.byrne@bofa.com

Salvator Tiano, CFA

Research Analyst
BofAS
+1 646 855 5904
salvator.tiano@bofa.com

Rock Hoffman

Research Analyst
BofAS
+1 917 565 6205
rock.hoffman@bofa.com

Stock Data

Price	76.80 USD
Price Objective	96.00 USD
Date Established	16-Feb-2024
Investment Opinion	B-1-7
52-Week Range	60.08 USD - 88.83 USD
Mrkt Val (mn) / Shares Out (mn)	15,122 USD / 196.9
Free Float	99.4%
Average Daily Value (mn)	147.01 USD
BofA Ticker / Exchange	CF / NYS
Bloomberg / Reuters	CF US / CF.N
ROE (2024E)	21.1%
Net Dbt to Eqty (Dec-2023A)	11.2%
ESGMeter TM	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"](#).

iQprofileSM CF Industries

iQmethodSM – Bus Performance*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	38.9%	14.5%	10.8%	10.4%	9.2%
Return on Equity	92.3%	29.1%	21.1%	21.0%	19.5%
Operating Margin	51.2%	34.5%	30.4%	26.8%	23.4%
Free Cash Flow	2,783	1,799	1,383	1,061	966

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	1.0x	1.8x	2.0x	2.1x	2.5x
Asset Replacement Ratio	0.5x	0.6x	0.6x	0.9x	1.0x
Tax Rate	21.0%	18.3%	24.0%	24.0%	24.0%
Net Debt-to-Equity Ratio	8.2%	11.2%	15.4%	25.7%	34.6%
Interest Cover	41.5x	NA	NM	43.2x	36.7x

Income Statement Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	11,186	6,631	6,181	6,442	6,271
% Change	71.1%	-40.7%	-6.8%	4.2%	-2.7%
Gross Profit	5,902	2,506	2,147	2,016	1,757
% Change	143.5%	-57.5%	-14.3%	-6.1%	-12.8%
EBITDA	5,880	2,760	2,431	2,281	2,039
% Change	114.4%	-53.1%	-11.9%	-6.2%	-10.6%
Net Interest & Other Income	(150)	16	(34)	(40)	(40)
Net Income (Adjusted)	3,812	1,568	1,156	1,041	861
% Change	168.7%	-58.9%	-26.3%	-10.0%	-17.3%

Free Cash Flow Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	3,346	1,526	1,156	1,041	861
Depreciation & Amortization	850	869	891	887	887
Change in Working Capital	(1,152)	(40)	(35)	(48)	(11)
Deferred Taxation Charge	(107)	81	0	43	170
Other Adjustments, Net	918	321	287	282	265
Capital Expenditure	(453)	(499)	(550)	(800)	(900)
Free Cash Flow	2,783	1,799	1,383	1,061	966
% Change	44.2%	-33.6%	-22.5%	-19.7%	-9.4%
Share / Issue Repurchase	(1,241)	(579)	(1,285)	(1,285)	(985)
Cost of Dividends Paid	(306)	(311)	(363)	(402)	(412)
Change in Debt	(507)	0	0	0	0

Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	2,323	2,032	1,767	1,142	711
Trade Receivables	582	505	444	465	453
Other Current Assets	768	513	589	657	690
Property, Plant & Equipment	6,437	7,141	6,800	6,713	6,726
Other Non-Current Assets	3,203	4,185	4,185	4,185	4,185
Total Assets	13,313	14,376	13,786	13,162	12,765
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	995	800	781	821	832
Long-Term Debt	2,965	2,968	2,968	2,968	2,968
Other Non-Current Liabilities	1,500	2,235	2,235	2,278	2,448
Total Liabilities	5,460	6,003	5,984	6,066	6,247
Total Equity	7,853	8,373	7,802	7,095	6,518
Total Equity & Liabilities	13,313	14,376	13,786	13,162	12,765

* For full definitions of iQmethodSM measures, see page 6.

Company Sector

Chemicals-Major

Company Description

CF is the largest producer of nitrogen fertilizers in North America with \$2.8bn in 2023 EBITDA. Selling prices are linked to high cost producer cash costs driven by the price of Chinese anthracite coal. Costs are driven by the price of natural gas. The company has pursued a strategy of first-mover capacity expansion, share repurchases, and M&A activity aimed at increasing effective nitrogen capacity per share.

Investment Rationale

Our Buy rating on CF is driven by very tight global nitrogen supplies, which could continue from shuttered production in the EU, lower exports out of China, and strong Ag fundamentals globally. We see limited new supplies for nitrogen globally. The Ag cycle could readily continue into 2023, which would keep nitrogen prices from falling back to 2020 lows. The long term risk is bacterial-sourced ammonia.

Stock Data

Average Daily Volume 1,914,138

Quarterly Earnings Estimates

	2023	2024
Q1	2.63A	1.40E
Q2	2.71A	2.08E
Q3	1.14A	1.10E
Q4	1.58A	1.77E

Exhibit 1: CF Income Statement Summary

EPS to remain elevated through 2026

	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E
Net Sales													
Anhydrous ammonia	\$3,090	\$424	\$525	\$235	\$495	\$1,679	\$315	\$538	\$390	\$461	\$1,704	\$1,995	\$1,939
Granular urea	2,892	611	460	360	392	1,823	429	435	395	405	1,664	1,722	1,680
UAN solutions	3,572	667	548	435	418	2,068	428	473	441	481	1,823	1,775	1,740
AN & Other	1,632	310	242	243	266	1,061	252	257	230	252	990	950	912
Nitrogen	11,186	2,012	1,775	1,273	1,571	6,631	1,423	1,703	1,455	1,599	6,181	6,442	6,271
Phosphates	0	0	0	0	0	0	0	0	0	0	0	0	0
Consolidated Net Sales	11,186	2,012	1,775	1,273	1,571	6,631	1,423	1,703	1,455	1,599	6,181	6,442	6,271
Change	71%	-30%	-48%	-45%	-40%	-41%	-29%	-4%	14%	2%	-7%	4%	-3%
Gross Profit													
Anhydrous ammonia	\$1,612	\$123	\$222	\$23	\$162	\$530	\$59	\$194	\$71	\$136	\$459	\$561	\$461
Granular urea	1,577	264	238	136	164	802	198	202	138	191	728	717	653
UAN solutions	2,097	300	259	136	111	806	156	182	130	171	640	518	461
AN & Other	616	104	85	89	90	368	87	91	66	77	320	219	181
Special items	0	0	0	0	0	0	0	0	0	0	0	0	0
Nitrogen	5,902	791	804	384	527	2,506	499	668	404	575	2,147	2,016	1,757
Phosphates	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5,902	791	804	384	527	2,506	499	668	404	575	2,147	2,016	1,757
Change	143%	-52%	-59%	-59%	-61%	-58%	-37%	-17%	5%	9%	-14%	-6%	-13%
EBITDA													
EBITDA Margin	52.6%	43.0%	48.3%	35.0%	37.7%	41.6%	40.4%	43.1%	33.3%	39.9%	39.3%	35.4%	32.5%
Operating Profit													
Operating Margin	51.2%	38.2%	41.6%	24.9%	29.4%	34.5%	30.5%	35.3%	23.2%	31.8%	30.4%	26.8%	23.4%
Net Interest Expense	138	10	(4)	(6)	(8)	(8)	8	9	9	8	34	40	40
Equity in earnings of operating affiliates	94	17	7	7	4	35	8	6	7	7	28	25	20
Other Expense / (Income)	12	(3)	0	(3)	(2)	(8)	0	0	0	0	0	0	0
Pretax Income	5,574	761	742	326	472	2,301	425	592	329	500	1,846	1,689	1,429
Income Taxes	1,171	155	134	40	93	422	102	142	79	120	443	405	343
Tax Rate	21.0%	20.4%	18.1%	12.3%	19.7%	18.3%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Minority Interests	591	90	79	66	78	313	61	66	52	69	248	242	226
Income Before Nonrecurring items	3,812	516	529	220	301	1,566	262	384	197	311	1,155	1,041	860
Nonrecurring Items	(466)	44	(2)	(56)	(27)	(41)	0	0	0	0	0	0	0
Net Income	3,346	560	527	164	274	1,525	262	384	197	311	1,155	1,041	860
Diluted EPS Before Nonrecurring													
Change Before Gains/(Charges)	\$18.66	\$2.63	\$2.71	\$1.14	\$1.58	\$8.09	\$1.40	\$2.08	\$1.10	\$1.77	\$6.35	\$6.20	\$5.50
	184%	-50%	-56%	-59%	-63%	-57%	-47%	-23%	-4%	12%	-22%	-2%	-11%
Diluted Shares Outstanding (Million)	204.3	196.9	195.0	192.9	190.6	193.9	187.5	184.6	180.2	175.9	182.0	167.9	156.5
Segment Sales Growth													
Anhydrous ammonia	73%	-34%	-53%	-56%	-38%	-46%	-26%	3%	66%	-7%	1%	17%	-3%
Granular urea	54%	-20%	-45%	-48%	-35%	-37%	-30%	-5%	10%	3%	-9%	3%	-2%
UAN solutions	100%	-34%	-44%	-41%	-51%	-42%	-36%	-14%	1%	15%	-12%	-3%	-2%
AN & Other	51%	-31%	-48%	-33%	-25%	-35%	-19%	6%	-6%	-5%	-7%	-4%	-4%
Nitrogen	71%	-30%	-48%	-45%	-40%	-41%	-29%	-4%	14%	2%	-7%	4%	-3%
Gross Margin													
Anhydrous ammonia	52.2%	29.0%	42.3%	9.8%	32.7%	31.6%	18.6%	36.0%	18.1%	29.6%	26.9%	28.1%	23.8%
Granular urea	54.5%	43.2%	51.7%	37.8%	41.8%	44.0%	46.1%	46.4%	34.9%	47.0%	43.7%	41.7%	38.9%
UAN solutions	58.7%	45.0%	47.3%	31.3%	26.6%	39.0%	36.6%	38.4%	29.5%	35.6%	35.1%	29.2%	26.5%
AN & Other	37.7%	33.5%	35.1%	36.6%	33.8%	34.7%	34.4%	35.6%	28.7%	30.4%	32.4%	23.1%	19.9%
Nitrogen	52.8%	39.3%	45.3%	30.2%	33.5%	37.8%	35.1%	39.2%	27.8%	36.0%	34.7%	31.3%	28.0%

Source: Company reports, BofA Global Research

BofA GLOBAL RESEARCH



Exhibit 2: Updated annual fertilizer price deck

We have lowered our Tampa ammonia forecasts

			2021A	2022A	2023A	2024E			2025E			2026E	
						Prior	New	%	Prior	New	%	New	
Nitrogen	Ammonia	Cornbelt	USD/st	759	1276	630	563	573	2%	538	538	0%	513
	Ammonia	Tampa	USD/st	548	1052	466	481	439	-9%	500	475	-5%	450
	Urea	Cornbelt	USD/st	535	667	434	416	421	1%	398	398	0%	385
	Urea	NOLA	USD/st	492	601	354	354	361	2%	348	348	0%	335
	UAN	Cornbelt	USD/st	372	561	300	281	279	-1%	271	271	0%	266
	UAN	NOLA	USD/st	341	543	266	253	251	0%	246	246	0%	241
Potash	Granular	Cornbelt	USD/mt	569	799	466	445	436	-2%	418	418	0%	398
	Standard	Southeast Asia	USD/mt	393	781	380	329	325	-1%	330	330	0%	320
	Granular	Brazil	USD/mt	539	850	391	341	323	-5%	361	354	-2%	339
Phosphate	DAP	NOLA	USD/mt	668	846	606	570	584	2%	515	515	0%	495
	DAP	US Gulf/Tampa	USD/mt	644	894	560	521	524	0%	483	483	0%	473
	MAP	Brazil	USD/mt	694	906	557	521	523	0%	483	483	0%	463

Source: CRU, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 3: Updated 2024 quarterly fertilizer price deck

Urea, Midwest ammonia estimates raised, Tampa ammonia lowered

				1Q24E			2Q24E			3Q24E			4Q24E		
				Prior	New	%	Prior	New	%	Prior	New	%	Prior	New	%
Nitrogen	Ammonia	Cornbelt	USD/st	550	590	7%	575	575	0%	550	550	0%	575	575	0%
	Ammonia	Tampa	USD/st	475	405	-15%	450	400	-11%	475	450	-5%	525	500	-5%
	Urea	Cornbelt	USD/st	390	405	4%	430	435	1%	415	415	0%	430	430	0%
	Urea	NOLA	USD/st	320	350	9%	370	370	0%	355	355	0%	370	370	0%
	UAN	Cornbelt	USD/st	285	275	-4%	290	290	0%	265	265	0%	285	285	0%
	UAN	NOLA	USD/st	250	245	-2%	260	260	0%	240	240	0%	260	260	0%
Potash	Granular	Cornbelt	USD/mt	445	410	-8%	440	440	0%	440	440	0%	455	455	0%
	Standard	Southeast Asia	USD/mt	325	315	-3%	330	325	-2%	330	330	0%	330	330	0%
	Granular	Brazil	USD/mt	320	295	-8%	325	315	-3%	360	340	-6%	360	340	-6%
Phosphate	DAP	NOLA	USD/mt	600	635	6%	560	580	4%	580	580	0%	540	540	0%
	DAP	US Gulf/Tampa	USD/mt	540	550	2%	520	520	0%	520	520	0%	505	505	0%
	MAP	Brazil	USD/mt	550	550	0%	520	525	1%	520	520	0%	495	495	0%

Source: CRU, BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

CF Industries (CF)

Our \$96 PO for CF is based on 8x our 2024 EBITDA estimate, including a \$50mn contribution for post-2024 EBITDA from the Waggaman acquisition and \$4/sh for the NPV of the blue ammonia project starting in 2025. The 8x multiple is at the middle of the company's historical average over the last seven years (6-11x). We use this multiple as we think earnings next year will move to a more sustainable long-term level. We also see organic growth coming from an increasing blue/green ammonia opportunity.

Downside risks to our PO are higher US natural gas prices, lower nitrogen prices, a decline in grain prices, a near-term resolution to the Russia/Ukraine conflict, significantly lower than expected demand, and increased use of bacteria-sourced ammonia.

Upside risk to our PO is further supply cuts in nitrogen leading to lower grain production.

Analyst Certification

I, Steve Byrne, 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.

US - Chemicals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Air Products	APD	APD US	Steve Byrne, CFA
	Axalta Coating Systems	AXTA	AXTA US	Steve Byrne, CFA
	Bunge Limited	BG	BG US	Salvator Tiano, CFA
	CF Industries	CF	CF US	Steve Byrne, CFA
	Dow Inc	DOW	DOW US	Steve Byrne, CFA
	Eastman Chemical Co	EMN	EMN US	Salvator Tiano, CFA
	Element Solutions Inc.	ESI	ESI US	Steve Byrne, CFA
	Green Plains	GPPE	GPPE US	Salvator Tiano, CFA
	Huntsman Corp	HUN	HUN US	Salvator Tiano, CFA
	Linde	LIN	LIN US	Steve Byrne, CFA
	Linde	LINGY	LIN GY	Steve Byrne, CFA
	Nutrien	NTR	NTR US	Steve Byrne, CFA
	Olin Corp	OLN	OLN US	Steve Byrne, CFA
	PPG Industries Inc.	PPG	PPG US	Steve Byrne, CFA
	Sigma Lithium	SGML	SGML US	Steve Byrne, CFA
	The Mosaic Company	MOS	MOS US	Steve Byrne, CFA
NEUTRAL				
	Albemarle	ALB	ALB US	Steve Byrne, CFA
	Archer-Daniels-Midland Company	ADM	ADM US	Salvator Tiano, CFA
	Corteva	CTVA	CTVA US	Steve Byrne, CFA
	Ecolab Inc	ECL	ECL US	Steve Byrne, CFA
	International Flavors & Fragrances	IFF	IFF US	Salvator Tiano, CFA
	LyondellBasell Industries	LYB	LYB US	Steve Byrne, CFA
	Origin Materials	ORGN	ORGN US	Steve Byrne, CFA
UNDERPERFORM				
	Celanese Corporation	CE	CE US	Salvator Tiano, CFA
	DuPont	DD	DD US	Steve Byrne, CFA
	FMC Corporation	FMC	FMC US	Steve Byrne, CFA
	RPM International Inc	RPM	RPM US	Steve Byrne, CFA
	Sherwin-Williams Company	SHW	SHW US	Steve Byrne, CFA
	Westlake Chemical Partners, LP	WLKP	WLKP US	Steve Byrne, CFA
	Westlake Corp	WLK	WLK US	Steve Byrne, CFA



iQmethodSM Measures Definitions

Business Performance

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill

Amortization

Shareholders' Equity

Sales

N/A

N/A

Quality of Earnings

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

Numerator

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash & Equivalents

EBIT

Denominator

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

Valuation Toolkit

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

Numerator

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

Denominator

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization

iQmethodSM 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.

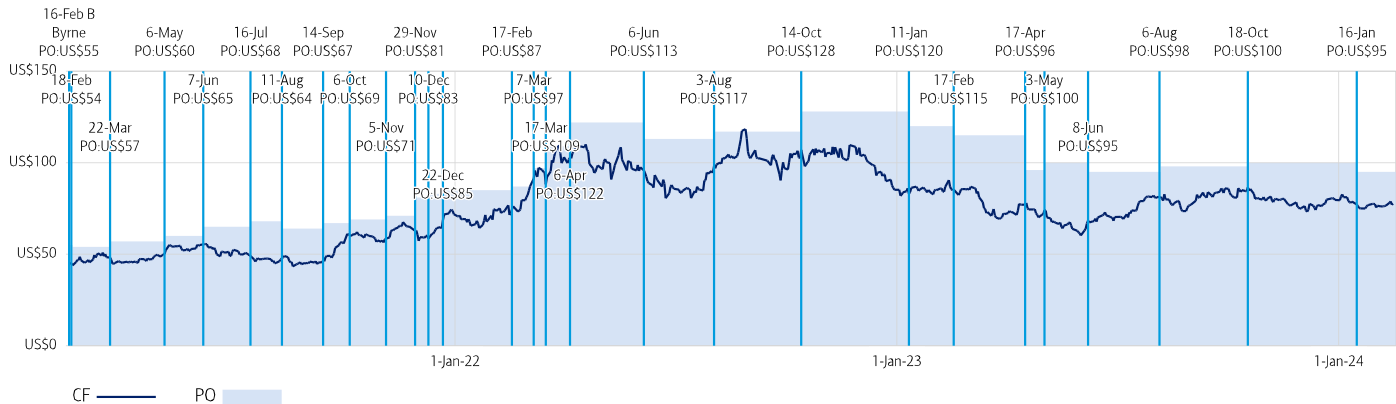
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Equity Investment Rating Distribution: Chemicals Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	66	47.83%	Buy	33	50.00%
Hold	33	23.91%	Hold	16	48.48%
Sell	39	28.26%	Sell	20	51.28%

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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Underperform	N/A	≥ 20%

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