

## Building Materials - Global

# 2024 Outlook: A stock-pickers market as mixed macro meets high expectations

Industry Overview

## Global Building Materials: 2024 Outlook

The Building Materials sector across Europe, US and Australia performed strongly in 2023 driven by a mix of earnings upgrades as well as multiple expansion. We think the macro backdrop/outlook for Building Materials in 2024 is rather mixed with: (1) (-) weak Europe with construction volumes expected to decline by c.3% in 2024; (2) (+) US new construction relatively solid (single family housing starts +9% yoy); (3) (=/-) muted recovery in US repair & remodel (R&R) spend (low single digit decline); and (4) (=) Australia residential activity seeing only modest improvement (forecast dwelling commencements +3% yoy). In this context, we believe that stock picking will remain key. We lay out our '24 Europe, US & Australia Building Materials/Products views in this note.

## Sector views

**Europe:** ([2024 Year Ahead: too far, too fast](#)): We take a cautious view on the sector for 2024 given the recent sector rerating and a risky margin outlook. We expect ongoing volumes pressure and price/costs dynamics to turn more neutral/negative, likely implying lower margins. Cost inflation is shifting from variable costs (energy and raw materials) to fixed cost inflation (wages). With more limited opportunities for incremental price hikes, we expect companies to react with more cost cutting efforts. We acknowledge the industry's focus on value/margins over volumes/market shares and solutions over products, but the reality of soft demand, low utilization rates and low variable input costs raise the risks of eroding pricing discipline.

**US:** ([2024 outlook: prefer new construction > R&R; upgrade BLDR on stronger starts](#)): US building products stocks outperformed the market in '23 (+42% vs. S&P 500 +24%) as the new construction outlook improved and margins of many repair & remodel companies proved to be more resilient than expected despite a challenging demand environment. Investor sentiment has turned more positive, and valuations are higher, but end market performance remains mixed. We upgraded BLDR to Buy to reflect the stronger US single family starts outlook. In R&R, we prefer AZEK as it benefits from ongoing material conversion with upside to 1H24 consensus.

**Australia:** ([Building Materials 2024 Year Ahead: Not yet...](#)): After a weak '22 & '23, we expect Australia housing activity to recover only moderately in 2024 and forecast dwelling commencements to rise 3% yoy. While we believe that activity may have bottomed in 2Q23, we do not expect a meaningful recovery in '24 given: (1) [higher for longer interest rates](#) where our economists do not expect RBA to cut rates in '24; (2) lead indicators like dwelling approvals, new loan commitments to housing and auction clearance rates all pointing to only a modest improvement in housing activity; and (3) commentary/our discussions with building material companies/distributors/ homebuilders indicate only a mild improvement in activity.

08 February 2024

Equity  
Global  
Building Materials

**Arnaud Lehmann** >>  
Research Analyst  
MLI (UK)  
+44 20 7995 8302  
[arnaud.lehmann@bofa.com](mailto:arnaud.lehmann@bofa.com)

**Rafe Jadrosich**  
Research Analyst  
BofAS  
+1 646 855 5815  
[rafe.jadrosich@bofa.com](mailto:rafe.jadrosich@bofa.com)

**Shaurya Visen** >>  
Research Analyst  
Merrill Lynch (Australia)  
+61 2 9226 5825  
[shaurya.visen@bofa.com](mailto:shaurya.visen@bofa.com)

**Lukha Aggarwal** >>  
Research Analyst  
MLI (UK)  
[lukha.aggarwal@bofa.com](mailto:lukha.aggarwal@bofa.com)

**Michelle Yang** >>  
Research Analyst  
Merrill Lynch (Australia)  
[michelle.yang2@bofa.com](mailto:michelle.yang2@bofa.com)

**Shaun Calnan, CFA**  
Research Analyst  
BofAS  
[shaun.calnan@bofa.com](mailto:shaun.calnan@bofa.com)

**Victoria Piskarev**  
Research Analyst  
BofAS  
[victoria.piskarev@bofa.com](mailto:victoria.piskarev@bofa.com)

BLDR = Builders FirstSource

AZEK = The AZEK Company

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

**BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.**

**Refer to important disclosures on page 11 to 14. Analyst Certification on page 8. Price Objective Basis/Risk on page 5.**

12657044

Timestamp: 08 February 2024 02:17AM EST

# Global Building Materials: 2024 Outlook

## Europe: Cautious on the Building sector in 2024

Investors appear to discount a 'super goldilocks' environment of volumes recovery supported by lower rates, resilient pricing and low input costs supporting further margin improvement. This looks optimistic. Following the recent sector rerating and with a risky margin outlook, we take a cautious view on the sector for 2024. We expect ongoing volumes pressure and price/costs dynamics to turn more neutral/negative, likely implying lower margins. Cost inflation is shifting from variable costs (energy and raw materials) to fixed cost inflation (wages). With more limited opportunities for incremental price hikes, companies are expected to react with more cost cutting efforts. We acknowledge the industry's focus on value/margins over volumes/market shares and solutions over products, but the reality of soft demand, low utilization rates and low variable input costs raise the risks of eroding pricing discipline. This drives a cut to our estimates, and our EBIT estimates are c3-4% below consensus for 2024-2025. Risks to our cautious view include 1/ a quick rebound in new housing activity supported by lower rates and 2/ resilient pricing and lower variable costs driving margin expansion. We favour stocks with self-help, specific equity stories and attractive valuations.

## US: Prefer new construction > R&R

US building products stocks outperformed the market in 2023 (+42% vs. S&P 500 +24%) as the new construction outlook improved and margins of many repair & remodel companies proved to be more resilient than expected despite a challenging demand environment. Investor sentiment has turned more positive, and valuations are higher, but end market performance remains mixed. Labor shortages (new construction and remodeling) continue to worsen. Valuations are near the high-end of historical ranges. Balance sheets remain historically strong across the sector. How companies allocate cash could determine if valuations re-rate (accretive M&A, share repurchase) or de-rate (add capacity, dilutive M&A).

- **New construction:** Our US team recently increased our outlook for single-family starts and expect 9% YoY growth to 1.03mm in 2024 as homebuilders increase community count and sales improve with lower mortgage rates. Our [BofA US Home Sales Indicators](#) suggests new home sales recovery will likely continue into 2024 supported by the pullback in rates. Builders FirstSource (BLDR) was upgraded to Buy to reflect the stronger US single family starts outlook, potential increase in lumber prices, and homebuilders' shift to more value-add services.
- **R&R:** Repair and remodel (R&R) spend is expected to decline low single-digits in 2024 with weaker trends in 1H24 and potentially recover against easier comparisons later in the year. We prefer AZEK as it will benefit from ongoing material conversion with upside to 1H24 consensus estimates.

## Australia: Expect only modest recovery in 2024

After weak 2022 & 2023, we expect Australia housing activity to recover only moderately in 2024 and forecast dwelling commencements to rise 3% yoy. While we believe that activity may have bottomed in 2Q23, we do not expect a meaningful recovery in 2024 given: (1) higher for longer interest rates where our economists do not expect RBA to cut rates in 2024 and see cash rate at the current level of 4.35%; (2) lead indicators like dwelling approvals, new loan commitments to housing and auction clearance rates all point to only a modest improvement in housing activity; and (3) commentary/our discussions with building material companies/distributors/homebuilders indicate only a mild improvement in activity. We expect activity to bounce back in 2025 (+7% yoy) as rates decline. We recently downgraded JHX to Underperform (solid US demand outlook reflected in estimates; rich valuation; consensus appear optimistic.).

# Key stock picks across our coverage

## Buys

### Europe: CRH (CRH LN/CRH US, Buy): PO: GBp6,000/\$76

We have a Buy rating on CRH, reflecting the group successful portfolio rotation, its primary exposure to the US, with a focus on infrastructure, strong pricing power and attractive valuation: the stock trades on a forward P/E of c14x and EV/EBITDA of c9x, a discount relative to its historical trading range.

### US: Armstrong World Industries (AWI US, Buy): PO: \$110

We rate Armstrong a Buy. We think 4Q23 is on track with the guidance AWI provided last quarter. Investor focus for 4Q earnings will be the project backlog, potential margin tailwinds in 2024 (including lower natural gas costs) and price realization from the 3Q price hike. AWI should have margin tailwinds in mineral fiber on moderating inflation into 4Q (lower natural gas prices offset by higher raw materials). AWI hedged around 50% of its natural gas exposure for 2023 during 1Q23, which will delay some of the benefits from lower gas prices to 2024. Despite a challenging office construction backdrop and inflation, AWI is one of few building products companies poised to grow earnings YoY in 2023 and 2024. We reiterate our Buy rating on attractive valuation vs. history.

### US: Builders FirstSource (BLDR US, Buy): PO: \$200

We rate BLDR shares Buy. BLDR is the best positioned in our coverage for stronger single-family starts, potential increase in lumber prices and homebuilders' shift to more value-add services. We see positive long-term tailwinds from share gains and mix shift to higher margin value-add services. BLDR should benefit from improving single-family housing starts.

### US: Owens Corning (OC US, Buy): PO: \$165

We rate Owens Corning as a Buy. We believe composites margin will remain under pressure until China macro outlook improves and global composite pricing stabilizes. We reiterate our Buy rating to reflect: 1) attractive valuation (~9% free cash flow yield), 2) potential upside to roofing price and margins in 2024 on channel restocking due to favorable storm demand and lean distributor inventory levels, and 3) improving volume and pricing outlook in insulation with our stronger outlook for single-family housing starts.

### US: The AZEK Company Inc. (AZEK US, Buy): PO: \$50

We have a Buy rating on AZEK given: 1) Azek's residential sell-out trends remain strong and composite decking/exterior continues to meaningfully outperform over renovation market, and 2) we see upside to margin guidance from the flow-through of PVC deflation, higher utilization, and use of more recycled materials.

### US: TopBuild Corp (BLD US, Buy): PO: \$410

We have a Buy rating on TopBuild given a stronger single-family housing starts forecast and benefit from insulation price increase realization. We see upside to consensus estimates in 2024 and valuation remains compelling. We also see potential upside from the Specialty Products & Insulation (SPI) acquisition in 2024.

## Underperforms

### Europe: Ferguson PLC (FERG LN/FERG US, U/P): PO: GBp11,400/\$144

We rate FERG an U/P. Beyond downside risks to earnings, the valuation also appears full with a calendar 2024 P/E of 18.3x and EV/EBITDA of 14.3x, broadly consistent with the average of the US peer group (20.1x and 13.8x respectively) and a c25% average premium to its historical average. The impact from earnings upgrades is offset by the recent strength of the GBP.



**US: Fortune Brands Innovations Inc (FBIN US, U/P): PO: \$72**

We have an U/P rating on FBIN primarily based on its premium valuation. We see more upside in other building product stocks in our coverage universe that trade on cheaper valuation multiples.

**US: Hayward Holdings (HAYW US, U/P): PO: \$12**

We have an U/P rating on HAYW to reflect: 1) pool industry sell-out continues to decline, 2) macro headwinds, especially in international markets (~16% of sales) and 3) potential share loss to Pentair and Fluidra as supply chains normalize.

**US: Masco Corp (MAS US, U/P): PO: \$63**

We rate Masco an U/P based on valuation and a still challenging repair and remodel backdrop. We see risk to 2024 consensus estimates and expect Masco to underperform given: 1) MAS generates 90% of sales from repair and remodel (R&R) and sell-out trends continue to decline against tough comparisons, 2) we expect depressed existing home turnover to continue to pressure R&R through 1H24, 3) Europe (15% of EBIT) recently and the macro backdrop remains challenging, and 4) MAS trades at a premium to its historical valuation vs. peers.

**US: Mohawk Industries (MHK US, U/P): PO: \$95**

We have an U/P rating on MHK given: 1) flooring demand remains weak (see charts below), and 2) we expect most of the improvement in costs will be competed away on price and promotions.

**Australia: James Hardie (JHX AU/JHX US, U/P): PO: A\$54.20/US\$35.80**

We have an U/P rating on James Hardie. We continue to like fiber cement as a product and JHX's competitive positioning, as well as JHX's mix shift towards the resilient R&R market. However, we see several reasons that warrant a more cautious view: (1) Solid US demand outlook reflected in estimates: The outlook on US new construction has turned increasingly positive recently driven by rate cut expectations. While we acknowledge that US new housing will likely remain strong, we think this is adequately reflected in our estimates. (2) Rich valuation: Post the recent share price appreciation (JHX +48% in the last 3-months), JHX is trading at c. 0.7 s.d. above its historical mean on EV/EBIT. (3) Consensus appears optimistic.

**Exhibit 1: Companies mentioned**

Companies mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
AWI	AWI US	Armstrong World	US\$ 102.95	B-1-7
BLDR	BLDR US	Builders FirstSource	US\$ 180.91	C-1-9
CRH	CRH US	CRH	US\$ 74.71	B-1-7
CRHCF	CRH LN	CRH	5838p	A-1-7
FERG	FERG US	Ferguson	US\$ 193.82	B-3-7
WOSCF	FERG LN	Ferguson	15445p	B-3-7
FBIN	FBIN US	Fortune Brands Inc	US\$ 78.49	B-3-7
HAYW	HAYW US	Hayward Holdings	US\$ 12.8	C-3-9
JHIUF	JHX AU	James Hardie	A\$ 58.43	B-3-7
JHX	JHX US	James Hardie	US\$ 38.55	B-3-7
MAS	MAS US	Masco Corp	US\$ 70.44	B-3-7
MHK	MHK US	Mohawk Industries	US\$ 108.96	B-3-9
OC	OC US	Owens Corning	US\$ 158.57	B-1-7
AZEK	AZEK US	The AZEK Company	US\$ 45.35	C-1-9
BLD	BLD US	TopBuild	US\$ 379.25	B-1-9

Source: BofA Global Research

BofA GLOBAL RESEARCH

**Price objective basis & risk****Armstrong World Industries, Inc. (AWI)**

Our \$110 PO for AWI shares is based on a 2025E adjusted EV/EBITDA multiple of roughly 11.0x, implying a 2025E P/E multiple of roughly 16x, roughly in-line with AWI's historical average as a favorable price-cost outlook, which offsets a challenging commercial construction outlook. We view AWI as among the best positioned, most resilient companies in our coverage through-out a cycle.

Downside risks: 1) weaker than anticipated commercial construction activity, 2) slower than forecast share repurchases, 3) weaker than expected economic growth in North America, 4) a resurgence in COVID-19 outbreaks that leads to another round of construction market closures, 5) slower than expected return to the office, 6) less municipal spending dedicated to non-residential R&R.

Upside risks: 1) stronger than anticipated recovery in commercial construction, 2) faster than expected recovery in mineral fiber AUV, 3) stronger than expected economic growth in North America, 4) an unexpected decline in COVID-19 cases, 5) faster than expected return to the office, 6) strong municipal spending on R&R for schools and other projects.

**Builders FirstSource Inc (BLDR)**

Our \$200 price objective (PO) is based on a 2025E EV/EBITDA multiple of roughly 9x (around 14x P/E on 2024E EPS), above its average of roughly 6.5x from 2017-2023. We think that BLDR deserves a premium to its historical average given structurally higher margins, increased exposure to value-added products, and a higher ROIC profile.

Upside risks to our PO: 1) faster-than-expected recovery in new home starts, 2) further residential market share gains through organic growth and M&A, 3) higher commodity prices, and 4) lower interest rates.

Downside risks: 1) a downturn in the housing market leading to less starts, 2) margins normalizing lower than anticipated, 3) a decline in commodity prices, and 4) higher than expected capex related to tech investments.

**CRH (CRHCF / CRH)**

Our price objective of GBp6,000 (\$76) for CRH is based on a small premium to the company's 10-year historical forward average P/E and EV/EBITDA multiples of 16.5x and 9.5x, respectively, which we think is reasonable as it includes periods of strong and



weaker trading, consistent with valuation methodology of other companies in the sector and our Sum of the Parts. We then apply these multiples to our 2024 and 2025 earnings forecasts, with a discount factor

Upside risks to our price objective for CRH are: 1) stronger-than-expected strength of US volumes, with non-residential and infrastructure volumes driving growth, 2) resilience of European volumes, driven by the infrastructure sector, 3) an acceleration of the group's bolt-on accretive acquisitions, and 4) a significant decrease in net debt from potential disposals. Downside risks are: 1) a decline of European volumes, 2) a faster-than-expected slowdown in the US, including potential decline in non-residential spending, 3) another surge in energy costs that would put pressure on operating margins.

#### **Ferguson PLC (WOSCF / FERG)**

Our price objective for Ferguson is £114 / US\$144 and is set by applying 16x P/E and 12x EV/EBITDA multiples to our annualised 2024E and 2025E EPS and EBITDA estimates (with a 50% weighting for each year). Our target multiples account for the optionality from the US relisting, which could drive Ferguson multiples closer to its US listed peers.

Upside risks to our PO are an acceleration of organic growth in the US, incremental margin improvement, macro-economic upturn in the Canada and GBP weakness.

Downside risks to our price objective are the pace of recovery in construction markets in both the US and Canada, management execution, changes in pricing, and competition, which could impact negatively upon gross margin.

#### **Fortune Brands Innovations Inc (FBIN)**

Our \$72 PO for FBIN shares is based on a 2025E adjusted EV/EBITDA multiple of roughly 10.5x. At 10.5x adjusted EV/EBITDA, FBIN would trade near the mid-point of its historical valuation range.

Downside risks to our PO are: 1) slowing in the residential R&R market, 2) failure to successfully integrate acquisitions, 3) failure to meet long term outlook, 4) pricing pressure from large customers, 5) greater than expected input cost inflation, 6) rising interest rates increasing the cost of home equity loans, 7) tariffs on imported goods, 8) slowing US economy.

Upside risks to our PO are: 1) acceleration in the residential R&R market, 2), relief on Chinese tariffs, 3) portfolio rationalization, 4) faster than expected Cabinet business restructuring, 5) greater than expected declines in raw material costs.

#### **Hayward Holdings, Inc. (HAYW)**

Our \$12 PO for HAYW shares is based on a 2025e adjusted EV/EBITDA multiple of roughly 11x. In determining the adjusted EV/EBITDA multiple underlying our PO on HAYW shares, we considered current valuation multiples for pool equipment manufacturing competitors and other pool and outdoor living related companies. We believe Hayward should trade at a slight premium to pool peers given its share gain trends in the pool segment.

Upside risks are: 1) a faster than anticipated rebound in pool demand, 2) market share gains, 3) favorable demographics, 4) a more favorable economic backdrop with lower interest rates, and 5) continued elevated price increases.

Downside risks are: 1) higher financial leverage than many building product peers, 2) real/perceived COVID-beneficiaries could lag as economy re-opens, 3) international expansion could negatively impact margins and valuation multiple, 4) effectiveness of



Omni app to drive sales remains unclear, 5) rising interest rates could make financing pools more expensive.

### **James Hardie Industries Plc (JHIUF / JHX)**

Our 12-month PO of A\$54.20/US\$35.80 is based on 17.3x target multiple applied to an average of FY24E and FY25E EBIT. Our target multiple is 0.5 standard deviation above JHX's long term historical mean. We believe a higher multiple versus mean is warranted given the improving earnings profile.

Upside/downside risks are: (1) Stronger-than-expected/weaker-than-expected R&R and new construction activity. (2) Lower-than-expected/higher-than-expected costs. (3) Markets share gains/losses for fiber cement or versus competitors. (4) Favourable/unfavourable FX.

### **Masco Corp (MAS)**

Our \$63 PO for MAS shares is based on a 2025E adjusted EV/EBITDA multiple of roughly 10x. At 10x adjusted EV/EBITDA, MAS would trade near the mid-point of its recent valuation range.

Downside risks to our PO are: 1) slowing in the residential R&R market, 2) larger than expected declines in paint sales/margins, 3) pricing pressure from large customers, 4) greater than expected input cost inflation, 5) rising interest rates increasing the cost of home equity loans, and 6) slowing US economy.

Upside risks to our PO are: 1) stronger spend in residential R&R market, 2) decline in input costs, 3) declining interest rates and 4) improved DIY paint trends.

### **Mohawk Industries (MHK)**

Our \$95 PO for MHK shares is based on 5.0x 2025E EV/EBITDA. At 5.0x 2024e adjusted EV/EBITDA, MHK would trade at the low-end of its 3-year historical average, which we view as appropriate given the a slowdown in near-term revenue growth due to capacity constraints, weakening demand and a recent surge in raw material costs.

Downside risks to our PO are: 1) accelerating execution challenges, 2) greater than expected negative impact from the industry mix-down to lower-value-add products, 3) slowdown in residential new construction, 4) economic slowdown in Europe, 5) political uncertainty in Mexico, 6) slowdown in the resi R&R market, 7) slowdown in commercial construction, 8) continued structural decline in carpeting, 9) capacity additions present risk, 10) rising interest rates increasing the cost of home equity loans, 11) additional loss of patent income, 12) slowdown in acquisitions, 13) slowing global economic growth.

Upside risks to our PO are: 1) more rapid than expected improvement in execution, 2) industry mix improvement, 3) stronger than expected new construction and R&R markets in the US, 4) stronger than expected economic growth in Europe, 5) stabilization in the Mexican political environment, 6) increased carpet demand, 7) smoother execution with capacity additions, 8) lower than expected interest rates, 9) resumption of accretive acquisitions.

### **Owens Corning (OC)**

Our PO for OC is \$165. Our PO is based on 7x 2025E EV/EBITDA, in line with Owens Corning's historical average and roughly in line with OC's historical discount to the group to the current peer group average. We believe that a multiple in the middle of OC's historical range is appropriate given positive demand and pricing trends but some input cost pressure and capacity constraints.

Downside risks: 1) further input cost pressure, 2) softer-than-expected new construction and repair and remodel trends in the US, 3) slower-than-expected GDP growth in key

regions, 4) deceleration in industrial production, 5) further competitor capacity additions in the insulation industry, 6) inability to successfully integrate acquisitions, 7) slowing global growth.

Upside risks: 1) stronger than-expected new construction and repair and remodel trends in the US, 2) upside to GDP growth in key regions and global industrial production, 3) better-than-forecast capacity utilization, particularly in Insulation, 4) stronger-than-expected pricing power.

#### **The AZEK Company Inc. (AZEK)**

Our \$50 PO for AZEK shares is based on a CY2025E EV/EBITDA multiple of 18x, which implies Azek trades in line with its historical discount to key peer Trex. We believe a discount to TREX is appropriate given AZEK's lower return on invested capital, margins and brand recognition.

Upside risks to our PO are: 1) an acceleration in residential repair & remodeling and outdoor living spending, 2) a faster than expected conversion from wood decks to composite decks, 3) faster than expected share gain, 4) continued consumer preference towards enhancing the overall outdoor living space, and 5) faster than expected transition to recycled materials.

Downside risks to our PO are: 1) a slowdown in residential repair & remodeling spending, 2) a slower than expected conversion from wood decks to composite decks, 3) potential market share loss, 4) a mix shift in consumer preferences away from outdoor living and 5) a slowing US economy.

#### **TopBuild Corp (BLD)**

Our \$410 price objective (PO) is based on a 11x EV/2025E EBITDA multiple, in line with its average from 2017-2023. We think that BLD's valuation will trade more in line with its historical valuation as housing starts recover.

Upside risks to our PO: 1) faster-than-expected recovery in new home starts, 2) further residential market share gains through organic growth and M&A, 3) continued strength in the commercial/industrial market, 4) continued price increases on insulation products.

Downside risks: 1) a downturn in the housing market leading to less starts, 2) deflation in insulation products leading to weaker revenue growth and margin pressure, 3) a broad pullback in commercial/industrial activity.

## **Analyst Certification**

We, Shaurya Visen, Arnaud Lehmann and Rafe Jadrosich, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.



**EMEA - Building, Construction & Cement Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Balfour Beatty	BAFBF	BBY LN	Arnaud Lehmann
	Buzzi	BZZUF	BZU IM	Lukha Aggarwal
	Buzzi	BZZUY	BZZUY US	Lukha Aggarwal
	CRH	CRHCF	CRH LN	Arnaud Lehmann
	CRH	CRH	CRH US	Arnaud Lehmann
	Heidelberg Materials	HLBZF	HEI GY	Arnaud Lehmann
	Heidelberg Materials	HDELY	HDELY US	Arnaud Lehmann
	Kingspan Group PLC	KGSPF	KSP ID	Arnaud Lehmann
	Taylor Wimpey	TWODF	TW/ LN	Arnaud Lehmann
	Vistry Group PLC	BVHMF	VTY LN	Lukha Aggarwal
<b>NEUTRAL</b>				
	Ashtead	ASHTY	ASHTY US	Arnaud Lehmann
	Ashtead Group Plc	ASHTF	AHT LN	Arnaud Lehmann
	Holcim	HCMLY	HCMLY US	Arnaud Lehmann
	Holcim Ltd	HCMLF	HOLN SW	Arnaud Lehmann
	Persimmon	PSMMF	PSN LN	Arnaud Lehmann
	Persimmon	PSMMY	PSMMY US	Arnaud Lehmann
	Saint-Gobain	CODGF	SGO FP	Arnaud Lehmann
	Saint-Gobain	CODYY	CODYY US	Arnaud Lehmann
	Sika	SKFOF	SIKA SW	Arnaud Lehmann
	Sika	SXYAY	SXYAY US	Arnaud Lehmann
<b>UNDERPERFORM</b>				
	Barratt Developments	BTDPF	BDEV LN	Lukha Aggarwal
	Bellway	BLWYF	BWY LN	Lukha Aggarwal
	Berkeley Group	BKGFF	BKG LN	Lukha Aggarwal
	Ferguson PLC	WOSCF	FERG LN	Arnaud Lehmann
	Ferguson PLC	FERG	FERG US	Arnaud Lehmann
	Geberit	GBERF	GBN SW	Arnaud Lehmann
	Rockwool International A/S	RKWBF	ROCKB DC	Arnaud Lehmann
	Skanska	SKSBF	SKAB SS	Arnaud Lehmann
	Travis Perkins	TVPKF	TPK LN	Arnaud Lehmann

**US - Homebuilders and Building Products Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Armstrong World Industries, Inc.	AWI	AWI US	Rafe Jadrosich
	Builders FirstSource Inc	BLDR	BLDR US	Rafe Jadrosich
	D.R. Horton, Inc.	DHI	DHI US	Rafe Jadrosich
	Latham Group, Inc.	SWIM	SWIM US	Shaun Calnan, CFA
	Leslie's	LESL	LESL US	Shaun Calnan, CFA
	NVR, Inc.	NVR	NVR US	Rafe Jadrosich
	Owens Corning	OC	OC US	Rafe Jadrosich
	PulteGroup Inc.	PHM	PHM US	Rafe Jadrosich
	The AZEK Company Inc.	AZEK	AZEK US	Rafe Jadrosich
	Toll Brothers, Inc.	TOL	TOL US	Rafe Jadrosich
	TopBuild Corp	BLD	BLD US	Rafe Jadrosich
	Trex Company, Inc.	TREX	TREX US	Rafe Jadrosich
<b>NEUTRAL</b>				
	Dream Finders Homes, Inc.	DFH	DFH US	Rafe Jadrosich
	KB Home	KBH	KBH US	Rafe Jadrosich
	Lennar Corporation	LEN	LEN US	Rafe Jadrosich
	Smith Douglas Homes Corp.	SDHC	SDHC US	Rafe Jadrosich
<b>UNDERPERFORM</b>				
	Fortune Brands Innovations Inc	FBIN	FBIN US	Rafe Jadrosich
	Hayward Holdings, Inc.	HAYW	HAYW US	Rafe Jadrosich
	Masco Corp	MAS	MAS US	Rafe Jadrosich
	Mohawk Industries	MHK	MHK US	Rafe Jadrosich
	Patrick Industries, Inc.	PATK	PATK US	Rafe Jadrosich

**US - Homebuilders and Building Products Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Pool Corporation	POOL	POOL US	Shaun Calnan, CFA

**Australia - Materials & Industrials Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	29Metals Limited	XMLNF	29M AU	James Redfern
	AGL Energy	AGLN	AGL AU	Reinhardt van der Walt
	APA Group	APAJF	APA AU	Reinhardt van der Walt
	BHP Group Limited	BHPLF	BHP AU	James Redfern
	BHP Group Limited	ZBHPF	BHP LN	James Redfern
	BHP Group-ADR	BHP	BHP US	James Redfern
	BlueScope	BLSFF	BSL AU	Chen Jiang
	Boral Ltd	BOALF	BLD AU	Shaurya Visen
	Boss Energy	BQSSF	BOE AU	Cameron Taylor
	Brambles Limited	BMBLF	BXB AU	Reinhardt van der Walt
	Champion Iron	CIAFF	CIA AU	Chen Jiang
	Champion Iron	YCIA	CIA CN	Chen Jiang
	Coronado	CODQL	CRN AU	Chen Jiang
	Evolution Mining	CAHPF	EVN AU	Meredith Schwarz
	Gold Road Resources	ELKMF	GOR AU	Meredith Schwarz
	GWA Group	GWAXF	GWA AU	Shaurya Visen
	Incitec Pivot	ICPVF	IPL AU	Reinhardt van der Walt
	Mineral Resources	MALRF	MIN AU	Matt Chalmers, CFA
	Monadelphous	MDPHF	MND AU	Josephine Forde
	Nickel Industries	NICMF	NIC AU	Cameron Taylor
	Northern Star Resources	NESRF	NST AU	Meredith Schwarz
	NRW Holdings	NRWWF	NWH AU	Josephine Forde
	Nufarm	NUFMF	NUF AU	Reinhardt van der Walt
	Orica	OCLDF	ORI AU	Reinhardt van der Walt
	Origin Energy	OGFGF	ORG AU	Reinhardt van der Walt
	Orora	ORRAF	ORA AU	Roy Harrison
	Paladin Energy	PALAF	PDN AU	Cameron Taylor
	Regis Resources	RGRNF	RRL AU	Meredith Schwarz
	Reliance Worldwide Corporation Limited	RLLWF	RWC AU	Shaurya Visen
	Rio Tinto Ltd	RTNTF	RIO AU	James Redfern
	Seven Group Holdings	XSEVF	SVW AU	Shaurya Visen
	South32 Ltd	SHTLF	S32 AU	James Redfern
	South32 Ltd	XKTPF	S32 LN	James Redfern
	South32 Ltd	XMWTF	S32 SJ	James Redfern
	Ventia	VXVGF	VNT AU	Roy Harrison
	Whitehaven Coal Limited	WHITF	WHC AU	Chen Jiang
	Worley Limited	WYGPF	WOR AU	Cameron Taylor
<b>NEUTRAL</b>				
	Codan	CODAF	CDA AU	Sriharsh Singh
	CSR Limited	CSRLF	CSR AU	Shaurya Visen
	Deterra Royalties	DETRF	DRR AU	Chen Jiang
	Downer EDI Limited	DNERF	DOW AU	Roy Harrison
	Fletcher Building	FRCEF	FBU NZ	Shaurya Visen
	Fletcher Building	YFLBF	FBU AU	Shaurya Visen
	Pilbara Minerals	PILBF	PLS AU	Matt Chalmers, CFA
	Qube Holdings	QUBHF	QUB AU	Reinhardt van der Walt
	Reece Limited	REECF	REH AU	Shaurya Visen
	Sandfire Resources	SFRRF	SFR AU	Matt Chalmers, CFA
	Sims Limited	SMUPF	SGM AU	Chen Jiang
	Transurban Group	XTRAF	TCL AU	Reinhardt van der Walt
	Transurban Group	TRAUF	TRAUF US	Reinhardt van der Walt
<b>UNDERPERFORM</b>				
	ALS Limited	CPBLF	ALQ AU	Reinhardt van der Walt
	Alumina Limited	AWCMF	AWC AU	Chen Jiang
	Atlas Arteria Ltd	MAQAF	ALX AU	Reinhardt van der Walt
	Cleanaway Waste Management	TSPCF	CWY AU	Reinhardt van der Walt

**Australia - Materials & Industrials Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Fortescue Ltd.	FSUMF	FMG AU	James Redfern
	IGO	IPGDF	IGO AU	Matt Chalmers, CFA
	James Hardie Industries Plc	JHIUF	JHX AU	Shaurya Visen
	James Hardie Industries Plc	JHX	JHX US	Shaurya Visen
	Vulcan Steel Limited	XVULF	VSL AU	Shaurya Visen
	Vulcan Steel Limited	XVSTF	VSL NZ	Shaurya Visen

# Disclosures

## Important Disclosures

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

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	39	44.83%	Buy	22	56.41%
Hold	18	20.69%	Hold	11	61.11%
Sell	30	34.48%	Sell	8	26.67%

**Equity Investment Rating Distribution: Business Services Group (as of 31 Dec 2023)**

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	26	55.32%	Buy	17	65.38%
Hold	8	17.02%	Hold	3	37.50%
Sell	13	27.66%	Sell	11	84.62%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	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%

<sup>R1</sup> 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.

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R2</sup> Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

**INCOME RATINGS**, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the [Price Charts website](#), or call 1-800-MERRILL to have them mailed.

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, James Hardie, Masco Corp, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Fortune Brands Inc, Mohawk Industries, The AZEK Company.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, James Hardie, Masco Corp, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, James Hardie, Masco Corp, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, Mohawk Industries, The AZEK Company, TopBuild.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Armstrong World, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, Mohawk Industries, Owens Corning, TopBuild.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the



ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Armstrong World, CRH, Owens Corning, TopBuild.

BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, James Hardie, Masco Corp, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Armstrong World, Builders FirstSource, CRH, Ferguson, Fortune Brands Inc, Hayward Holdings, James Hardie, Masco Corp, Mohawk Industries, Owens Corning, The AZEK Company, TopBuild.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

## Other Important Disclosures

The issuer is a corporate broking client of Merrill Lynch International in the United Kingdom: CRH.

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

**"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

### Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofamli.com/BofASEdisclaimer](http://www.bofamli.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options,

futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofA or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofA or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofA for the provision of research services for a separate fee, and in connection therewith BofA may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofA has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofA). If such recipient uses the services of BofA in connection with the sale or purchase of a security referred to herein, BofA may act as principal for its own account or as agent for another person. BofA is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

#### **BofA ESGMeter Methodology:**

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at [BofA ESGMeter methodology](#). ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

#### **Copyright and General Information:**

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofA or any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofA or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.



Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.