

Scorpio Tankers Inc.

Rates rebound post refinery maintenance; focused on returns; PO to \$60

Reiterate Rating: BUY | PO: 60.00 USD | Price: 48.54 USD

Product rates rebounding as refinery utilization recover

Scorpio Tankers (STNG) posted an 1Q23 adj EPS of \$3.31, above our \$2.94 target and Street's \$3.12. Operating income was \$231 mil, \$18 mil above our target (+\$0.31/sh) as 1Q fleet charter rates came in above our target (time-charter equivalent (TCE) of \$38k/day vs our \$37k/day target). Rates are down from 4Q22's peak (\$46k/day) due to a heavy Gulf refinery maintenance cycle (see our Shipping Preview) but remain above STNG's \$17k/day breakeven level. 2Q-to-date spot TCEs (\$53k/day for LR2s; \$37k/day for MRs; \$37k/day for Handymax) are also accelerating higher from 1Q levels (\$43k/day, \$34k/day, and \$38k/day, respectively) as refinery utilization levels recovered. While debt was flat at \$2 bil in 1Q23 from 4Q22, STNG repurchased \$138 mil in shares (vs \$76 mil in 4Q22), indicative of its shareholder return focus. It aims to further reduce its leverage yet noted it aims to utilize balance sheet and financing efficiently.

Disciplined on capacity; Sees increased scrapping

CEO Emanuele Lauro noted that STNG will remain focused on harvesting its business rather than growing it, emphasizing its capacity discipline. Although STNG expects more operators to place vessel orders given a robust time charter market, it noted that the earliest delivery on newbuilds is 2026 given full shipyard slots and orderbook ratios near record lows (6% of fleet vs 5% in 4Q22). It also noted scrapping activity may accelerate over the next 3 years, with 12% of the LR2 fleet, 23% of the MR fleet and 50% of the Handy fleet expected to reach 20+ years-old by 2026. STNG fleet age is comparatively lower (7 years vs 15-year lifespan). We believe it has 5 years until it needs to begin modernizing its fleet. It targets to dispose older vessels, noting that 5-year-old LR2/MR vessels are currently trading well above their historical purchase price.

Outlook still favorable given strong cash generation

We reiterate our Buy on STNG's shares yet lower our PO to \$60 (from \$67) on 5.0x our 2023 EBITDA estimate (from 6.5x) to the low end of its 5x-9x range as rate acceleration moderates with record tightness behind us. We remain positive on product tanker supply-demand and focus on STNG's cash generation (target \$717 mil 2023 free cash flow) as it further prioritizes shareholder returns. We increase our 2023 and 2024 EPS estimates 38% and 27%, to \$8.10 and \$2.60, from \$5.85 and \$2.05, respectively.

	2023E	2024E	2025E
11.42	8.10	2.60	1.30
11.49	8.27	2.65	1.31
NM	-29.1%	-67.9%	-50.0%
	11.59	10.04	6.69
0.40	0.95	1.00	1.00
4.3x	6.0x	18.7x	37.3x
4.2x	5.9x	18.3x	37.1x
0.8%	2.0%	2.1%	2.1%
3.4x	4.3x	7.2x	9.0x
26.6%	26.0%	13.7%	11.7%
	26.6%		

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 6 to 8. Analyst Certification on page 4. Price
Objective Basis/Risk on page 4.

Timestamp: 02 May 2023 05:02PM EDT

02 May 2023

Equity

Key Changes		
(US\$)	Previous	Current
Price Obj.	67.00	60.00
2023E DPS	0.80	0.95

Ken Hoexter Research Analyst BofAS +1 646 855 1498 ken.hoexter@bofa.com

Nathan Ho, CFA Research Analyst BofAS +1 646 855 3599 nathan.m.ho@bofa.com

Adam Roszkowski, CFA Research Analyst BofAS +1 646 855 5498 adam.roszkowski@bofa.com

Stock Data

ESGMeter™	Medium
Net Dbt to Eqty (Dec-20	22A) 49.2%
ROE (2023E)	18.7%
Bloomberg / Reuters	STNG US / STNG.N
BofA Ticker / Exchange	STNG / NYS
Average Daily Value (mi	n) 50.72 USD
(mn)	
Mrkt Val (mn) / Shares (Out 2,759 USD / 56.8
52-Week Range	23.62 USD - 64.20 USD
Investment Opinion	C-1-7
Date Established	2-May-2023
Price Objective	60.00 USD
Price	48.54 USD

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[™] Scorpio Tankers Inc.

iQmethod [™] – Bus Performance*					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Return on Capital Employed	-1.7%	17.5%	14.5%	7.1%	5.0%
Return on Equity	-11.7%	33.2%	18.7%	5.5%	2.6%
Operating Margin	-16.8%	54.5%	49.2%	31.0%	22.8%
Free Cash Flow	21	735	716	379	321
<i>iQ</i> method [™] – Quality of Earnings*					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash Realization Ratio	NM	1.1x	1.5x	2.8x	4.7x
Asset Replacement Ratio	0.2x	0.2x	0.1x	0.1x	0x
Tax Rate	NM	NM	NM	NM	NM
Net Debt-to-Equity Ratio	144.5%	49.2%	31.3%	22.6%	15.4%
Interest Cover	-0.6x	5.4x	4.0x	1.9x	1.5x
Income Statement Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Sales	541	1,563	1,283	930	832
% Change	-41.0%	189.0%	-17.9%	-27.5%	-10.6%
Gross Profit	541	1,563	1,283	930	832
% Change	-41.0%	189.0%	-17.9%	-27.5%	-10.6%
EBITDA	150	1,058	839	499	400
% Change	-70.6%	607.8%	-20.8%	-40.5%	-19.8%
Net Interest & Other Income	(138)	(149)	(150)	(143)	(120)
Net Income (Adjusted)	(228)	722	481	146	69
% Change	NM	NM	-33.3%	-69.7%	-52.3%
Free Cash Flow Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Income from Cont Operations (GAAP)	(235)	726	491	148	70
Depreciation & Amortization	240	207	208	210	210
Change in Working Capital	14	(176)	28	0	0
Deferred Taxation Charge	0	0	0	0	4
Other Adjustments, Net	53	12	5	44	42
Capital Expenditure	(52)	(34)	(16)	(23)	(5)
Free Cash Flow	21	735	716	379	321
% Change	-91.4%	NM	-2.5%	-47.1%	-15.2%
Balance Sheet Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash & Equivalents	230	377	376	413	184
Trade Receivables	38	277	234	234	234
Other Current Assets	17	34	18	18	18
Property, Plant & Equipment	3,842	3,089	2,897	2,687	2,477
Other Non-Current Assets	887	783	774	774	774
Total Assets	5,014	4,559	4,298	4,126	3,686
Short-Term Debt	235	32	69	69	69
Other Current Liabilities	293	442	439	439	439
	2,649	1,579	1,137	948	523
Long-Term Debt					
Other Non-Current Liabilities	NA	NA	NA	NA	NA
		NA 2,052	NA 1,645	NA 1,456	
Other Non-Current Liabilities	NA				NA 1,031 2,655

Company Sector

Shipping

Company Description

Scorpio Tankers (STNG) provides seaborne transport of refined petroleum products worldwide, such as gasoline, heating oil, and fuel oil. Product tankers move refined products from global refineries to points near consuming markets. STNG operates the world's largest, youngest, and most modern fleet of publicly traded product tankers consisting of 113 owned product tankers. STNG largely operates in the spot shipping markets.

Investment Rationale

With its recent vessel sales and rate gains, STNG is moving well past liquidity concerns, and is benefiting from market rate inflection on refined product demand. With 113 product tanker vessels (post sale), an improvement in transport and aviation demand should aid global product shipping demand. It could see acceleration in its 7x-14x EBITDA band as rate outlook improves. Scorpio has one of the most modern fleets, sufficient size/scale, management expertise, and commercial pools benefits.

Stock Data	
Average Daily Volume	1,045,014

Quarterly Earnings Estimates

	2022	2023
Q1	-0.15A	3.31A
Q2	3.13A	3.04E
Q3	4.29A	1.09E
04	4.24A	0.49E

* For full definitions of \emph{IQ} method $^{\text{SM}}$ measures, see page 5.

Revenues beat on rates; Costs lower than target

Revenues were \$384 million, up 121% year-over-year, and \$15 million above our target as rates rebounded post its mid-quarter update on recovering refinery activity. Vessel operating expense was \$74 million, down 13% year-over-year and \$5 million below our target given a favorable year-over-year comparison on STNG's sale of 18 vessels in 1Q22. It expects costs to further ease into 2H23 given the delivery of delayed equipment but still higher year-over-year due to inflationary pressures on crewing and operating costs. General & Administrative expense was \$22 million, up 78% year-over-year, yet \$3 million below our target given elevated stock-based compensation. The company declared a quarterly cash dividend of \$0.25/sh payable June 30, 2023 (we had targeted \$0.20 previously) and authorized a \$250 million share repurchase program.

Rates rebounding following refinery maintenance

STNG has booked 39% of its 2Q23 spot LR2 revenue days at \$53k/day (from \$47k/day in 1Q23), 35% of its 2Q23 spot MR revenue days at \$37k/day (from \$35k/day in 1Q23), and 34% of its 2Q23 spot Handymax revenue days at \$37k/day (from \$38k/day in 1Q23). Although it noted some softness in Atlantic Basin MR trade, its outlook on LR2 demand remains robust as Europe aims to replace missing Russian product import (3-day sailings between Primorsk-Rotterdam) through Middle East and US Gulf trade. It expects 2023 refined product ton-mile demand to outpace macro trends given capacity dislocations.

Used product vessel pricing above historical newbuilds

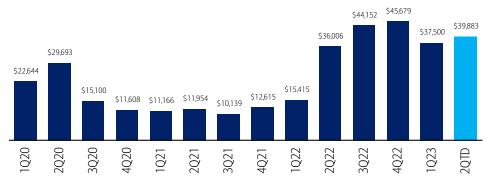
STNG targets to dispose of its older vessels given rising tightness within the used vessel market. With 5-year-old LR2 and MR vessels trading at \$68 million and \$42 million respectively, STNG sees used equipment pricing above historical newbuild costs (20-year average LR2/MR newbuild costs of \$59 million/\$32 million) and original purchase price. Although the heightened demand for capacity has resulted in a slight increase in product tanker orderbook ratio (6% from 5% in 4Q22), STNG noted that earliest delivery on vessels remains 3 years out with yards still occupied with LPG and container ship orders.

Targets to further reduce debt

STNG completed the repurchase of sale-leasebacks for 5 vessels in 1Q23 (3 LR2s, 2MRs) for \$105.6 million through utilizing its credit facilities. Its refinancing moves will aid in reducing its interest costs, decreasing its financing rate to SOFR \pm 1.90% to 1.975% from LIBOR \pm 3.50% to 5.25%. While a significant share of its leverage remains floating rate exposed, it plans to lower its financing spread. It also aims to reduce its aggregate debt level to \$1.8 billion by 2Q23 (from \$2.0 billion in 1Q23) after having achieved \$1 billion in reductions over 2022.

Exhibit 1: Scorpio Tankers Average Fleet TCE Rate

Average fleet TCE rate rebounding to \$40k/day in 2Q23 following refinery maintenance cycle in 1Q23.



Source: BofA Global Research estimates and company reports

BofA GLOBAL RESEARCH



Price objective basis & risk

Scorpio Tankers Inc. (STNG)

Our \$60 price objective is based on an 5.0x EV/EBITDA multiple on our 2023 EBITDA estimate. Our valuation multiple is at the bottom of its 5x-9x historical trading range, as global mobility strengthens, pricing rebounds as inventories reach decade-lows, orderbook remains at historic-lows, and ton mile demand is rising. The negative impacts from COVID disruptions are fading (North America and Europe stronger, Asia stabilizing) though softening economic outlook may weaken demand for refined products. Our multiple is below the bottom end of its range as earnings are set to significantly compound.

Upside risks to our PO are volatile charter rates, better-than-expected spot product tanker rates in 2022-23, lower-than-expected vessel deliveries in 2022-24, a spike in global oil demand, and higher-than-expected levels of scrapping in the market.

Downside risks to our PO are drop off in mobility (return of lockdowns, war disruptions, which have shown to increase ton mile demand), liquidity risk given rolling debt through 2024 versus cash generation (which depends on day rates rising above the daily fixed cost base), a weaker-than-expected rate environment, overcapacity due to greater-than-expected vessel deliveries and lower-than-expected scrapping rates, and weaker global demand for refined products.

Analyst Certification

I, Ken Hoexter, 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 - Transportation Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Canadian National	CNI	CNI US	Ken Hoexter
	Canadian Pacific Kansas City Ltd	CP	CP US	Ken Hoexter
	CSX Corporation	CSX	CSX US	Ken Hoexter
	FedEx Corp.	FDX	FDX US	Ken Hoexter
	J.B. Hunt Transport Services	JBHT	JBHT US	Ken Hoexter
	Kirby Corp	KEX	KEX US	Ken Hoexter
	Knight-Swift Transportation Holdings Inc	KNX	KNX US	Ken Hoexter
	Norfolk Southern	NSC	NSC US	Ken Hoexter
	RXO, Inc.	RXO	RXO US	Ken Hoexter
	Schneider National	SNDR	SNDR US	Ken Hoexter
	Scorpio Tankers Inc.	STNG	STNG US	Ken Hoexter
	Union Pacific	UNP	UNP US	Ken Hoexter
	Werner Enterprises	WERN	WERN US	Ken Hoexter
	World Fuel Services	INT	INT US	Ken Hoexter
NEUTRAL				
	Old Dominion Freight Line	ODFL	ODFL US	Ken Hoexter
	Saia Inc.	SAIA	SAIA US	Ken Hoexter
	Teekay Tankers Limited	TNK	TNK US	Ken Hoexter
	TFI International	TFII	TFII US	Ken Hoexter
	TFI International	YTFII	TFII CN	Ken Hoexter
	UPS	UPS	UPS US	Ken Hoexter
	Wabtec Corp.	WAB	WAB US	Ken Hoexter
UNDERPERFORM				
	ArcBest Corporation	ARCB	ARCB US	Ken Hoexter
	C.H. Robinson	CHRW	CHRW US	Ken Hoexter
	The Greenbrier Companies	GBX	GBX US	Ken Hoexter
	TuSimple	TSP	TSP US	Ken Hoexter



US - Transportation Coverage Cluster

Investment rating	Company	Bof A Ticker	Bloomberg symbol	Analyst
	XPO, Inc.	XPO	XPO US	Ken Hoexter
RSTR				
	Triton International, Ltd	TRTN	TRTN US	Ken Hoexter

Qmethod [™] Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) \times (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities +ST Debt +Accumulated Goodwill
		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	
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

Method SM 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.

Matabase 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.

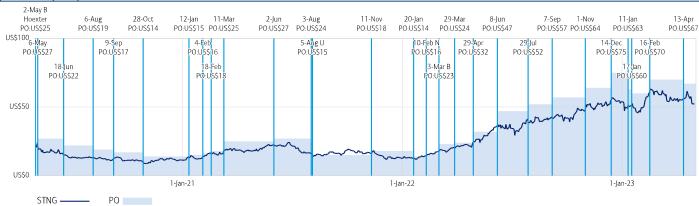
/QprofileSM, /QmethodSM are service marks of Bank of America Corporation. /Qdatabase® is a registered service mark of Bank of America Corporation.



Disclosures

Important Disclosures

Scorpio Tankers (STNG) 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: Transport/Infrastructure Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	68	51.52%	Buy	38	55.88%
Hold	28	21.21%	Hold	15	53.57%
Sell	36	27.27%	Sell	18	50.00%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1869	53.01%	Buy	1030	55.11%
Hold	827	23.45%	Hold	476	57.56%
Sell	830	23.54%	Sell	389	46.87%

Issuers that were investment banking dients 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). There are three investment ratings: 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. 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 ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Undernerform	N/A	> 20%

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. Scorpio Tankers.

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: Scorpio Tankers Inc.

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: Scorpio Tankers.

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

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 Prudential 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.bofaml.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 (Forgalized (Australia): Merrill Lynch (Hong Kong): Merrill (H (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): 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): Merrill Lynch (Israel): Merrill Lynch (DIFC): Merrilll Lynch (DIFC): Merrill Lynch (DIFC): Merrill Lynch (DIFC): Merri 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 S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários; Merrillos e Valores Mobiliários; Merrillos e Valores Mobil 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 HKSFC; 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 in prepared and issued by Merrill Lynch (DIFC) is done so in accordance

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.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS 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 BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS 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 2023 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 inform

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 BofAS 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 BofAS 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.

