Calvert

Calvert’s approach to investing in mining in ‘3 threes’

CALVERT RESEARCH TEAM | July 2025

The global mining sector extracts and refines a wide range of materials including industrial metals (steel, aluminium, copper), energy commodities (coal) and precious minerals (gold, diamonds). These are used in everything from infrastructure and construction, to automotive output, electricity generation, and electronics production. Doing so produces significant carbon CO_2 emissions (over a quarter of annual global greenhouse gases originate from the use of mined materials),[1] and has contributed to environmental degradation such as deforestation, that can have negative implications for a range of local stakeholders. Control of the supply of so-called ‘critical’ minerals and metals is also at the forefront of rising geopolitical tensions across the globe. Trade policy tools such as export restrictions and import tariffs on certain metals are increasingly being used in the current geopolitical backdrop. Separately, access to mineral deposits is also being used as a negotiating card as part of economic or security agreements between nations.

At the same time, mining is set to be a crucial facilitator of the global energy transition in what we see as a shift from a ‘fuel intensive’ energy system largely running on fossil fuels to a more ‘resource intensive’ one which integrates low-carbon technologies at scale. Despite their significantly lower lifecycle emissions profiles, electric vehicles and renewable electricity generation capacity require on average 5x more mined materials to build when compared to those powered by oil, natural gas or coal[2] (see *Display 1*). This means that the clean technologies that will power the energy transition simply cannot be scaled up without using significantly more mined resources such as copper, nickel, lithium, cobalt and rare earth elements; with global

AUTHOR

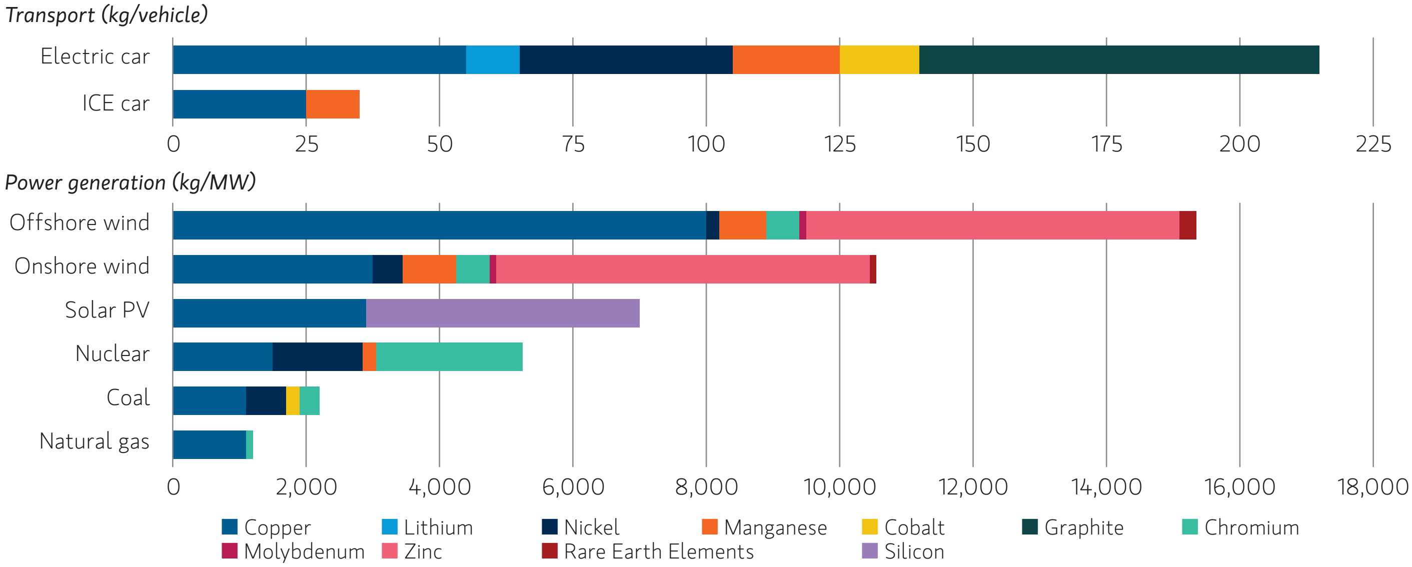
TAREK SOLIMAN
Executive Director, Energy & Mining

[1] McKinsey, Climate risk and decarbonization: What every mining CEO needs to know, January 28, 2020

[2] International Energy Agency, The Role of Critical Minerals in Clean Energy Transitions, May 5, 2021

DISPLAY 1

Material inputs for clean technology are significantly higher than for fossil fuel-based energy use



Source: International Energy Agency as of May 5, 2021

clean technology deployment continuing to rise year-on-year, mining is becoming increasingly relevant. This means that despite having similar characteristics to other natural resource extractive industries such as oil and gas production, we think the investment proposition for mining is distinctly different. Nonetheless, with the inherent risks associated with the sector, we think it's crucial that responsible investors identify companies that are well-positioned to both capture the growing opportunity set and mitigate the operational and geopolitical risks that come with mining.

At Calvert, we want to see the mining sector step up to responsibly supply the materials needed for the energy transition and have noticed in recent years that companies have taken more action to reduce emissions, address stakeholder concerns, and start to prominently place the energy transition in corporate strategies. However, we feel more can be done. Below we explain our approach to investing in an increasingly important sector through three lenses: i) sustainability themes that we see driving on-the-ground change; ii) our view on mining's compatibility with the Calvert Principles for Responsible Investment ("Calvert Principles");[3] and iii) our areas of investment preference in the sector. Through each of these three lenses, we see three themes (our '3 threes').

1. Three themes we see as driving on-the-ground change:

Through our research we seek to identify trends that are affecting company performance—both on fundamental and sustainability factors—as well shaping market sentiment to the sector. These are some of the areas of focus through which we select corporates in which to invest.

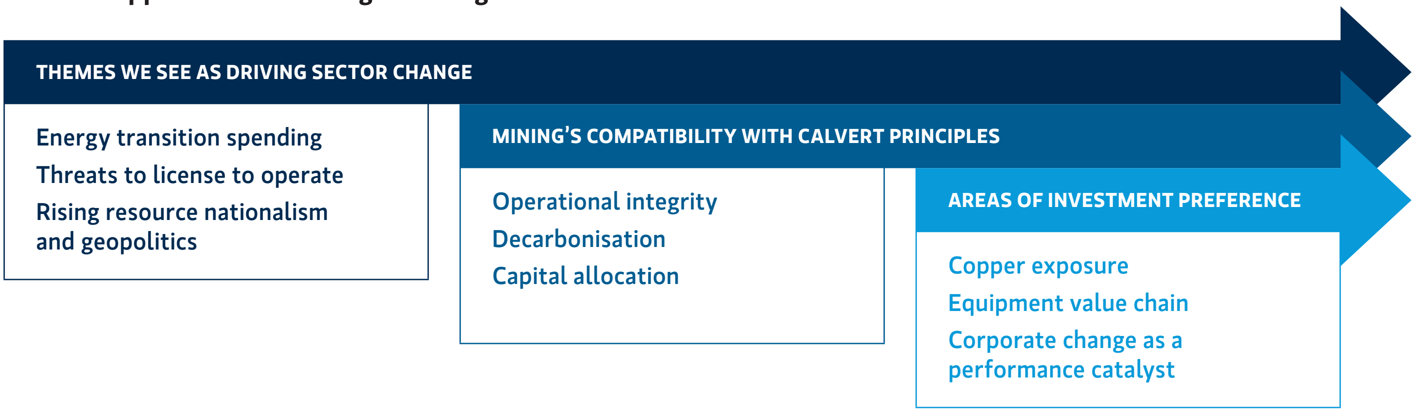
I. **ENERGY TRANSITION SPENDING:** The energy transition continues to be a key driver for growth in mineral demand and in 2024 global spending on clean technology hit an all-time high of over USD $2 trillion,[4] almost twice that of fossil fuels. We see the gap between the two growing over time, with global low-carbon spending driven as much by economics, energy security and bolstering domestic manufacturing as it is by coordinated climate change action. However, due to its capital-heavy nature, investment in clean energy infrastructure and wider electrification is likely to be impacted in the near term by global trade tensions, climate policy changes and geopolitical uncertainties. Over the medium term, increasing deployment of clean technologies (wind/solar, EVs, batteries) and energy infrastructure (electricity grids, energy storage systems), as well the proliferation of data centers, will all increase the call on commodities

[3] The Calvert Principles provide a framework for our evaluation of investments and guide Calvert's stewardship on behalf of clients through active engagement with issuers. For more details on the Calvert Principles, please refer to: https://www.calvert.com/media/34498.pdf.

[4] Bloomberg New Energy Finance, Energy Transition Investment Trends, January 30, 2025

DISPLAY 2

Calvert's approach to investing in mining in '3 threes'



Source: Calvert Research & Management. This represents how the portfolio management team generally implements its investment process under normal market conditions.

such as copper, lithium, aluminium, nickel, zinc, rare earth elements and others. The global mining sector is uniquely placed to responsibly supply this structurally growing demand through new investment, increased recycling efforts and spurring innovation. At Calvert we carefully consider the commodity exposure of the companies under our coverage and their alignment with the demand trends from the energy transition and digitization.

II. THREATS TO LICENSE TO OPERATE: Mining companies around the world are facing increasing challenges to both developing new mines and continuing to operate existing ones due to permitting issues, local opposition and concession terms renegotiations. The mothballing of a flagship USD $10 billion copper mine in Panama in late 2023 is the most recent example of how localized stakeholder conflict, if not adequately managed, has the potential to rapidly lead to significant value destruction (see *Display 3*).[5] In other cases, mining companies have been required to commit significant capital to limit impacts to local stakeholders; for example, in the last decade, BHP has spent over USD $4 billion on water desalination infrastructure at its Chilean copper projects.[6] Mining companies are encouraged to fully integrate broad stakeholder management into project planning and to continue to prioritize it once an asset is operational to ensure its longevity.

DISPLAY 3

First Quantum Minerals' share price halved following the closure of its Cobre Panama copper mine

Past performance no guarantee since depicting share price activity

Source: Bloomberg.

[5] Bloomberg, A $10 Billion Copper Mine Is Now Sitting Idle in the Jungle, April 16, 2024

[6] BHP, Chilean Copper Site Tour Presentation, November 18, 2024

III. **RISING RESOURCE NATIONALISM:** Geopolitics is also having an increasingly significant bearing on several aspects of the global mining sector. This ranges from influencing investment flows to diversify metal supply chains away from China, M&A transactions attracting increasing political attention, the rising use of trade policies such as import tariffs or export bans on sensitive metals, as well as heightening market risk premiums for companies operating in certain resource-rich jurisdictions. The renewed global focus on military technology and defense spending has also led to the emergence of a notion of "defense-critical" minerals that includes (among others) cobalt, graphite, titanium and gallium.[7] With a majority of the world's total mined natural resources and metal processing capacity in Emerging Markets, this is a rapidly evolving aspect of investing in the mining value chain. We think responsible investors need to be increasingly aware of the various layers of company exposure to a rapidly shifting macro picture, such as commodity exposure or geographical concentration of operations, as well as considering the implications for downstream mineral-consuming industries (noting that it is often challenging for global institutional investors to gain exposure to certain 'critical' minerals, such as rare earth elements, due to extremely high value chain concentration in China).

2. Three attributes we look for in mining companies under the Calvert Principles:

We believe that the long-term success of mining companies will depend on their ability to sustain operations amidst increasing stakeholder scrutiny and position themselves to navigate the risks and opportunities presented by the transition to a low-carbon economy.

I. **OPERATIONAL INTEGRITY:** We see this as a miner's stewardship of its assets, people and environment in a manner that is considerate of all stakeholders; this is crucial in retaining a social license to operate. Things we look for include minimizing impacts to local communities to safeguard the longevity of mining operations, and worker welfare measures that prioritize both business continuity and employee wellbeing (such as safety or broader labor conditions). In addition, we pay close attention to how a miner manages its environmental impact, including site rehabilitation when an asset reaches the end of its useful life.

II. **DECARBONIZATION PLAN:** We think mining's ability to cut operational emissions as it supplies more raw materials to drive the energy transition will be crucial from both a carbon-credibility and cost basis. We scrutinize the ambition and feasibility of corporate emissions reduction targets and take views around the extent to which companies are keeping pace with both peers and technology development. Specifically, we look at whether mining companies are making structural changes in challenging areas of decarbonization such as haul trucking and diesel-powered equipment or using low-carbon metal processing routes such as electric arc furnaces for steel production.

III. **CAPITAL ALLOCATION:** We examine if a miner is strategically positioning itself to align with the structural demand trends of the energy transition through its commodity production or metal processing technology choices. This

DISPLAY 4

Mining investment opportunities fall across the value chain from mining equipment supply to upstream mineral extraction and downstream material processing

SUPPLY CHAIN

Companies that supply equipment and services to miners (eg. drills, crushers, trucks)

MINING

Extraction of raw materials from deposits in the ground (eg. copper, iron ore)

METAL PROCESSING

Ore transformed into final product (eg. steel) and sold to market (eg. autos)

Source: Calvert Research & Management

[7] NATO, List of 12 defence-critical raw materials, December 11, 2024

involves taking a forward-looking view to analyze what a company's portfolio of assets or projects will look like over the next decade to assess how this compares with our preferred commodity exposures or metal-processing technology routes. As a capex-heavy sector, multi-billion dollar investment decisions have a strong bearing on a company's future direction, and therefore something which we carefully consider.

3. Three areas of mining investment preference for Calvert:

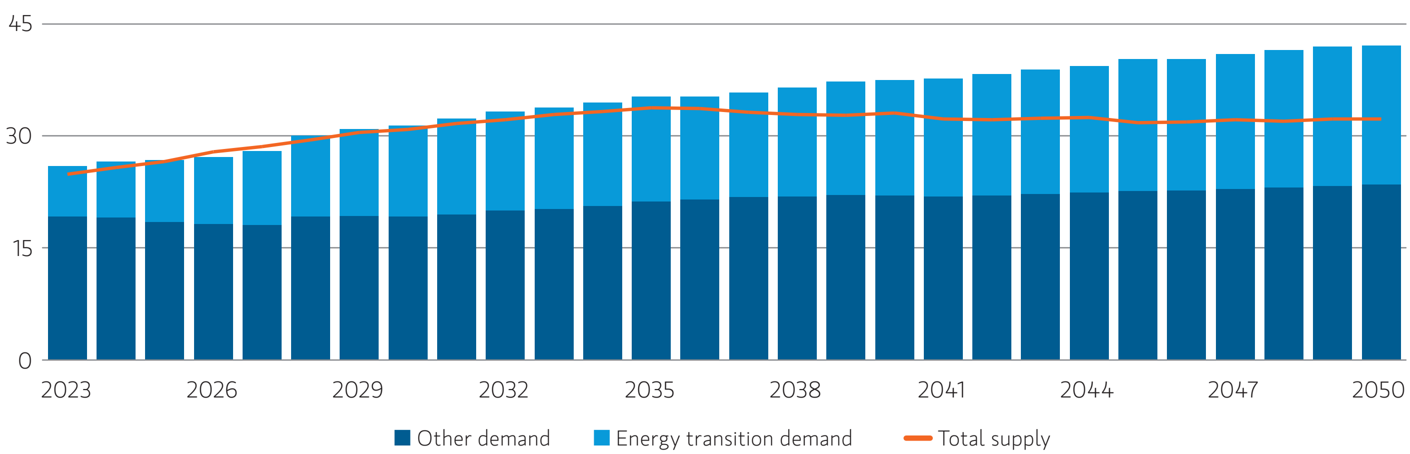
We think a responsible investor's exposure to the mining sector should be selective and prioritize companies that pair strong sustainability performance with firm fundamentals. To that end, we identify investment areas that we see as providing rich opportunity sets within which to pick companies.

I. **COPPER:** We prefer mining companies that own copper mines; these corporates extract and sell the metal which we think will benefit from its future which is linked to the greater role of electricity in the global energy system—copper is the preferred electricity carrier in wiring for its high conductivity. Worldwide electricity use is growing at twice the rate of overall energy demand[8] and the CEO of TotalEnergies, a French integrated oil company, recently stated that "There's no doubt that the energy of the 21st century is electrons".[9] Mining companies come in many shapes and sizes and what we look for is a corporate that has a high, and preferably growing, share of copper in its commodity production mix. We like exposure to copper production for several reasons; firstly, we are positive on its central role in the energy transition and broader digitization which links electrified technologies from wind and solar, to EVs, battery storage and electricity grid expansions, as well as the build-out of data centers and AI infrastructure.[10] Secondly, copper has a structurally tight supply picture (owing to declining global ore grades and long lead times to develop new mines), paired with multiple growing demand drivers (industrial uses, energy transition and digitization). Thirdly, global copper supply is less geographically concentrated compared to other materials such as nickel, lithium, uranium or rare earth elements, meaning it is relatively less exposed to geopolitical shocks such as where an actor can restrict supplies or unduly influence prices. Together, we think this helps underpin a robust investment case for producers of the metal, despite the inherent cyclicality of commodity markets.

II. **THE MINING EQUIPMENT SUPPLY CHAIN:** Our view is also increasingly bullish on the opportunity set for the mining value chain that supplies equipment and provides services to miners—companies such as Epiroc. Going forward, we see the need for more mined materials to be both extracted and processed globally, and to do so in an efficient and safe manner while generating fewer

DISPLAY 5

The energy transition will be largest source of future copper demand growth



Source: Bloomberg New Energy Finance. Units are millions of tonnes of copper. Forecasts and/or estimates are subject to change and may not actually come to pass.

[8] International Energy Agency, Global Energy Review 2025, March 24, 2025

[9] McKinsey Quarterly, TotalEnergies' tightrope transition: A talk with Patrick Pouyanné, February 20, 2025

[10] Financial Times, BHP warns AI growth will worsen copper shortfall, September 16, 2024

carbon emissions. We view this as a structural tailwind for corporates that supply machinery and services to meet rising demand from mining companies for automation and decarbonization solutions for their operations. We are also conscious that equipment and service providers typically generate most of their earnings streams from activity linked to a mine's ongoing output, which is considerably more stable than sales that are dependent on (less predictable) new project approvals.

III. **CORPORATE CHANGE AS A CATALYST:** In a traditionally slow-moving sector, we are continually on the lookout for corporate change stories that can serve as a potential performance catalyst—for example, sizeable M&A or a strategy shift. We believe decisions today can shape how companies will look in the future through a change in commodity or geographic exposure and seek to preempt the resulting impact on sustainability performance. An example is our decision to support Teck Resources' 2023 strategic switch away from extracting oil sands and coking coal to redouble its focus on producing more copper and zinc.

Bottom line

With the energy transition set to mobilize hundreds of billions of dollars across the globe, the opportunity set for responsible investors is significant and we see mining as a crucial player in the journey. Rising global adoption of low-carbon technology to both meet rising energy demand and decarbonize, needs the mining sector's project execution skills, operational track-record and ability to invest at scale.

Against this backdrop, we see an increasingly intertwined relationship going forward between a mining corporate's financial performance and conduct on key sustainability themes. At Calvert, we want to support the companies that are most likely to prosper from responsibly supplying the materials needed to drive this shift in the global energy system and believe that our research approach can help identify those best placed to benefit.

Risk Considerations

Investing involves risk. Portfolios are subject to **market risk**, which is the possibility that the market values of securities owned by the Portfolio will decline and that the value of Portfolio shares may therefore be less than what you paid for them. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects of events. **Commodities** – The value of commodities investments will generally be affected by overall market movements and factors specific to a particular industry or commodity, including weather, embargoes, tariffs, or health, political, international and regulatory developments. The application of **responsible investment criteria** may affect exposure to certain sectors or types of investments, and may impact relative investment performance depending on whether such sectors or investments are in or out of favor in the market. In evaluating an investment, the investment adviser is dependent upon information and data that may be incomplete, inaccurate or unavailable, which could adversely affect the analysis of the ESG factors relevant to a particular investment. Successful application of the portfolio's responsible investment strategy will depend on the investment adviser's skill in properly identifying and analyzing material ESG issues.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market.

A separately managed account may not be appropriate for all investors. Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required.

For important information about the investment managers, please refer to Form ADV Part 2.

The views and opinions expressed are subject to change at any time due to market or economic conditions and may not necessarily come to pass. The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively the Firm") or the views of the firm as a whole, and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or the investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources.

This material is not a product of Morgan Stanley's Research Department and should not be regarded as a research material or a recommendation.

This material is a general communication, which is not impartial, is for informational and educational purposes only, not a recommendation. Information does not address financial objectives, situation or specific needs of individual investors.

Charts and graphs provided herein are for illustrative purposes only. **Past performance is no guarantee of future results.**

Calvert is part of Morgan Stanley Investment Management.
Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

DISTRIBUTION

This material is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

MSIM, the asset management division of Morgan Stanley (NYSE: MS), and its affiliates have arrangements in place to market each other's products and services. Each MSIM affiliate is regulated as appropriate in the jurisdiction it operates. MSIM's affiliates are: Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd, Calvert Research and Management, Eaton Vance Management, Parametric Portfolio Associates LLC, and Atlanta Capital Management LLC.

This material has been issued by any one or more of the following entities:

EMEA

This material is for Professional Clients/Accredited Investors only.

In the EU, MSIM and Eaton Vance materials are issued by MSIM Fund Management (Ireland) Limited ("FMIL"). FMIL is regulated by the Central Bank of Ireland and is incorporated in Ireland as a private company limited by shares with company registration number 616661 and has its registered address at 24-26 City Quay, Dublin 2, DO2 NY19, Ireland.

Outside the EU, MSIM materials are issued by Morgan Stanley Investment Management Limited (MSIM Ltd) is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

In Switzerland, MSIM materials are issued by Morgan Stanley & Co. International plc, London (Zurich Branch) Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland.

Outside the US and EU, Eaton Vance materials are issued by Eaton Vance Management (International) Limited ("EVMI") 125 Old Broad Street, London, EC2N 1AR, UK, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority.

Italy: MSIM FMIL (Milan Branch), (Sede Secondaria di Milano) Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy. The **Netherlands**: MSIM FMIL (Amsterdam Branch), Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. **France**: MSIM FMIL (Paris Branch), 61 rue de Monceau 75008 Paris, France. **Spain**: MSIM FMIL (Madrid Branch), Calle Serrano 55, 28006, Madrid, Spain. **Germany**: MSIM FMIL Frankfurt Branch, Große Gallusstraße 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Denmark**: MSIM FMIL (Copenhagen Branch), Gorrissen Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

MIDDLE EAST

Dubai: MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

This document is distributed in the Dubai International Financial Centre by Morgan Stanley Investment Management Limited (Representative Office), an entity regulated by the Dubai Financial Services Authority ("DFSA"). It is intended for use by professional clients and market counterparties only. This document is not intended for distribution to retail clients, and retail clients should not act upon the information contained in this document.

This document relates to a financial product which is not subject to any form of regulation or approval by the DFSA. The DFSA has no responsibility for reviewing or verifying any documents in connection with this financial product. Accordingly, the DFSA has not approved this document or any other associated documents nor taken any steps to verify the information set out in this document, and has no responsibility for it. The financial product to which this document relates may be illiquid and/or subject to restrictions on its resale or transfer. Prospective purchasers should conduct their own due diligence on the financial product. If you do not understand the contents of this document, you should consult an authorised financial adviser.

U.S.

NOT FDIC INSURED. OFFER NO BANK GUARANTEE. MAY LOSE VALUE. NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY. NOT A DEPOSIT.

LATIN AMERICA (BRAZIL, CHILE COLOMBIA, MEXICO, PERU, AND URUGUAY)

This material is for use with an institutional investor or a qualified investor only. All information contained herein is confidential and is for the exclusive use and review of the intended addressee, and may not be passed on to any third party. This material is provided for informational purposes only and does not constitute a public offering, solicitation or recommendation to buy or sell for any product, service, security and/or strategy. A decision to invest should only be made after reading the strategy documentation and conducting in-depth and independent due diligence.

ASIA PACIFIC

Hong Kong: This material is disseminated by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this material have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this material shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore**: This material is disseminated by Morgan Stanley Investment Management Company and should not be considered to be the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under section 304 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"); (ii) to a "relevant person" (which includes an accredited investor) pursuant to section 305 of the SFA, and such distribution is in accordance with the conditions specified in section 305 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This publication has not been reviewed by the Monetary Authority of Singapore. **Australia**: This material is provided by Morgan Stanley Investment Management (Australia) Pty Ltd ABN 22122040037, AFSL No. 314182 and its affiliates and does not constitute an offer of interests. Morgan Stanley Investment Management (Australia) Pty Limited arranges for MSIM affiliates to provide financial services to Australian wholesale clients. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client" (as defined in the Corporations Act). This material will not be lodged with the Australian Securities and Investments Commission.

JAPAN

For professional investors, this material is circulated or distributed for informational purposes only. For those who are not professional investors, this material is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. ("MSIMJ")'s business with respect to discretionary investment management agreements ("IMA") and investment advisory agreements ("IAA"). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.20% per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract carefully before executing an agreement. This material is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.

RO 4610673 Exp. 6/30/2027 SKU 49321 Ver. 7/7/25 25Q20454_KC_0525 LTR