

Risk management

Risk management is one of the core responsibilities of the Group's leadership and it is central to our decision-making processes.

The Group leadership's fundamental duties as to risk management are:

- making a robust assessment of emerging and principal risks;
- monitoring risk management and internal controls; and
- promoting a risk-aware culture.

Effective risk management is crucial in helping the Group achieve its objectives of preserving its overall financial strength for the benefit of all stakeholders and safeguarding its ability to continue as a going concern, while generating sustainable long-term returns.

The Board assesses and approves our overall risk appetite and monitors our risk exposure and overall evaluation of internal controls. This process is supported by the Audit, HSEC and ECC Committees, whose roles include evaluating and monitoring the risks inherent in their respective areas on which they receive regular reports from the Group corporate functions:

- Industrial and Marketing risk functions (Group Risk Functions)
- Compliance
- Legal
- Finance
- HSEC&HR
- Sustainable Development
- Human Resources
- IT

Group Assurance provides independent assurance on various risks following an annual risk-based audit plan, as approved by the relevant Board Committees. The function has recently been constituted as an amalgamation of Internal Audit and HSEC Audit and is managed by a newly appointed Head of Group Assurance, who joined the Group in 2022, reporting directly to the Chair of the Audit Committee and administratively to the CEO.

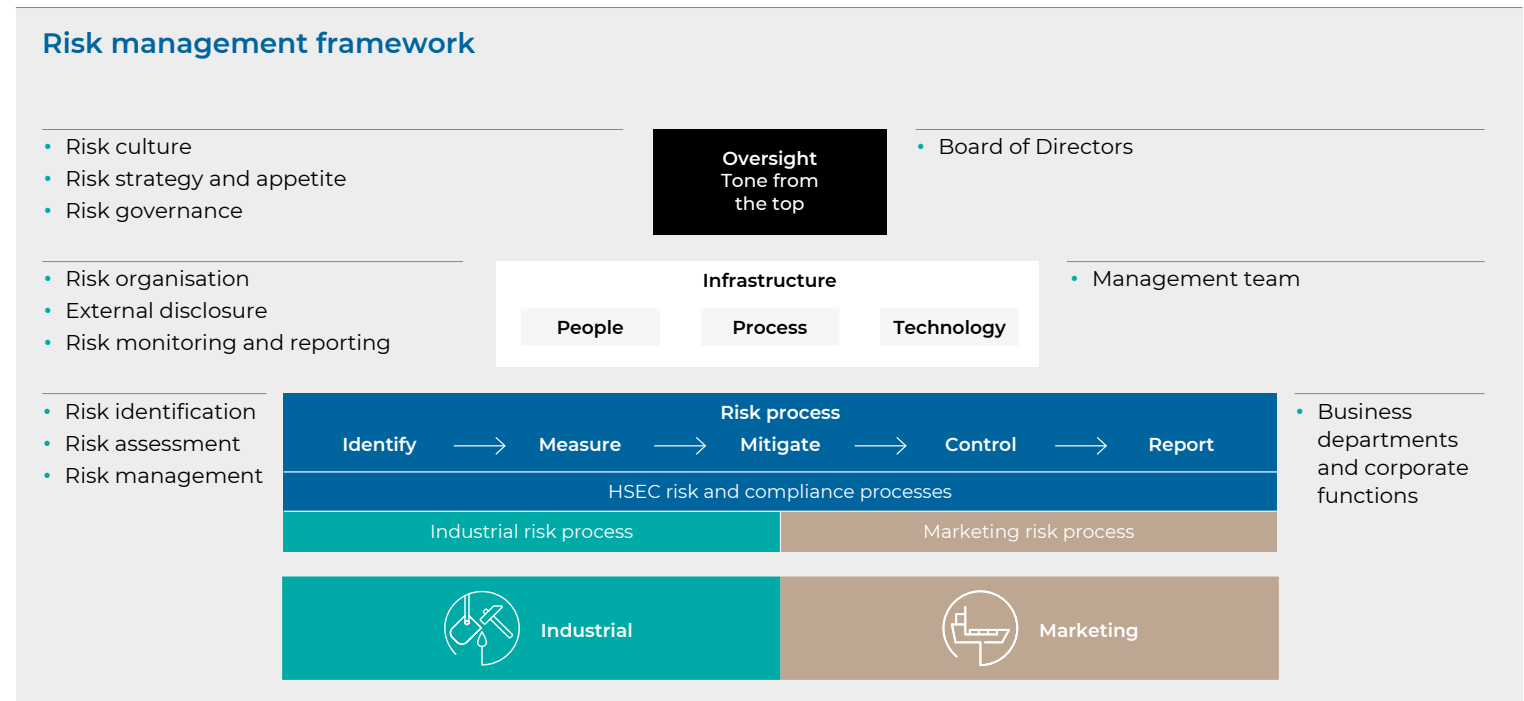
The Committees' work concerning these various risks is set out in their reports on pages 114 to 115, and 117.

The Board actively manages and monitors the Group's risks, financial exposure and related internal controls to mitigate these risks. Monitoring and reporting are the responsibility of the Group Risk Functions and the Heads of corporate functions who provide regular updates to the Board and its Committees covering various risks and the performance of the relevant controls in place. Reporting covers various topics, including Group Value at Risk (VaR), credit exposure, material risks from the risk register, internal audit findings, compliance monitoring, HSEC&HR matters and HSEC assurance. The Board also receives updates from the ESG committee and on the Raising Concerns programme and material investigations.

As well as the ongoing work of the Board and its Committees on the various major areas of risk, the Board undertakes a complete review of the Group's principal and emerging risks in its main Q4 meeting, which is then updated and considered in subsequent meetings for the purposes of this report and the interim report.

Risk management framework

Our Group functions support senior management and those with responsibilities for risk within the business, in the development and maintenance of an appropriate institutional risk culture of managing and mitigating risk across the Group, as appropriate.





Risk management *continued*

Industrial risk management

Responsibilities for business risk management are decentralised across the commodity departments and industrial assets and supported by the industrial assets' Risk Management teams. We believe that all employees should be accountable for the risks related to their roles. As a result, we encourage our employees to escalate risks (not limited to hazards), whether potential or realised, to their immediate supervisors. This enables risks to be tackled and mitigated at an early stage by the team with the relevant level of expertise.

Led by the Head of Industrial Assets and the Industrial Leads across each commodity department, management teams at each industrial asset are responsible for implementing processes that identify, assess and manage risk.

The industrial risk process is driven by ongoing risk assessment informing risk registers maintained at asset, department and Group levels based on risk rating and controls evaluation, with risks owned, escalated and approved according to materiality and following the guidance contained in the Glencore Enterprise Risk Matrix.

HSEC&HR & sustainability risk management

These risk management processes are managed at industrial asset level, with the support and guidance from the corporate HSEC and Human Rights (HSEC&HR) and Sustainable Development teams, and subject to the leadership and oversight of the HSEC Committee. The Head of Industrial Assets drives the risk management framework for all industrial assets, covering

HSEC&HR, and his team monitors its implementation across the Group.

Our risk management framework allows us to identify, assess and mitigate HSEC&HR related risks. The framework identifies material matters and supports our ongoing assessment of what matters most to our business and to our stakeholders. The framework is supported by our HSEC assurance process. On a quarterly basis we monitor and review the progress to close out the corrective actions and address any outstanding issues with the local management teams. The Group's internal HSEC assurance programme focuses on catastrophic risks, assessing and monitoring compliance with leading practices.

Further information is provided in the report from the HSEC Committee on page 117 and will be published in the Group's *Sustainability Report for 2022*.

Marketing risk (MR) management

Glencore's Marketing activities are exposed to a variety of risks, such as commodity price, basis, volatility, foreign exchange, interest rate, credit and performance, liquidity and regulatory. Glencore devotes significant resources to developing and implementing policies and procedures to identify, monitor and manage these risks.

Glencore's MR is managed at an individual, business and corporate level. Initial responsibility for risk management is provided by the businesses in accordance with and complementing their commercial decision making. A support, challenge and verification role is provided by the corporate MR function headed by the Chief Risk Officer (CRO) via its daily risk reporting and analysis which is split by market and credit risk.

The MR function monitors and analyses the large transactional flows across many locations using timely and comprehensive recording and reporting of resultant exposures, which provides the encompassing positional analysis, and continued assessment of universal counterparty credit exposure.

The MR team provides a wide array of daily and weekly reporting. For example, daily risk reports showing Group VaR, back testing results and various stress tests and analysis are distributed to the CEO, CFO and CRO. Additionally, business risk summaries showing positional exposure and other relevant metrics, together with potential margin call requirements, are also circulated daily. The MR function strives to continuously enhance its stress and scenario testing as well as improve measures to capture additional risk exposure within the specific areas of the business.

The Group makes extensive use of credit enhancement tools, seeking letters of credit, insurance cover, discounting and other means of reducing credit risk from counterparts. In addition, mark-to-market exposures in relation to hedging contracts are regularly and substantially collateralised (primarily with cash) pursuant to margining agreements in place with such hedge counterparts.

The Group-wide credit risk policy governs higher levels of credit risk exposure, with an established threshold for referral of credit decisions by business heads to the CRO, CFO and CEO (and the Board, for highest level approvals), relating to potential credit risk exposures at varying levels, depending on counterparty credit quality. At lower levels of materiality, decisions may be taken by the business heads where key strategic transactions or established relationships,

together with credit analysis, suggest that some level of open account exposure may be warranted.

Legal and compliance

For legal and compliance risk, see Ethics and compliance section on page 57, and the laws and enforcement risk on pages 97 to 98.

Managing risk for joint ventures (JVs)

We ensure that our material risk management programmes are implemented at the JVs that we control or operate. In other JVs, we seek to influence our JV partners to adopt our commitment to responsible business practices and implement appropriate programmes in respect of their main business risks.



Risk management *continued*

Value at Risk

One of the tools used by Glencore to monitor and limit its primary market risk exposure, namely commodity price risk related to its physical Marketing activities, is the use of a Value at Risk (VaR) computation. VaR is a risk measurement technique, which estimates the potential loss that could occur on risk positions as a result of movements in risk factors over a specified time horizon, given a specific level of confidence. The VaR methodology is a statistically defined, probability-based approach that takes into account market volatilities, as well as risk diversification by recognising offsetting positions and correlations between commodities and markets. In this way, risks can be measured consistently across markets and commodities and risk measures can be aggregated to derive a single risk value.

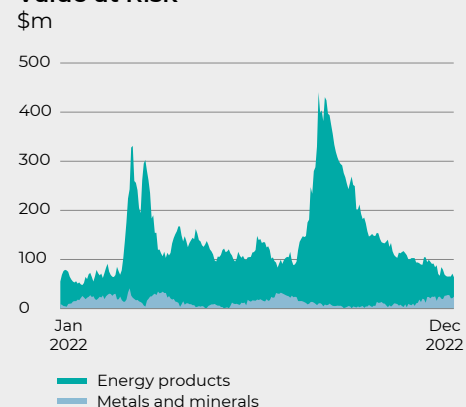
Glencore uses a VaR approach based on Monte Carlo simulations computed at a 95% confidence level and utilising a weighted data history for a one-day time horizon. Glencore's Board, as part of its annual review process in H2 2021, approved an increase in the Group's consolidated VaR limit (one day 95% confidence level) from \$100 million to \$150 million, with effect from 1 January 2022, which represents approximately 0.3% of total equity.

Prior to the Russia / Ukraine conflict, Glencore operated within the \$150 million limit. Around the time of the invasion, the Group's VaR spiked due to the unprecedented levels of volatility in commodity markets (primarily energy but also certain metals), rather than due to any change in the Group's Marketing positions or trading strategies. Given the market backdrop, prior to any likely breach, the Chief Risk Officer proactively consulted with the Board and received a temporary waiver from the application of a Group VaR limit. During the waiver period, the Chief Risk Officer reported regularly to the Board.

In mid-May, as some non-energy markets started to normalise, the temporary waiver was rescinded and replaced with a VaR limit of \$200 million, to account for the statistically elevated energy market risk environment. Similarly, prior to any breach, a temporary waiver was approved in mid-August due to increasing LNG risks as the European gas market was under significant pressure. In mid-September, following a comprehensive review, the Board determined it was appropriate to revert to the prior VaR limit of \$150 million, but to exclude LNG from the Group VaR limit, while maintaining a separate multi-pronged LNG risk reporting and control structure, including the continued calculation and highlighting of VaR outcomes.

The year-end VaR (one day 95%), excluding LNG, was \$76 million (\$88 million, including LNG), comfortably within the Group's \$150 million limit. Average Group VaR, excluding LNG, since its exclusion in mid-September, was \$70 million. Including LNG, average market risk VaR (one day 95%) during 2022 was \$158 million, with an observable high of \$451 million and a low of \$66 million, while average equivalent VaR during 2021 was \$54 million.

Value at Risk



Group Assurance

Group Assurance amalgamates the previously distinct Internal Audit and HSEC Audit teams. The function provides independent and objective assurance to help strengthen governance and controls. In doing so, Group Assurance supports the Board and senior management in protecting the stakeholders, assets, reputation and sustainability of Glencore.

The Head of Group Assurance reports directly to the Chair of the Audit Committee and administratively to the CEO.

The Audit and HSEC Committees, respectively, consider and approve a proposed annual risk-based Internal Audit and HSEC Audit plan. The Committees are regularly updated on the status of delivery against the audit plans, relevant findings and the progress on the implementation of agreed management actions.

The annual risk-based audit plan is developed by Group Assurance through top-down discussions with senior management and continuous bottom-up risk assessments of key processes and risk areas. Group Assurance also performs reviews at the direction of senior management and the Audit and HSEC Committees.

The audit reviews focus on the design, implementation and operating effectiveness of controls in place to mitigate the risks identified.

The Audit Committee has concluded that the Group Assurance function remains effective.



Risk management *continued*

Principal and emerging risks

Our approach is framed by the ongoing understanding of the risks that we are exposed to, emerging trends that could seriously impact our business model, our risk appetite in respect of these risks, how these risks change over time and ensuring risk monitoring takes place across multiple organisational levels.

In accordance with UK Financial Reporting Council guidance, we define a principal risk as a risk or combination of risks that could seriously affect the performance, future prospects or reputation of Glencore. These

include those risks which would threaten the business model, future performance, solvency, or liquidity of the Group.

The Group understands an emerging risk as a risk that has not yet fully crystallised but is at an early stage of becoming known and/or coming into being and expected to grow in significance in the longer term.

Emerging risks typically have their origin outside Glencore and there is often insufficient information for these risks to be fully understood and prevention by the Group may not be possible.

The Board mandates its ECC, HSEC and Audit Committees to identify, assess and monitor the principal and emerging risks relevant to their respective remits. These Committees usually meet four times a year and are always followed by a meeting of the Board, giving the opportunity for all Directors to review and discuss their work.

The assessment of our principal risks, according to exposure and impact, is detailed on the following pages.

The commentary on the risks in this section should be read in conjunction with the explanatory text under Understanding our risks information which is set out on page 94.

In total, there are 12 PRUs (2021: 11), of which the following five are the most significant and may potentially give rise to the most material and adverse effects on the Group:

- supply, demand and prices of commodities;
- liquidity;
- geopolitical, permits and licences to operate;
- laws and enforcement; and
- catastrophic and natural disaster events.

2022 developments and overview of principal risks and uncertainties

Russia / Ukraine war

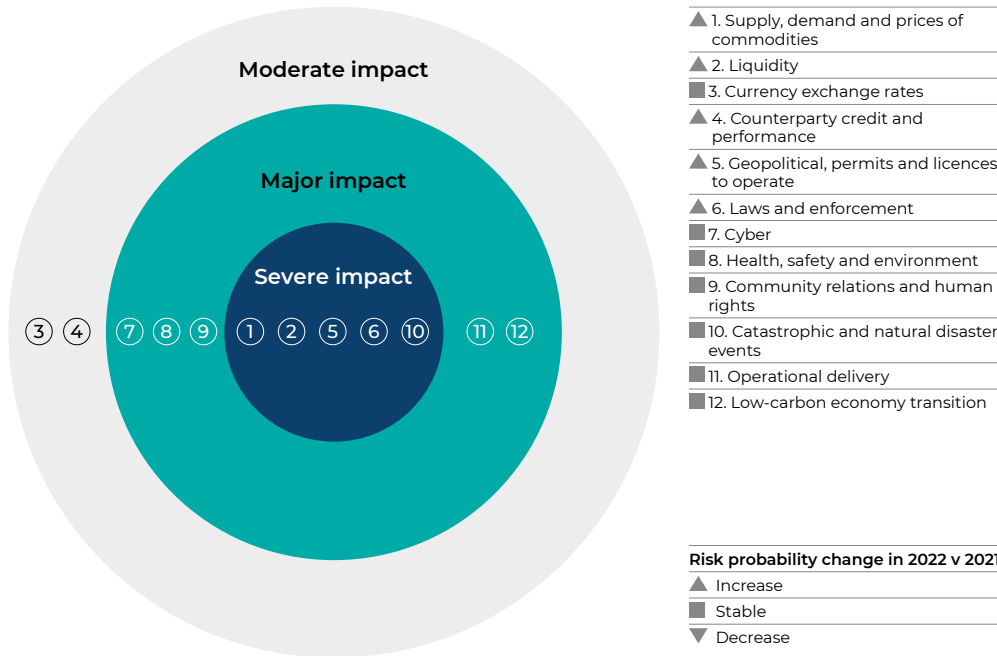
The Russia / Ukraine war, with its associated sanctions regimes, intensified supply-side shocks in energy, agricultural products and commodities trading markets in general. Material trade flows needed to adjust for the now non-availability of Russian material into many of its traditional routes and/or flows through Russia itself. Furthermore, many Western companies meaningfully withdrew from lawful Russian trade (self-sanctioning) as the ESG risk became increasingly unacceptable. In this environment, commodity prices and volatility, particularly in the energy sector, surged in the first half.

Government investigations and related claims

We entered into resolutions with a number of authorities regarding our long-standing government investigations. However, investigations remain outstanding by Swiss and Dutch authorities.

In addition, following the resolution of the investigations, a number of group actions and other civil claims have been made or threatened against the Group.

Summary map of PRUs





Risk management *continued*

Covid-19

Although much of the world emerged from various forms of restrictions and lockdowns over the first half of the year, China maintained a strict zero tolerance policy. Such commitment to zero-Covid particularly dampened domestic industrial and consumer demand. The resulting drag on metals prices was evident in June-August, with prices broadly stable since then.

Rapid tightening of monetary policy

Faced with the current inflationary environment, most major central banks have been aggressively increasing interest rates. Many of the biggest economies are already dealing with lower growth or recession.

Reflecting the above, the main issues and impacts on our risks this year have been:

- unprecedented commodity price volatility and resulting margin call demands in respect of our hedging activities;
- strained supply chains, notably those tied to and linked to Russian sources, and increased costs;
- increase in credit loss provisioning, including in relation to a specific slow-moving exposure;
- implementation of sanctions on the Russian government, various companies, and certain individuals, and heightened risk around compliance with laws and sanctions; and
- significantly increased or new taxes and royalties introduced or under consideration by many commodity producer governments.

The next pages set out a summary of our PRUs and the impacts resulting from potential adverse movements.

Longer-term viability

In accordance with the requirements of the UK Corporate Governance Code, the Board has assessed the Company's prospects in the long term, incorporating but not limited to the 2050 date associated with the Company's net zero ambition.

The assessment was informed by the potential medium- and long-term impact of climate change on the outlook for our commodity businesses, under a range of possible scenarios, as set out on pages 24-25. Such impacts are uncertain, being particularly dependent on long-term changes in the energy mix related to power generation and transportation, as well as consumption efficiencies, behavioural change and coordinated implementation of government policy and regulation frameworks. This analysis, however, indicates stable or improving opportunities across the portfolio in the Current Pathway scenario. In the Rapid Transformation and Radical Transition scenarios, we project significant coal demand decline over the longer term, mitigated, however, (from a financial perspective) by materially stronger demand for battery and new energy infrastructure required metals.

The Board has also assessed the Company's ability to meet its liabilities as they fall due over the four-year period from 1 January 2023. This period is consistent with the Company's established annual business planning and forecasting processes and cycle, which is subject to review and approval each year by the Board. The Directors believe this is an appropriate review period having regard to the Group's business model, strategy, principal risks and uncertainties, sources of funding and liquidity.

The four-year plan considers Glencore's Adjusted EBITDA, capital expenditure, funds from operations (FFO) and Net debt, and the key financial ratio of Net debt to adjusted EBITDA over the forecast years and incorporates stress tests to simulate the potential impacts of exposure to the relevant principal risks and uncertainties. While all the PRUs have the capability to impact business and financial performance, the most scenario-relevant to the assessment of viability are Risk 1 (Supply, demand and prices of commodities), Risk 3 (Currency exchange rates) and Risk 11 (Operational delivery). For the 2023-26 plan the stress test scenarios were:

- Scenario 1: Reversion – Commodity prices and inflation reverting to historic norms over the outlook period (Likely);
- Scenario 2: Higher inflationary environment – Inflation running approximately 5% p.a. higher than in Scenario 1 until 2025 (Possible but unlikely); and
- Scenario 3: Recession – Commodity prices set at the low end of analysts' consensus ranges as of December 2022 for the entirety of the outlook period (Improbable). Inflation higher than Scenario 1 by 5% in 2023, with no further uplift in 2024-26.

In any downside scenario, the Company's distribution policy automatically prioritises debt repayment around a \$10 billion Net debt cap. Additional mitigating actions include the ability to defer or cancel capital expenditure, to manage working capital and to reduce distributions to shareholders. After taking account of any such required mitigating actions, in the downsides described the Company could sustainably maintain a Net debt balance within its \$10 billion cap.

Based on the results of the related analysis, the Directors have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the four-year period of this assessment.



Risk management *continued*

Understanding our risks information

There are many risks and uncertainties which have the potential to significantly impact our business. The order in which these risks and uncertainties appear does not necessarily reflect the likelihood of their occurrence or the relative magnitude of their potential material adverse effect on our business.

We have sought to provide examples of specific risks. However, in every case these do not attempt to be an exhaustive list. These principal risks and uncertainties should be considered in connection with any forward-looking statements in this document as explained on page 285.

Identifying, quantifying and managing risk is complex and challenging. Although we seek to identify and, where appropriate and practical, actively manage risk through the implementation of policies, standards and procedures, there can be no assurance that these measures will be effective and adequately protect the Group against these risks, including the principal risks and uncertainties listed in the following pages.

This section describes our attempts to manage, balance or mitigate risk. Risk is, however, by its very nature uncertain and inevitably events may lead to our policies and procedures not having a material mitigating effect on the negative impacts of the occurrence of a particular event. Our scenario planning and stress testing may accordingly prove to be optimistic, particularly in situations where material negative events occur in close proximity.

Since many risks are connected, our analysis should be read against all risks to which it may be relevant.

In this section, we have sought to update our explanations, reflecting our current outlook. Mostly this entails emphasising certain risks more strongly than other risks rather than the elimination of, or creation of, risks. Certain investors may also be familiar with the risk factors that are published in the Group debt or equity prospectuses or listing documents. These provide in part some differing descriptions of our principal risks.



Our latest documentation for debt investors and their related risk disclosures is available at: glencore.com/investors/debt-investors

In addition, more information on our risks is available in the relevant sections of our website.

To provide for concise text:

- where we hold minority interests in certain businesses, although these entities are not generally subsidiaries and would not usually be subject to the Group's operational control, these interests should be assumed to be subject to these risks. 'Business' refers to these and any business of the Group;
- where we refer to natural hazards, events of nature or similar phraseology we are referring to matters such as earthquake, flood, severe weather and other natural phenomena;
- where we refer to 'mitigation' we do not intend to suggest that we eliminate the risk, but rather it refers to the Group's attempt to reduce or manage the risk. Our mitigation of risks will usually include the taking out of insurance where it is customary and economic to do so;
- this section should be read as a whole – often commentary in one section is relevant to other risks;
- 'commodity/ies' will usually refer to those commodities which the Group produces or sells;
- 'law' includes regulation of any type;
- 'risk' includes uncertainty and hazard and together with 'material adverse effect on the business' should be understood as a negative change which can seriously affect the performance, future prospects or reputation of the Group. These include those risks which would threaten the business model, future performance, reputation, solvency or liquidity of the Group;
- a reference to a note is a note to the 2022 financial statements; and
- a reference to the Sustainability Report is our *2022 Sustainability Report* to be published in early May 2023.

Risk management *continued*

1. Supply, demand and prices of commodities

2022 vs 2021

Link to strategy



We are subject to the inherent risk of sustained low prices for our main commodities, particularly affecting our Industrial business. The revenue and earnings of substantial parts of our Industrial asset activities and, to a lesser extent, our Marketing activities, are dependent upon prevailing commodity prices. The prices of the commodities we produce are dependent on the expected volumes of supply or demand for commodities which can vary for many reasons out of our control.

New or improved energy production possibilities and/or technologies are likely to reduce the demand for some commodities. Net zero emissions commitment requires demand for unabated coal and other hydrocarbon fuel sources to significantly reduce over time.

The dependence of the Group (especially our Industrial business) on commodity prices, supply and demand of commodities, makes this the Group's foremost risk.

Strategic priorities



Responsible and ethical production and supply



Responsible portfolio management



Responsible product use

Potential impact on the Group

- Significant falls in the prices of certain commodities (e.g. copper, coal, zinc, nickel and cobalt) can have a severe drag on our financial performance, impede shareholder returns and could lead to concerns by external stakeholders as to the strength of the Group's balance sheet.
- A global surplus or shortage in one or more of the commodities we produce could have a major impact on their traded price, and therefore on our financial performance.

Mitigating factors

- We maintain a diverse portfolio of commodities, geographies, assets and contracts.
- We seek to prepare for anticipated shifts in commodity demand, for example by putting a special focus on the parts of the business that will potentially grow with increases in usage of electric vehicles and battery production, and by closely monitoring fossil fuel (particularly thermal coal) demands. We are also able to reduce the production of any commodity within our portfolio in response to changing market conditions.
- Our financial leverage of under 1x in the ordinary course of business should support our ability to obtain financing in a downside scenario (see Liquidity risk below).
- We continue to maintain focus on cost discipline and achieving greater operational efficiency to increase our resilience to lower prices.
- We actively manage commodity price risk in our Marketing segment, including via daily analysis of Group Value at Risk (VaR).

2. Liquidity

2022 vs 2021

Link to strategy



Liquidity risk is the risk that we are unable to meet our payment obligations when due, or are unable, on an ongoing basis, to borrow funds in the market at an acceptable cost to fund our commitments.

While we adjust our minimum internal liquidity threshold from time to time in response to changes in market conditions (as was the case in 2022, due to extreme levels of market volatility, particularly in energy markets, impacting daily margining requirements in respect of our hedging derivatives portfolio), this minimum internal liquidity target may be breached due to circumstances we are unable to control, such as general market disruptions, sharp movements in commodity prices or an operational problem that affects our suppliers, customers or our own business.

Potential impact on the Group

- Our failure to access funds (liquidity) would severely limit our ability to engage in our business activities and may mean that we will not have sufficient funds available for our Marketing and Industrial activities, both of which employ substantial amounts of capital. If we do not have funds available for these activities, then they will decrease.
- Debt costs may rise owing to ratings agency downgrades and the possibility of more restricted access to funding.

Mitigating factors

- It is the Group's policy to operate, at least, a strong BBB/Baa rated balance sheet and to ensure that a minimum level of cash

and/or committed funding is available at any given time.

- Diversification of our funding sources (bank borrowings, bonds and trade finance, further diversified by currency, interest rate and maturity).
- Considering the Group's extensive funding activities, maintaining investment grade credit rating status is a financial priority. In support thereof, Glencore targets a maximum 2x Net debt/Adjusted EBITDA ratio through the cycle, however, whilst maintaining our ordinary course \$10 billion net debt cap, the leverage ratio would more likely be under 1x. The net debt cap may be extended to \$16 billion for M&A opportunities with swift deleveraging back to the \$10 billion level being a key part of our assessment of any such opportunity. Deleveraging below the \$10 billion cap is periodically returned to shareholders. Our financial policies seek to ensure access to funds, when desired, even in periods of market volatility.
- Our bond maturity profile is structured such that maturity repayments do not exceed approximately \$3 billion in any given year.
- During 2022, financial markets were turbulent as markets responded to the Russia / Ukraine war and contended with inflationary pressures and rising interest rates. In this context, along with our strong liquidity position and operating cash flows, the Group opted not to access primary debt capital markets.
- It should be noted that the credit ratings agencies make certain adjustments, including a discount to the value of our Readily Marketable Inventories, so that their calculated net debt is higher. During 2022, S&P and Moody's, respectively, affirmed our BBB+ and Baa1 ratings, both changing their credit outlooks on Glencore to positive.



Risk management *continued*

3. Currency exchange (FX) rates

2022 vs 2021

[Link to strategy](#)


FX changes affect us as a global company usually selling in US dollars but having costs in a large variety of other currencies. The main currency exchange rate exposure is through our industrial assets, as a large proportion of the costs incurred by these operations, which are spread across many different countries, is denominated in the currency of the country in which each industrial asset is located, the currencies of which fluctuate against the US dollar. The vast majority of our sales transactions are denominated in US dollars.

Producer country currencies tend to increase in correlation with relevant higher commodity prices. Similarly, decreases in commodity prices are generally associated with increases in the US dollar relative to local producer currencies.

Potential impact on the Group

- A depreciation in the value of the US dollar against one or more of these currencies will result in an increase in the cost base of the relevant operations in US dollar terms.

Strategic priorities



Responsible and ethical production and supply



Responsible portfolio management



Responsible product use

Mitigating factors

- The inverse FX correlation (against USD commodity prices) usually provides a partial natural FX hedge for the Industrial business.
- In respect of commodity purchase and sale transactions denominated in currencies other than US dollars, the Group's policy is usually to hedge the specific future commitment through a forward exchange contract. From time to time, the Group may hedge a portion of its operating currency exposures and requirements in an attempt to limit any adverse effect of exchange rate fluctuations.
- We continuously monitor and report on financial impacts resulting from foreign currency movements.

4. Counterparty credit and performance

2022 vs 2021

[Link to strategy](#)


We are subject to the risk of non-performance by our suppliers, customers and hedging counterparties, in particular in our Marketing activities.

Financial assets consisting principally of receivables and advances, derivative instruments and long-term advances and loans can expose us to concentrations of credit risk.

Potential impact on the Group

- Non-performance by suppliers, customers and hedging counterparties may occur and cause losses in a range of situations, such as:
 - a significant increase in commodity prices resulting in suppliers being unwilling to honour their contractual commitments to sell commodities at pre-agreed prices;
 - a significant reduction in commodity prices resulting in customers being unwilling or unable to honour their contractual commitments to purchase commodities at pre-agreed prices; and
 - suppliers to whom we have made prepayments finding themselves unable to honour their contractual obligations due to financial distress or other reasons.

Mitigating factors

- We seek to diversify our counterparties and try to ensure adherence to open account limits.
- We make extensive use of credit enhancement tools, seeking letters of credit, insurance cover, discounting and other means of reducing credit risk with counterparts. Where possible, credit exposures are covered through credit mitigation products.
- We monitor the credit quality of our physical and hedge counterparties and seek to reduce the risk of customer default or non-performance by requiring credit support from creditworthy financial institutions.
- Open account risk is governed by Group-wide standards with established thresholds for referral of credit decisions by department heads to the CEO, CFO and CRO (and the Board, for highest level approvals), relating to potential credit risk exposures at varying levels, depending on counterparty credit quality.



Risk management *continued*

5. Geopolitical, permits and licences to operate

2022 vs 2021

Link to strategy



We control and operate assets in many countries across the globe, some of which are categorised as developing, complex or having unstable political or social environments. As a result, we are exposed to a wide range of political, economic, regulatory, social and tax environments. Regulatory regimes applicable to resource companies can often be subject to adverse and unexpected changes. Our operations may also be affected by political and economic instability, including terrorism, civil disorder, violent crime, war and social unrest.

The terms attaching to any permit or licence to operate may be onerous and obtaining these and other approvals can be particularly difficult. Furthermore, in certain countries, title to land and rights and permits in respect of resources are not always clear or may be challenged.

Increased scrutiny by governments and tax authorities in pursuit of perceived aggressive tax structuring by multinational companies has elevated potential tax exposures for the Group. Additionally, governments have sought additional sources of revenue by increasing rates of taxation, royalties or resource rent taxes and aggressively enforcing their tax codes. The tax codes of some countries can be uncertain in their application and the access to impartial administrative and judicial redress may be limited.

Potential impact on the Group

- Adverse actions by governments and others can result in operational / project delays or loss of permits or licences to operate, which could have a material adverse effect on the Group's long-term viability and success.
- Failure to obtain or renew a necessary permit or the occurrence of other disputes could mean that we would be unable to proceed with the development or continued operation of an industrial asset and/or impede our ability to develop new assets.
- Laws and regulations in the countries in which we do business may change or be implemented in a manner that may have a materially adverse effect on the Group.

Mitigating factors

- The Group's industrial assets are diversified across various countries which reduces the Group's exposure to any particular country.
- The Group has an active engagement strategy with the governments, regulators and other stakeholders within the countries in which it operates or intends to operate. Through strong relationships with stakeholders, we endeavour to secure and maintain our licences to operate.

- We endeavour to operate our businesses according to high legal, ethical, social and human rights standards, and to ensure that our presence in host countries leaves a positive lasting legacy.
- We operate under a Group Tax Policy, annually reviewed by the Board, which sets out the Group's commitment to comply with all applicable tax laws, rules and regulations, without exception, and to be characterised as a 'good corporate fiscal citizen'.

6. Laws and enforcement

2022 vs 2021

Link to strategy



We are exposed to extensive laws and regulations, including those relating to bribery and corruption, sanctions, taxation, anti-trust, financial markets regulation and rules, environmental protection, use of hazardous substances, product safety and dangerous goods regulations, post-closure reclamation, employment of labour and occupational health and safety standards. In addition, there are a number of high expectations regarding the need to act ethically in our business and we are exposed to the risk that unethical business practices may, by themselves, harm our ability to engage with certain business partners, and/or give rise to questions whether we are committed to complying with applicable laws.

As a diversified sourcing, marketing and distribution company conducting complex transactions globally, we are particularly exposed to the risks of fraud, corruption, sanctions and other unlawful activities both internally and externally. Certain of our existing Industrial and Marketing activities are in countries that are categorised as developing or as having challenging political or social climates or where the legal system is uncertain, and/or where corruption is generally understood to exist, which creates risks in relation to our compliance with laws and external requirements. The legal system and dispute resolution mechanisms in some countries in which we operate may be uncertain, meaning that we may be unable to enforce our understanding of our rights and obligations under these laws. Our



Risk management *continued*

Marketing activities are large in scale, which may make fraudulent, corrupt or other unlawful transactions difficult to detect. In addition, some of our counterparties have in the past, and may in the future, become the targets of sanctions.

Governmental and other authorities have commenced, and may in the future commence, investigations against the Group (including those listed in our financial statements) in relation to alleged non-compliance with these laws, and/or may bring proceedings against the Group in relation to alleged non-compliance. In addition, the Group may be the subject of legal claims in connection with alleged non-compliance with these laws, including class, collective or group actions.

Potential impact on the Group

- Any changes to these laws or regulations or their more stringent enforcement or restrictive interpretation could cause additional significant expenditure to be incurred and/or cause suspensions of operations and delays in the development of industrial assets.
- The costs associated with compliance with these laws and regulations, including the costs of regulatory permits, are substantial and increasing.
- The impact of any monetary fines, penalties, redress or other restitution requirements, and the associated

reputational damage arising from proceedings that are resolved adversely to the Group, could be material.

- Any successful claims brought against the Group could result in material damages being awarded against the Group, the cessation of operations, compensation and remedial and/or preventative orders.
- In addition, the cost of cooperating with investigations and/or defending proceedings can be substantial.

Mitigating factors

- We seek to ensure compliance through our commitment to complying with or exceeding the laws and regulations applicable to our operations and products and through monitoring of legislative requirements, and engagement with government and regulators.
- We have implemented a number of programmes designed to ensure compliance with applicable laws and regulations, including our Group Ethics and Compliance programme that includes a range of policies, standards, procedures, guidelines, training and awareness, monitoring and investigations.
- We have invested significant resources towards developing this programme, including through increasing the number of dedicated compliance professionals, enhancing our compliance policies and procedures and controls, increasing our training and awareness activities, and strengthening the Group's Raising Concerns programme and investigations processes.
- We engage reputable external legal firms and consultants as necessary to support these efforts.

7. Cyber

2022 vs 2021

Link to strategy



The ever-increasing reliance on digital technologies has brought with it a corresponding rise in cyber-related risks, ranging from the proliferation of ransomware to nation-state activity and the monetisation of cybercrime. Our industrial production, operations, environmental management, health and safety management, communications, transaction processing, and risk management all rely on information technologies, while our long supply chains involve numerous third parties that are exposed to the same cyber risks. Furthermore, the emergence of machine learning and artificial intelligence has led to an exponential increase in the volume and sophistication of fraud attempts. The use of 'Deepfake' technology, powered by machine learning, makes it easier to manipulate audio and video content, increasing the potential for phishing or fraud attacks that impersonate senior executives. Given the accelerating pace at which AI is being used to create malware and deepfakes, there is a significant and growing threat to the security and authenticity of digital content, necessitating robust and vigilant cybersecurity measures.

Potential impact on the Group

- The potential consequences of a cybersecurity breach, incident, or failure of Glencore's IT systems are significant and wide-ranging. Such an event could lead to disruption of our businesses, jeopardise the safety of our employees, result in the exposure of confidential information, damage our reputation, and create


substantial financial and legal risks for the Group.


- The ramifications could extend beyond just our own operations and impact our customers, suppliers, and partners as well.


Mitigating factors

- We take a proactive and multi-faceted approach to mitigating cyber exposure risks and maintaining the security of our IT systems.
- Our IT security standards include layered cyber security, privileged access management, and multiple layers of email security and malware protection, as well as the use of two-factor authentication and VPN technology for securing corporate applications and communications.
- We keep our system software up to date and use global platforms to proactively manage patch compliance, while routine third-party penetration tests and dedicated programmes for enhancing the monitoring and security of our Operational Technology (OT) platforms seek to ensure the effectiveness of our security measures.
- Our IT Security Council sets the global cyber security strategy, conducts regular risk assessments, and designs solutions to protect against emerging threats, and our Cyber Defence Centre is responsible for day-to-day monitoring and remediation of cyber vulnerabilities across the Group.
- We have an incident response team in place to coordinate a swift and effective response in the event of a major cyber incident.
- We prioritise employee education to raise awareness of cyber security threats and encourage best practices in information security.

Strategic priorities

 Responsible and ethical production and supply

 Responsible portfolio management

 Responsible product use

Risk management *continued*

8. Health, safety and environment

2022 vs 2021

Link to strategy



Industrial operations are inherently hazardous. The success of our business is dependent on a safe and healthy workforce and work environment. Identifying and managing risks to the safety and health of our people is essential for maintaining our commitment to responsible production.

Our operations around the world can have direct and indirect impacts on the environment and host communities. Our ability to manage and mitigate these may impact maintenance of our operating licences as well as affect future projects, acquisitions and our reputation.

We operate in some countries characterised with complex and challenging political and/or social climates, which increases our risk of non-compliance with external laws and regulations, as well as with our HSEC&HR policies and standards.

Potential impact on the Group

- Compliance with environmental, safety and health regulations, and our relevant HSEC&HR policies or standards, may result in increased costs.

- Non-compliance or incidents causing serious injury or fatality or other damage at, or to, our facilities or surrounding areas, may result in significant losses. Related consequences could include (1) interruptions in production, litigation and imposition of penalties and sanctions, (2) having licences and permits withdrawn or suspended while being forced to undertake extensive remedial clean-up action or to pay for government-ordered remedial clean-up actions, and (3) paying compensation and reparations to negatively impacted communities.
- Failure to operate responsibly may have long-term negative impacts for host communities and the environment, and erode trust in the integrity of our organisation.
- Liability may also arise from the actions of any previous or subsequent owners or operators of the property, by any past or present owners of adjacent properties, or by third parties.

Mitigating factors

- We implement Health, Safety, Environment, Social Performance and Human Rights (HSEC&HR) policies, standards and procedures designed to (1) protect our people, communities and the environment, and (2) ensure we comply with laws and external regulations, and that set out our ambitions, expectations and requirements that should be applied consistently across the Group. These provide clear guidance on the minimum requirements we expect all our industrial assets to meet, as well as those for our workforce and business partners.
- We have re-launched SafeWork, Glencore's approach to creating a workplace without fatalities and serious injuries. SafeWork provides a set of

minimum expectations for the management of fatal hazards, which consistent application drives a safe operating discipline and a positive safety culture. The impact of this programme has resulted in material improvements in our performance.

- We work with local authorities, local community representatives and other partners, such as NGOs, to help overcome major public health issues in the regions where we work, such as Covid-19, HIV / AIDS, malaria and tuberculosis.

Risk management *continued*

9. Community relations and human rights

2022 vs 2021

[Link to strategy](#)



Respecting human rights and building strong relationships with the communities in which we operate are fundamental to the current and future viability of our business.

We have a geographically diverse business, operating in both developed and developing countries in an array of different contexts. A perception that we are not respecting human rights or generating local sustainable benefits could have a negative impact on our ability to operate effectively, our reputation with stakeholders, our ability to secure access to new resources, our capacity to attract and retain the best talent and ultimately, our financial performance.

Areas that may be affected negatively include the health and safety of our workforce and surrounding communities, environmental damage and interactions with individuals and groups who live and work in or near our local communities. Poor performance can contribute to social instability and the perceived and real value of our assets.

Strategic priorities



Responsible and ethical production and supply



Responsible portfolio management



Responsible product use

Some of our mining operations are in remote areas where they are a major employer in the region. This presents particular social challenges when the mine's resources are depleted to an extent that it is no longer economic to operate and must be closed.

The destruction of indigenous cultural heritage during mining activities in Australia has highlighted the need for effective management processes and engagement, to protect areas and items of cultural significance, and to avoid business and reputation risks.

Potential impact on the Group

- The consequences of adverse community reactions or allegations of human rights or social incidents could also have a material adverse impact on the cost, profitability, ability to finance or even the viability of an operation and the safety and security of our workforce and assets. In addition, global connectivity means that local issues can quickly escalate to a regional, national and global level, potentially resulting in reputational damage and social instability.

Mitigating factors

- We respect communities' perspectives by seeking to actively consult with them on our decision making, and engaging openly and honestly to build lasting relationships.
- We endeavour to focus our social investments on initiatives and programmes to deliver long-term benefits fostering socio-economic resilience.
- We support the advancement of the interests of both our host communities and our industrial assets.
- We seek to apply the UN Voluntary Principles on Security and Human Rights in regions where there is a high risk to human rights from the deployment of public and private security forces.
- We tailor our community approach to be relevant and appropriate to the local context, including regarding tangible and intangible cultural heritage.
- We strive to uphold and respect the human rights of our workforce, local communities and others who may be affected by our activities, in line with the United Nations Guiding Principles on Business and Human Rights.
- We require our industrial assets to implement locally appropriate complaints and grievance processes to welcome feedback and comments on our performance, and take actions when necessary to address the issues raised.
- We believe that legal artisanal and small-scale mining (ASM) can play an important and sustainable role in many economies when carried out responsibly and transparently, including the DRC. We work with the Fair Cobalt Coalition, an NGO that works towards eliminating child and forced labour, improving work practices in ASM operations, and supporting alternative livelihoods to help increase incomes and reduce poverty.
- We implement policies, standards and procedures designed to identify, prevent and mitigate human rights risks and impacts across our business, and are committed to understanding and documenting the social risks and opportunities in the communities in which we operate.

Risk management *continued*

10. Catastrophic and natural disaster events

2022 vs 2021

[Link to strategy](#)


Catastrophic or natural disaster events at the Group's industrial assets can have disastrous impacts on workers, communities and the environment, while also impacting production and resulting in substantial financial costs and harm to our reputation. These events may arise due to natural causes (flood, earthquake, drought) or due to infrastructure or equipment failure (tailings storage facility failure), or both.

Climate change may increase physical risks to our assets and related infrastructure, largely driven from extreme weather events and water-related risks such as flooding or water scarcity.

Potential impact on the Group

- Loss of life, significant environmental damage, or social impact on livelihoods arising from such an event may have significant negative impacts on our reputation.
- The suspension of production arising from one of these events for an extended period could have a significant impact on our business.

- Inclusion of new design standards for improved management of potentially catastrophic events during the development of new projects and as required for the remediation of risks at operating assets may lead to future upward revisions in estimated costs, delays or other impacts. This may cause production to be reduced or to cease and/or require greater infrastructure spending. Also, the realisation of these risks could require significant additional capital and operating expenditures.

Mitigating factors

- Our HSEC&HR policies and standards have been developed to address the catastrophic hazards that present a material risk to our operations. These set our requirements for the prevention of potentially catastrophic events, including accountable roles such as our TSF accountable executives, and our Group standards are subject to assurance.
- The planning, design, construction, operation, maintenance and monitoring of our surface and underground mines, water and tailings storage facilities, smelters, refineries and other infrastructure and equipment is carried out in a manner consistent with leading international standards and designed to prevent incidents and protect our people, assets, communities, the environment and other stakeholders.
- A comprehensive process is in place for the independent assurance of HSEC catastrophic hazards across all operating sites.
- We have implemented a comprehensive tailings management framework, with clear governance, accountabilities, systems, training, auditing and reporting on performance.



Risk management *continued*

11. Operational delivery

2022 vs 2021

[Link to strategy](#)


Our Industrial activities are subject to significant risks throughout each operation's lifecycle, from project planning, through initiation, development, operation and/or expansion and ultimate closure.

The delivery of projects can be impacted by a range of factors, including an inadequate level of resource knowledge, inappropriate design and engineering, lack of independent review, permitting delays, poor project execution resulting in schedule delays and cost increases, commissioning delays and extended ramp-up to design, or not achieving design outputs.

Delivery of operational performance at existing industrial assets can be impacted by a range of factors, including a level of geological risk relating to factors such as structure and grade as well as geotechnical and hydrological risks, natural hazards, processing problems, technical malfunctions, supply chain risk of unavailability of materials and equipment, unreliability and/or constraints of infrastructure, disasters, force majeure factors, cost overruns, or delays in permitting or other regulatory matters.

Strategic priorities



Responsible and ethical production and supply



Responsible portfolio management



Responsible product use

Some of the Group's interests in industrial assets do not constitute controlling stakes. Although the Group has various arrangements in place which seek to protect its position where it does not exercise control, the other shareholders in these entities may act contrary to the Group's interests or be unable or unwilling to fulfil their obligations.

Potential impact on the Group

- The development and operation of assets may lead to future upward revisions in estimated costs (capital and operating expenditure), including in relation to delays or other operational difficulties or damage to properties or facilities, which may cause production to be reduced or to cease, and may require greater infrastructure spending.
- Severe operating difficulties may result in impairments.

Mitigating factors

- Project development and operating risks and hazards are managed through our continuous project status evaluation and reporting processes and ongoing assessment, and reporting and communication of the risks that affect our operations along with updates to the risk register.
- We publish our assessment of reserves and resources based on available drilling and other data sources annually. Conversion of resources to reserves and,

eventually, reserves to production is an ongoing process that takes into account technical and operational factors, and the economics of the particular commodities concerned.

- We manage a disciplined annual process for life of asset planning whereby the optimum resource development and subsequent production plans for each asset are reviewed by Corporate, including understanding the range of potential risks to operational delivery.
- We report our production results quarterly and provide guidance on future production periods which considers exposure to operational delivery risk.
- During 2022, we developed a Group standard which defines the corporate requirements for major project development, including governance requirements for concept, pre-feasibility and feasibility studies and execution. Major projects are also subject to an Independent Peer Review as part of the approval to progress from one project phase to the next.



Risk management *continued*

12. Low-carbon economy transition

2022 vs 2021

Link to strategy



The global transition to a low-carbon economy may affect our business through regulations to reduce emissions, carbon pricing mechanisms, reduced access to capital, permitting risks and fluctuating energy costs, as well as changing demand for the commodities we produce and market. A number of governments have already introduced or are contemplating the introduction of regulatory responses to support the achievement of the goals of the Paris Agreement and the transition to a low-carbon economy. This includes countries where we have assets such as Australia, Canada, Chile and South Africa, as well as our customer markets such as China, South Korea, Japan, United States and Europe.

A transition to a low-carbon economy and its associated public policy and regulatory developments is likely to reduce demand for fossil fuels over time and could lead to certain of our coal assets no longer being economically viable.

Potential impact on the Group

- A transition to a low-carbon economy and its associated public policy and regulatory developments may lead to:
 - the imposition of new regulations, and climate change-related policies on fossil fuels by actual or potential investors, customers and banks, that may impact Glencore's reputation, access to capital and financial performance;
 - import duties / carbon taxes in our customers' markets which may affect our access to those markets as well as our commodities' delivery costs;
 - increased costs for energy and for other resources, which may impact associated costs and the economic competitiveness of our industrial assets;
 - the imposition of levies or taxes, whether or not related to greenhouse gas emissions; and
 - impacts on the development or maintenance of our industrial assets due to restrictions in operating permits, licences or similar authorisations.
- Variations in commodity use from emerging technologies, moves towards renewable energy generation and policy changes may affect demand for our products, both positively and negatively.
- Implementing low-carbon processes and technologies at our industrial assets may increase our operating costs, while also potentially growing / changing our customer base.
- ESG concerns may increase pressure to divest our coal assets, limit / stop our access to finance, restrict production from, development of, or close assets and impact our ability to optimise our portfolio. Some may choose not to invest in or

transact with us, due to our fossil fuel operations.

- Socio-economic concerns associated with the transition to a low-carbon economy may increase expectations of our closure plans and increase closure liabilities.
- We may be the subject of climate-related litigation or regulatory scrutiny. There has been a significant increase in litigation (including class actions), in which climate change and its impacts are a contributing or key consideration, including administrative law cases, tortious cases and claims brought by investors. In particular, a number of lawsuits have been brought against companies with fossil fuel operations in various jurisdictions seeking damages related to climate change. A number of regulators have also increased their scrutiny of companies' actions in respect of climate change, including through investigating claims related to inaccurate or misleading disclosure and/or greenwashing.

Mitigating factors

- We seek to integrate climate considerations, such as energy and climate policies in countries where we operate and sell our products, expectations of our value chains, and the various commitments to achieve the goals of the Paris Agreement, into our strategic decisions and day-to-day operational management.
- Our internal Climate Change Taskforce, led by our CEO and overseen by the Board of Directors, is responsible for delivering our climate strategy and addressing progress against our climate commitments.
- We monitor and report our Scope 1, 2 and 3 emissions, and use this data in managing our operational emissions, as well as for the tracking of our targets.

- We intend to deliver our ambition of net zero emissions by the end of 2050 through seven core actions: managing our operational footprint, reducing our Scope 3 emissions, allocating capital to prioritise transition metals, collaborating with our value chains, supporting uptake and integration of abatement, utilising technology to improve resource use efficiency and being transparent.
- To understand better and plan for the effects of climate change on our business, we have a framework for identifying, understanding, quantifying, where possible, and, ultimately, managing climate-related challenges and opportunities facing our portfolio which covers government policy, lobbying activities, carbon pricing, energy costs, physical impacts, access to capital, risks relating to permits, product demand and litigation risks.