

## Critical minerals – The power factor in commodities

Critical minerals are increasingly playing a key role in the development of electromobility, renewable energy and digitalization – and thus in shaping future developments.

### IN A NUTSHELL

---



Vincenzo  
Vedda  
Chief Investment  
Officer

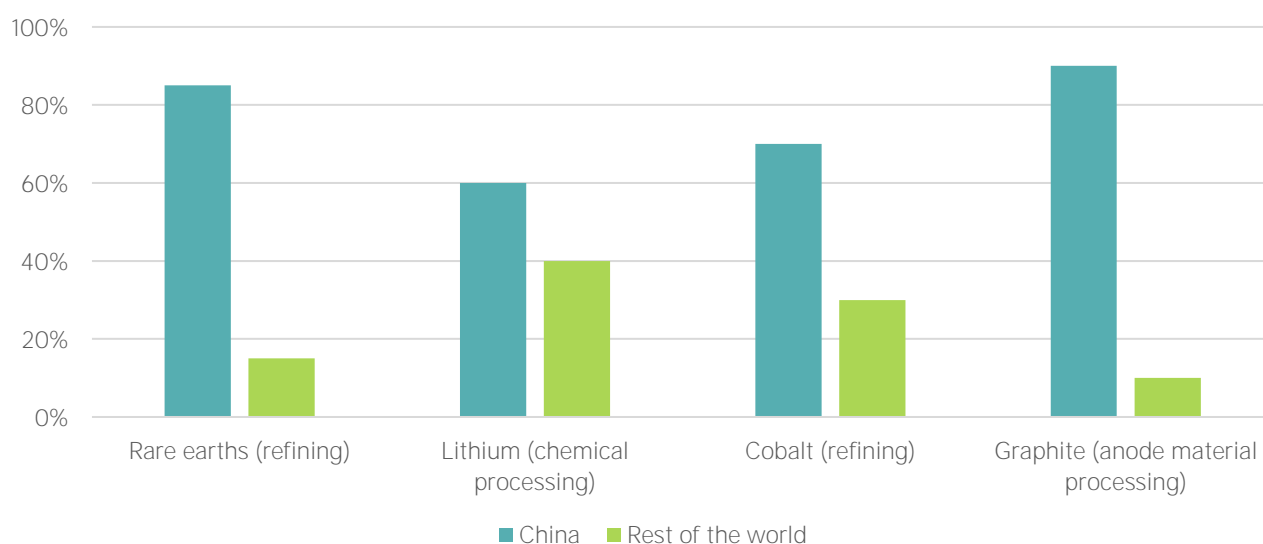
- Critical minerals are better understood as a structural theme than a cyclical commodity trend, given their role in key technologies and their distinct market structure.
  - The decisive bottlenecks tend to arise less in mining than in refining and downstream processing, resulting in a high degree of technological and geopolitical concentration along the value chain.
  - For investors, we think the key long-term implication may lie less in short-term price moves and more in structurally constrained and strategically important segments of the value chain.
- 

Critical minerals have moved from the periphery of commodity markets to the center of economic, industrial and geopolitical strategy. Unlike traditional commodities, they are defined less by volume or price cycles and more by their functional irreplaceability. They are indispensable inputs for key technologies that underpin electrification, digital infrastructure and modern defense systems. This makes them a structural theme rather than a cyclical one.

What distinguishes critical minerals from classical commodities is the nature of demand and supply. Demand is driven simultaneously by three largely independent forces: the energy transition, the rapid buildout of digital and AI-based infrastructure, and rising security and defense requirements. Each of these trends is politically supported, long-term oriented and relatively insensitive to short-term economic slowdowns. Together, they create a persistent demand profile that cannot easily be offset by cyclical weakness in individual end markets.

On the supply side, however, responsiveness is limited. While many critical minerals are geologically abundant, economically viable deposits and, more importantly, processing capabilities are scarce and highly concentrated. The decisive bottlenecks lie not primarily in mining, but further downstream: in refining, separation, metallization and the production of sophisticated intermediate goods such as permanent magnets or battery chemicals. These stages are capital intensive, technologically complex, environmentally sensitive and slow to scale. Decades of industrial policy have led to a high degree of geographic and technological concentration, particularly in China, which today dominates large parts of refining and magnet production (see chart).

### Global concentration of critical minerals processing (share of global refining capacity)



Sources: International Energy Agency (IEA), Global Critical Minerals Outlook 2025, DWS Investment GmbH as of 5/21/25

This concentration gives critical minerals a geopolitical relevance that goes far beyond classical trade dependencies. Control over processing stages translates directly into strategic leverage. Export controls, licensing regimes and technology restrictions have turned certain minerals into instruments of power, with effects that often extend well beyond national borders. For Europe and the United States, this creates structural vulnerabilities that cannot be resolved quickly, even with ambitious industrial and raw materials policies.

These characteristics also help explain why prices often provide misleading signals. Markets for critical minerals tend to be small, opaque and heavily influenced by political intervention. Low or volatile prices do not necessarily indicate sufficient supply or low strategic value. At the same time, the incentive prices required to develop alternative supply chains outside existing centers of control are often significantly higher than current spot prices suggest.

For investors, this implies a shift in perspective. The central question is less about short-term commodity price movements and more about where scarcity becomes binding along the value chain. Companies positioned in structurally constrained segments – particularly in processing and downstream applications – may benefit from durable demand, pricing power and policy support, even if volatility remains high. Broad “commodity beta” is therefore less informative than a granular, value-chain-based assessment.

Overall, critical minerals do not signal the start of a new commodity supercycle. Instead, they reflect a lasting transformation of the global economic order – one in which resilience, supply security and strategic control increasingly take precedence over cost efficiency. Understanding this shift is essential for interpreting both geopolitical developments and long-term investment dynamics.

If you are interested in the whole piece (English only), [here](#) is the link:

## Glossary

**Artificial intelligence** is the theory and development of computer systems able to perform tasks normally requiring human intelligence

**Critical Minerals** are essential to economic activity and modern technologies—such as clean energy or digital infrastructure—whose supply is at risk due to limited availability or highly concentrated production.

A **commodity** is a basic good used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services.

**The International Energy Agency (IEA)** is an autonomous intergovernmental organization which works to ensure reliable, affordable and clean energy for its 30 member countries and beyond.

**Renewables** are natural resources or sources of energy that is not depleted by use, such as water, wind, or solar power.

---

---

## Important information – EMEA, APAC, LATAM & MENA

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they do business. The DWS legal entities offering products or services are specified in the relevant documentation. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively “DWS”) are communicating this document in good faith and on the following basis.

This document is for information/discussion purposes only and does not constitute an offer, recommendation or solicitation to conclude a transaction and should not be treated as investment advice.

This document is intended to be a marketing communication, not a financial analysis. Accordingly, it may not comply with legal obligations requiring the impartiality of financial analysis or prohibiting trading prior to the publication of a financial analysis.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness or fairness of such information. All third party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid. DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS’s written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

© 2026 DWS Investment GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2026 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited. The content of this document has not been reviewed by the Securities and Futures Commission.

© 2026 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited. The content of this document has not been reviewed by the Monetary Authority of Singapore.

© 2026 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640). The content of this document has not been reviewed by the Australian Securities and Investments Commission.

© 2026 DWS Investments Australia Limited

For institutional / professional investors in Taiwan:

This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction or transmission of the contents, irrespective of the form, is not permitted.

as of 5/25/26; 103315\_19 (05/2026)

## Important information – North America

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas Inc. and RREEF America L.L.C., which offer advisory services.

Companies involved in artificial intelligence and big data face intense competition, may have limited product lines, markets, financial resources and personnel. Artificial intelligence and big data companies are also subject to risks of new technologies and are heavily dependent on patents and intellectual property rights and the products of these companies may face obsolescence due to rapid technological developments. Any mentions of specific properties or securities are for illustrative purposes only and should not be considered a recommendation.

This document has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. Before making an investment decision, investors need to consider, with or without the assistance of an investment adviser, whether the investments and strategies described or provided by DWS, are appropriate, in light of their particular investment needs, objectives and financial circumstances. Furthermore, this document is for information/discussion purposes only and does not and is not intended to constitute an offer, recommendation or solicitation to conclude a transaction or the basis for any contract to purchase or sell any security, or other instrument, or for DWS to enter into or arrange any type of transaction as a consequence of any information contained herein and should not be treated as giving investment advice. DWS, including its subsidiaries and affiliates, does not provide legal, tax or accounting advice. This communication was prepared solely in connection with the promotion or marketing, to the extent permitted by applicable law, of the transaction or matter addressed herein, and was not intended or written to be used, and cannot be relied upon, by any taxpayer for the purposes of avoiding any U.S. federal tax penalties. The recipient of this communication should seek advice from an independent tax advisor regarding any tax matters addressed herein based on its particular circumstances. Investments with DWS are not guaranteed, unless specified. Although information in this document has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness, and it should not be relied upon as such. All opinions and estimates herein, including forecast returns, reflect our judgment on the date of this report, are subject to change without notice and involve a number of assumptions which may not prove valid.

Investments are subject to various risks, including market fluctuations, regulatory change, counterparty risk, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you may not recover the amount originally invested at any point in time. Further-more, substantial fluctuations of the value of the investment are possible even over short periods of time. Further, investment in international markets can be affected by a host of factors, including political or social conditions, diplomatic relations, limitations or removal of funds or assets or imposition of (or change in) exchange control or tax regulations in such markets. Additionally, investments denominated in an alternative currency will be subject to currency risk, changes in exchange rates which may have an adverse effect on the value, price or income of the investment. This document does not identify all the risks (direct and indirect) or other considerations which might be material to you when entering into a transaction. The terms of an investment may be exclusively subject to the detailed provisions, including risk considerations, contained in the Offering Documents. When making an investment decision, you should rely on the final documentation relating to the investment and not the summary contained in this document.

This publication contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. The forward looking statements expressed constitute the author's judgment as of the date of this material. Forward looking statements involve significant elements of subjective judgments and analyses and changes thereto and/or consideration of different or additional factors could have a material impact on the results indicated. Therefore, actual results may vary, perhaps materially, from the results contained herein. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements or to any other financial information contained herein. We assume no responsibility to advise the recipients of this document with regard to changes in our views.

No assurance can be given that any investment described herein would yield favorable investment results or that the investment objectives will be achieved. Opinions expressed herein may differ from the opinions expressed by departments or other divisions or affiliates of DWS. This document may not be reproduced or circulated without our written authority. The manner of circulation and distribution of this document may be restricted by law or regulation in certain countries. This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

Past performance is no guarantee of future results; nothing contained herein shall constitute any representation or warranty as to future performance. Further information is available upon investor's request. All third party data (such as MSCI, S&P & Bloomberg) are copyrighted by and proprietary to the provider.

For Investors in Canada: No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein and any representation to the contrary is an offence. This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group. Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction you are considering, and not the information contained herein. DWS Group is not acting as your financial adviser or in any other fiduciary capacity with respect to any transaction presented to you. Any transaction(s) or products(s) mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand such transaction(s) and have made an independent assessment of the appropriateness of the transaction(s) in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DWS Group you do so in reliance on your own judgment. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Any projections are based on a number of assumptions as to market conditions and there can be no guarantee that any projected results will be achieved. Past performance is not a guarantee of future results. The distribution of this document and availability of these products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission.

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

© 2026 DWS Investment GmbH, Mainzer Landstraße 11-17, 60329 Frankfurt am Main, Germany.  
All rights reserved.

as of 5/25/26; 110035\_2 (05/2026)