



## STRATEGIC INVESTMENT OUTLOOK · 2025-2035

# Rare earths & critical minerals

Identifying the most attractive segments across the supply chain — and where Western capital follows the structural pressure points.

## TOPIC OF INTEREST

A structural bull market is forming in critical minerals. China's grip on the supply chain is the constraint, Western policy is the catalyst, and the durable opportunities sit where capacity must be rebuilt fastest.

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## 01 • EXECUTIVE SUMMARY

## A structural bull market in critical minerals

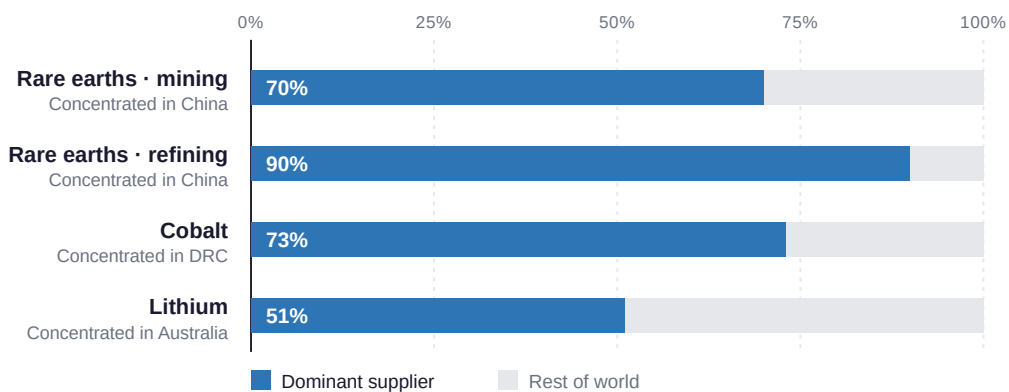
Global decarbonisation, EV adoption, and defense modernisation are colliding with a supply chain controlled almost entirely by one country. The result is durable repricing across the entire value chain.

China holds and controls roughly 70% of rare earth element mining and roughly 90% of refining — a concentration that has forced Western governments to reorganise their supply chains as a matter of national security. The US, EU, and Japan have responded with multibillion-dollar subsidies, sovereign loans, and expanded defense budgets. These materials are no longer cyclical commodities; they are strategic assets.

FIGURE 01 • SUPPLY CONCENTRATION

### Where the global supply of four critical commodities sits

Share of global production controlled by the dominant supplier · 2024 data



**HOW TO READ** each bar represents global production; the blue portion is the share controlled by the dominant supplier. The wider the blue, the greater the concentration risk.

SOURCES · USGS · IEA · INDUSTRY DATA

The concentration creates choke points, particularly in midstream refining, where Western industries face potential shortages and price spikes if export restrictions tighten. A wave of public and private capital is now flowing to friend-shore the supply chain. G7 countries and their allies are actively constructing partnerships and funds that allow diversification away from China.

#### THE THESIS IN ONE LINE

Capital should follow the pressure points. The most attractive returns sit where Western governments must rebuild capacity fastest and where China's dominance is hardest to displace — primarily midstream refining, magnet manufacturing, and heavy rare earth supply.



## 01 • EXECUTIVE SUMMARY (CONTINUED)

### The capital response is already underway

Western governments are no longer waiting for markets to solve the supply chain problem. The policy response has moved from rhetoric to multibillion-dollar funding commitments.

The newly signed US-Australia critical minerals partnership commits \$8.5 billion to joint project financing, shared processing infrastructure, and price stabilisation measures. The US Export-Import Bank has issued letters of interest to seven Australian critical mineral projects.

Inside the US, the DoD and DOE have begun direct investment in mines and processors including MP Materials, Lithium Americas, and Trilogy Metals. Globally, sovereign wealth and joint ventures continue to fund critical mineral projects — including the UAE's \$1.2 billion ADQ/IRH facility.

Three forces hold the structural thesis in place even under different demand scenarios:

- National security framing is now bipartisan and durable across electoral cycles in the US, EU, and Indo-Pacific allies
- Capacity build-out timelines (8–12 years for new refineries; longer for mines) lag demand by a decade or more, locking in price support
- Legislative architecture (IRA, Defense Production Act, EU Critical Raw Materials Act) creates demand-side guarantees that survive market downturns

#### WHAT THIS MEANS FOR CAPITAL ALLOCATION

The structural drivers are policy, not commodity cycle. Companies aligned with Western government supply chain priorities — through grants, offtake contracts, or strategic equity — carry tailwinds independent of underlying spot prices.



02 · THE US-AUSTRALIA ALLIANCE

The framework underwriting Western supply

In late 2025, the United States and Australia formalised a comprehensive critical minerals alliance to secure supply chains. The framework commits joint financing, shared infrastructure, and price supports — a coordinated response to China's near-monopoly in refining.

US-AUSTRALIA CRITICAL MINERALS FRAMEWORK AGREEMENT

|                             |                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------|
| Securing supply chains      | Intensify cooperation and leverage US stockpiles and Australia's Critical Mineral Strategic Reserve.    |
| Investment commitments      | Each government to commit ≥\$1B; \$8.5B pipeline in priority projects.                                  |
| Project selection & support | Joint identification; support via guarantees, loans, equity, offtake, insurance, and regulatory action. |
| Permitting & regulatory     | Accelerate, streamline, or deregulate mining, separation, and processing plants.                        |
| Market & price mechanisms   | Protect markets from unfair practices; standards-based trading; possible trading floors.                |
| Asset sales & security      | Strengthen scrutiny and diplomatic reviews of asset sales for national security.                        |
| Recycling & scrap           | Invest in recycling tech; manage critical mineral and rare-earth scrap for supply diversification.      |
| Geological mapping          | Joint US-Australia mapping; engage third parties for supply chain security.                             |
| "Rapid Response" group      | Joint group led by resource and energy secretaries to address supply security vulnerabilities.          |
| Non-binding framework       | No creation of legal rights or obligations under domestic or international law.                         |

Source: 13D Research



## 02 · ALLIANCE PILLARS

### Four mechanisms making the framework real

The framework matters because of the specific actions already underway beneath it. Four mechanisms drive the alliance from policy commitment to operational reality.

#### PILLAR 01

##### Coordinated investment

The US Export-Import Bank has issued letters of interest to seven Australian projects spanning processing facilities, rare earth, and lithium mines. Australia introduced a A\$1.2 billion (\$777M) Critical Mineral Reserve to accelerate project development.

#### PILLAR 02

##### Infrastructure & processing

Shared midstream infrastructure serves both supply chains. Australia's planned Eneabba refinery — the country's first fully integrated rare earth oxide separation plant — secured a A\$1.65 billion non-recourse government loan. Lynas is building a parallel processing facility in Texas with US DoD funding.

#### PILLAR 03

##### Regulatory coordination

Joint commitment to block Chinese investment in critical mineral assets on national security grounds. Australia has acted on this — Treasurer Jim Chalmers ordered Chinese-linked entities to divest from heavy rare earth miner Northern Minerals. Legal action followed when one fund defied the order.

#### PILLAR 04

##### Supply security & geopolitics

The alliance is a core part of the Western Indo-Pacific strategy, designed for 10+ years of cooperation regardless of political changes. Australia holds 43 of the 55 minerals the US deems critical, positioning it as the primary alternative to Chinese supply.

#### WHAT THIS MEANS FOR CAPITAL

The alliance is not a press release. It is funding flows, permitting reform, and offtake guarantees that materially de-risk Western supply chain projects. Companies receiving direct alliance support — refineries, magnet manufacturers, heavy rare earth miners — have a structural tailwind that does not depend on commodity prices.



## 03 · SUPPLY CHAIN SEGMENTS

## Where the value sits — and where it doesn't

The critical minerals supply chain has four segments with distinct players, bottlenecks, and margin profiles. The most attractive returns and the lowest policy risk sit in midstream refining and component manufacturing.

## SEGMENT 01 OF 04

## OUTLOOK · SELECTIVE

### Upstream mining & extraction

**PLAYERS** BHP, Rio Tinto · juniors: Lithium Americas, Trilogly Metals

**MARGINS** Cyclical, commodity-driven · spikes possible (Li 2022) · negative cashflow until production

**BOTTLENECK** Long permitting · high upfront capex · ESG and rights hurdles

**OUTLOOK** High capital need; government partnerships filling supply gaps

## SEGMENT 02 OF 04

## OUTLOOK · ROBUST

### Midstream refining & separation

**PLAYERS** China dominant (~90% RE, 65–75% Li/Ni/Co) · emerging West: Lynas, Iluka

**MARGINS** Historically thin · now choke point → premium pricing for non-Chinese supply

**BOTTLENECK** "Knowledge war" — China holds the engineering capacity · new refineries cost \$500M–\$1B+

**OUTLOOK** Strongest segment. Government aid cuts capex; floors and offtakes secure profits

## SEGMENT 03 OF 04

## OUTLOOK · ACCELERATING

### Component manufacturing

**PLAYERS** Asia-led, but Western scale-up: MP Materials, Tesla, GM

**MARGINS** 10–20% historical · stronger with unique tech and secure feedstock

**BOTTLENECK** Proprietary IP and decades of magnet/battery R&D in China and Japan · Western tech transfer needs

**OUTLOOK** Ally-shoring drives new plants in NA/EU/AU · MP Materials targeting 10K t/yr NdFeB by 2028

## SEGMENT 04 OF 04

## OUTLOOK · STRATEGIC SHIFT

### End-use manufacturing

**PLAYERS** Tesla, VW, GM, Vestas, GE, Apple, Lockheed, Raytheon

**MARGINS** Auto 5–10% · tech high · defense robust on long contracts

**BOTTLENECK** Upstream disruption vulnerability · low stockpiles · regulatory approval requirements

**OUTLOOK** End-users investing upstream — GM/Tesla offtakes, Lockheed scandium · vertical integration blurs lines



04 · KEY AUSTRALIAN PLAYERS

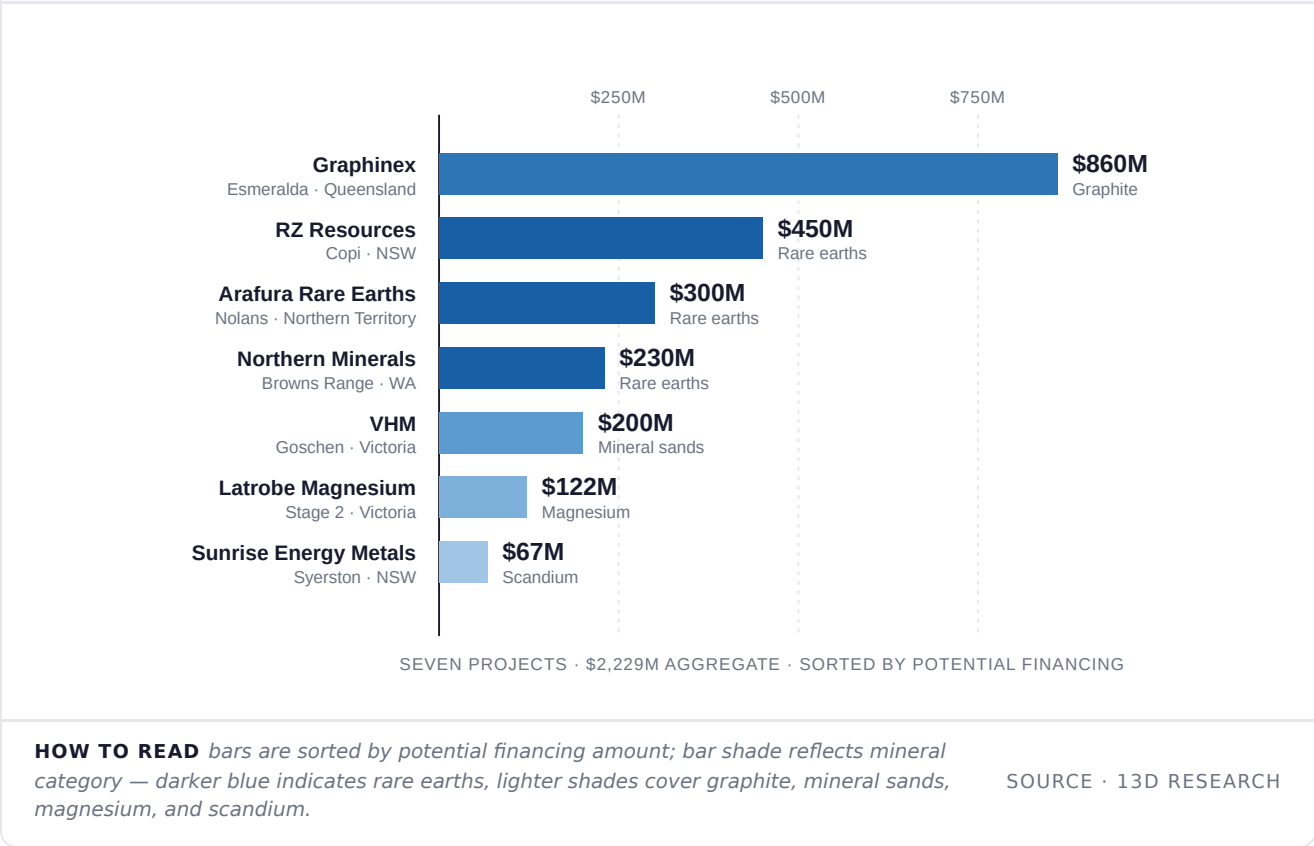
Direct beneficiaries of the alliance

Several Australian companies stand to gain through direct support, funding, or offtake agreements arising from the partnership. The US Export-Import Bank has issued letters of interest to seven projects.

FIGURE 02 · CAPITAL DEPLOYMENT

Where US strategic financing is flowing

Seven US EXIM letters of interest to Australian critical mineral projects · \$2.2B aggregate



The largest single commitment, \$860M to Graphinex's Esmeralda graphite project, signals the breadth of the alliance beyond rare earths. Three of seven projects are direct rare earth investments; the remainder cover graphite, magnesium, mineral sands, and scandium — minerals where China holds similar processing dominance.



## 04 • PLAYER PROFILES

## Five names worth knowing

**ASX: LYC** Lynas Rare Earths

The world's largest non-Chinese rare earth producer and the cornerstone of Western supply. Operates Mt. Weld in Australia and a separation plant in Malaysia, with a Texas processing facility being built using US DoD funding. Will benefit from rising demand and government backing as Western nations seek non-Chinese rare earth resources. **Becomes a reference point for NdPr production** with secure offtake to EV motor, wind turbine, and defense industries.

**ASX: ILU** Iluka Resources

Mineral sands miner transitioning into rare earths refining via the Eneabba Rare Earth Refinery in Western Australia — Australia's first fully integrated rare earth refinery. The Australian government provided a A\$1.65 billion loan for the project. Once operational, Eneabba will produce separated rare earth oxides for Iluka and for third parties such as Northern Minerals. **Reduces Western reliance on Chinese processing** and earns stable, government-backed returns as a central processing hub.

**ASX: NTU** Northern Minerals

Small-cap miner controlling the Browns Range heavy rare earth project. Strong in dysprosium and terbium — the critical ingredients for high-temperature magnets used in defense and EV applications. In 2023–2024, Chinese-linked investors were ordered to divest, protecting it as a strategic source. **Now a candidate for US financing or offtake agreements**, with HREE output likely to command premium pricing.

**ASX: ARU** Arafura Rare Earths

Developing the Nolans rare earth project (NdPr-focused) in northern Australia — one of the world's largest neodymium-praseodymium deposits, targeting ~4,400 tpa NdPr oxide (~5–10% of global demand). Secured A\$200M from NAIF for on-site processing, with Major Project status at territory and federal level. **Already has offtake conversations with Hyundai, Kia, and Siemens**; the integrated mine-to-oxide model captures more downstream margin domestically.

**ASX: CXO** Core Lithium

New lithium producer controlling the Finiss mine (NT), which started production in 2023. In 2024–2025, Core terminated its Chinese offtake deals (paying break fees) to free production for open sale or allied customers. Currently on care and maintenance pending better market conditions, but plans a ramp to ~205,000 t/yr concentrate at restart. **Located near Darwin Port — ideal for Indo-Pacific export**; positioned to attract Western EV supply chain demand.



## 05 • GEOPOLITICAL SCENARIOS

## Three paths, three sets of winners

**SCENARIO 01 • MOST LIKELY NEAR-TERM****Deepening US-China decoupling**

The US continues to tighten controls on Chinese minerals, magnets, and technologies. Western governments expand subsidies for domestic mining, processing, and magnet manufacturing. China responds by preserving supply for its own EV and tech industries and tightening export licensing.

**INVESTMENT IMPLICATION**

Favors non-Chinese refining, magnet products, and heavy REE sources. Western supply chains gain predictable policy support; premiums develop for China-free materials. US-allied projects with government backing become top opportunities.

**SCENARIO 02 • BASE CASE****Partial cooperation • managed coexistence**

China remains dominant in processing but avoids major export disruptions. The West diversifies selectively through Australia, Canada, Japan, and the EU, but some demand still relies on China's cost advantage. Supply chains become dual-tracked rather than fully separated.

**INVESTMENT IMPLICATION**

Refining outside China grows, but not at maximum pace. Magnet manufacturing and HREE producers still benefit from diversification, though margins remain tight. Best opportunities: low-cost Western processors, advanced magnet plants, ionic-clay projects with favorable production ratios.

**SCENARIO 03 • BULL CASE****Western acceleration • full allied build-out**

The US, Australia, Japan, Canada, and Europe coordinate supply chains with large funding packages. A full mine-to-magnet system is built outside China within 8–12 years.

**INVESTMENT IMPLICATION**

Most bullish scenario for Western supply chain players. Refining, magnet manufacturing, heavy REE projects, recycling, and midstream components all become high-growth opportunities. Projects with government-backed capex or offtake agreements outperform.



06 • FINAL REMARKS

Where capital should follow

The rare earth and critical minerals sector is entering a new phase. Western governments are treating these materials as national security assets rather than cyclical commodities, creating durable investment opportunities across the supply chain.

The clearest takeaway: **midstream refining, magnet manufacturing, and heavy rare earth supply represent the strongest long-term positioning.** They are deeply underdeveloped outside China, heavily subsidised by the US and Australia, and central to electric motors, defense systems, and energy technology. Upstream mining remains essential, but it is crowded, capital-intensive, and slow. Downstream manufacturing benefits from demand but faces cost pressures and technological uncertainty.

Regardless of geopolitical scenario, demand for NdPr magnetic materials, dysprosium and terbium for high-temperature magnets, and lithium for large battery formats will remain elevated. Multibillion-dollar public funding is already backing Western re-industrialisation, creating a supportive environment for well-positioned projects with credible technical execution and government alignment. **The most attractive opportunities lie where Western governments must build capacity fastest and where China's dominance is hardest to displace.**

COMPANIES FOR INVESTMENT CONSIDERATION

Names organised by supply chain segment. Inclusion is research interest, not endorsement.

HEAVY RARE EARTHS

Northern Minerals (ASX: NTU)  
Arafura Rare Earths (ASX: ARU)

MIDSTREAM REFINING

Iluka Resources (ASX: ILU)  
Lynas Rare Earths (ASX: LYC)  
Arafura Rare Earths (ASX: ARU)

MAGNET MANUFACTURING

MP Materials (NYSE: MP)

BATTERY-GRADE LITHIUM

Lithium Americas (NYSE: LAC)  
Core Lithium (ASX: CXO)

POLYMETALLIC / STRATEGIC METALS

Trilogy Metals (NYSE: TMQ)