Design Paper for Australia's Critical Minerals Strategic Reserve

Commissioned by the Association of Mining and Exploration Companies and prepared by Mandala

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Contents

MANDALA

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Executive summary

This paper sets out an industry-informed perspective on how to implement the Government's announced Critical Minerals Strategic Reserve.

Our recommended model, the Rare Earths Production Scheme (REPS), leverages a Contract for Difference (CfD) with a price collar to support rare earths projects in Australia, while minimising risks to taxpayers and aligning with the Government's policy objectives.

Rare earths are essential for making permanent magnets, which are key inputs into technologies like fighter jets, radar systems, wind turbines, and electric vehicles. As such, they are crucial to Australia's national security and energy transition.

Australia has the potential to develop its own rare earths capacity. It currently ranks fourth globally in rare earths reserves and fourth in rare earths production. However, China's dominance in rare earths has created volatile market conditions, placing supply at risk and creating headwinds for investment.

To safeguard Australia's national security and support investment, the Government has announced the Critical Minerals Strategic Reserve.

To implement this reserve, we recommend introducing the Rare Earths Production Scheme (REPS), under which rare earths producers and the Government enter a Contract for Difference with a price collar.

Under the REPS, the Government covers any gap when the spot price falls below an agreed floor. Similarly, the Government receives a negotiated proportion of revenue when the spot price rises above an agreed ceiling.

The REPS would focus on neodymium, praseodymium, dysprosium and terbium, as key materials for Australia's national security and energy transition.

Volume eligible for the scheme will be allocated through a tender process, and prices will be set via a reverse auction.

CfDs are already emerging as a key mechanism to support government interventions in strategically important markets, while maintaining economic and fiscal objectives. For example, the REPS mirrors the Australian Government's Capacity Investment Scheme, which uses CfDs with a price collar to underwrite investment in renewable energy and storage.

The Government should act quickly to establish the delivery and governance arrangements necessary to implement the REPS.

1 **A well-designed CMSR can support Australia's rare earths industry in the face of growing global supply chain risks**

2 The recommended model is both fiscally sustainable and commercially viable for rare earths producers in Australia

3 The Government needs to consider a range of design features to operationalise the CMSR

4 Appendix

Rare earths are essential for magnet making, supporting national security and the energy transition

Magnet rare earths

There are 17 rare earths which are generally grouped into light and heavy rare earths based on atomic number.[1]

Of the 17 rare earths, four are particularly crucial for making permanent magnets.[2] These are the light rare earths praseodymium (Pr) and neodymium (Nd), and the heavy rare earths dysprosium (Dy) and terbium (Tb).

Permanent magnet uses

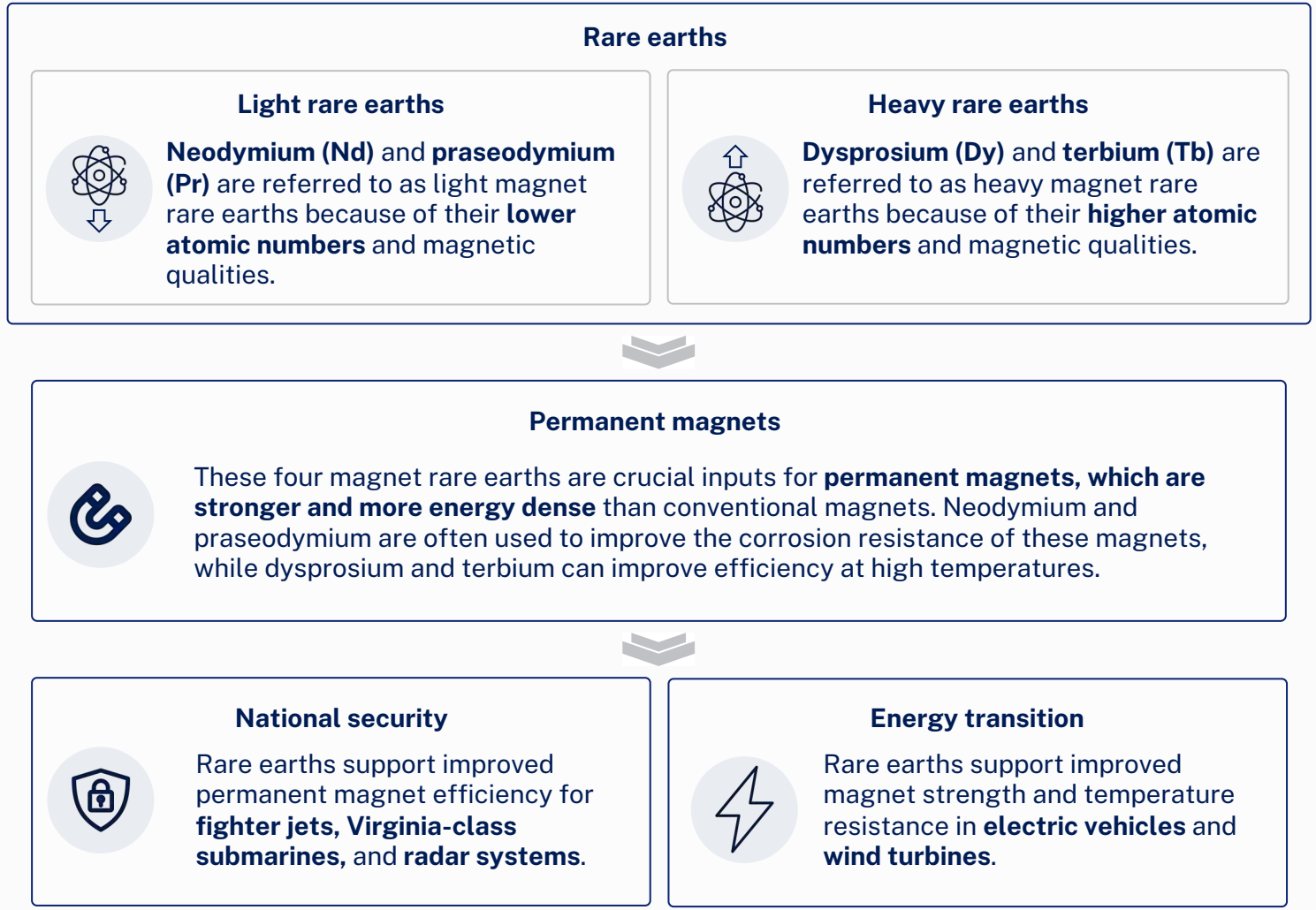
Permanent magnets are preferred to conventional magnets because of their high magnetic strength and energy density.

These qualities make permanent magnets crucial to the electric motors and generators used in electric vehicles, wind turbines, and the driving systems of aircrafts.

Permanent magnets (and magnet rare earths) are therefore essential to Australia's national security and the energy transition.

1 The distinction between light and heavy rare earths is not formal and is not consistently applied across the industry. Reference to magnet rare earths in this paper refers to praseodymium (Pr), neodymium (Nd), dysprosium (Dy) and terbium (Tb) unless otherwise stated.
2 Other magnet rare earths include gadolinium (Gd), holmium (Ho), samarium (Sm), and yttrium (Y).
Source: Lynas Rare Earths (2025) *Summary of Rare Earths;* Discovery Alert (2025) *Complete Guide to All 17 Rare Earth Elements;* Eclipse Magnetics (2021) *Electromagnets & Permanent Magnets;* Apex Magnets (2025) *Aircraft systems and permanent magnets.*

The role of rare earths in national security and the energy transition



Note: Diagram is illustrative and non-exhaustive of the rare earths supply chain. See the Appendix for details.
Source: ASM (2025) *Delivering an ex-China rare earths supply chain*; Mining International (2025) *Rare Earth Elements Role in the Energy Transition;* Stanford Magnets (2025) *Overview of Rare Earth Magnets*; Mandala analysis.

Australia has significant reserves of rare earths and production capability

Australian rare earths reserves

Australia is one of the world's largest holders of rare earths, ranking fourth globally by mine reserves. With an estimated 5.7 million tonnes (Mt) of rare earths, Australia can support global supply diversification. Australia is only behind China, Brazil, and India, who have 44Mt, 21Mt, and 6.9Mt, respectively.

Australian rare earths production

Australia is also a large producer of rare earths, ranking fourth globally in mine production. Only China, the US, and Myanmar produce more rare earths than Australia.

Global rare earths supply is highly concentrated, dominated by China. This highlights the strategic importance of developing credible alternative producers.

Looking ahead, Australia's production capacity is expected to expand materially from 2028 onwards, as a pipeline of advanced projects transitions into operation. This includes Yangibana (the Wyloo and Hastings joint venture), Nolans (Arafura), and Browns Range (Northern Minerals), alongside others.

Source: United States Geological Survey (2025) *Mineral commodity summaries 2025.*

Australian rare earths projects

Australia ranks **4th** globally in rare earths mine **reserves**

Australia ranks **4th** globally in rare earths mine **production**

REE by deposit size (Kt REO)

- <10
- 10-100
- 100 - 1000
- >1000

Status

- In commissioning or in operation
- Deposit
- Occurrence
- Refinery

Project legend

- Participant at DFS
- Participant not at DFS
- Not a participant

1 BHP's Olympic Dam mines for Copper-Gold, however rare earths are a by-product of its mining.
2 Project Balranald is in commissioning, and mining is expected to commence before the end of 2025.
Source: Geoscience Australia (2023) *Rare Earth Elements – Figure 1*; Industry consultation; Mandala analysis.

China’s dominance in rare earths has created volatile market conditions, placing supply at risk

China’s policy interventions

China’s dominance in rare earths has been reinforced through repeated policy intervention since 2010. This includes export restrictions, industry consolidation, and downstream technology controls.

These interventions have contributed to price volatility and increased concern among policymakers about the resilience of supply chains dependent on rare earths from China.

Market volatility and limited visibility around future prices make investments in technology and manufacturing less attractive as firms may have difficulty operating profitably.

Further, with limited substitutable materials and technologies, users of rare earths materials and permanent magnets are constrained in their ability to adjust to high price environments

China’s control of the rare earths industry

China’s control in the rare earths industry has shifted downstream from mining towards processing and magnet manufacturing. This has entrenched global dependence on China, even when upstream resources are available elsewhere.

As a result, supply chain risk has become an embedded part of the market structure, preventing diversification and resilience.

Source: The Oxford Institute for Energy Studies (2023) *China’s rare earths dominance and policy responses;* The Select Committee on the Chinese Communist Party (2025) *Predatory Pricing: How the Chinese Communist Party Manipulates Global Mineral Prices To Maintain Its Dominance.*

China’s policy interventions in the global rare earths market since 2010

2010 to 2025

~94%
control of magnet manufacturing

From late **2023**, China tightened its control over rare earths processing technologies and products, subjecting exports to government approval.

In 2025, impacts to supply chains were visibly seen when Ford Motors temporarily shut down its Chicago assembly plant due to shortages, with its CEO noting supply availability for rare earths was “day-to-day”.

~90%
control of HREE processing and magnets

In **2021**, China consolidated its rare earths sector into two state-controlled groups with various mergers, with Northern Rare Earth controlling light rare earths and China Rare Earth Group controlling heavy rare earths.

This entrenched Chinese dominance over heavy rare earths processing and permanent magnet production by centralising pricing and supply decisions.

5–10x
Rare earths prices spike following export controls

In **2010**, China imposed export quotas and informal trade restrictions on Japan, halting rare earths exports. This caused a sharp global supply shock and a five to ten-fold increase in rare earths prices.

Nearly all (90%) of Japan’s rare earths imports at the time came from China, prompting policymakers to seek alternative sources.

Source: The Japan Times (2025) *Japan's resource security path may hold answers to trade turmoil;* The Diplomat (2025) *Why the West Can’t Escape China’s Rare Earth Dominance – Yet;* IEA (2025) *With new export controls on critical minerals, supply concentration risks become reality*; White & Case (2025) *China imposes extraterritorial jurisdiction and a 50% Rule for export controls on rare earths elements and other items*; Bloomberg (2025) *Ford CEO Says REE Supply is ‘Day to Day’.*

The Government has announced the Critical Minerals Strategic Reserve to address growing supply risks

The Government has committed to establishing the CMSR, with support across its portfolios

*On 24 April 2025, the Commonwealth Government announced its commitment to establish a **Critical Minerals Strategic Reserve (CMSR)** to maximise the strategic value of Australia's critical minerals, boosting national security and economic resilience. The Government allocated $1.2 billion to the CMSR, which it intends to operationalise from the second half of 2026.*

"It will mean **we can deal with trade and market disruptions** from a position of strength. Because Australia will be able to call on an internationally-significant quantity of resources in global demand."

Prime Minister Anthony Albanese, 24 April 2025

"While we will continue to supply the world with critical minerals, it's also important that Australia has access to the critical minerals and rare earths we need **for a Future Made in Australia**."

Resources Minister Madeleine King, 24 April 2025

"We are confident that if we get these policy settings right, that Australia will be in critical minerals and rare earths, **a great power, if not a superpower**, in the world."

Australia's Ambassador to the US Kevin Rudd, 20 August 2025

"**Australia has all the critical minerals the world needs** and we need investment to get these projects up and running."

Minister for Trade and Tourism Don Farrell, 4 September 2024

The CMSR needs to work for both Government and industry

*This report brings together **aligned perspectives from the rare earths industry** on how the CMSR could be designed, evaluated against three key criteria that support Government and industry objectives.*

✓ **Commercial bankability**	The CMSR should support price certainty for producers, enabling projects to secure debt financing and proceed to production.
✓ **Fiscally sustainable**	The CMSR should limit fiscal exposure, including capping the cost to Government and potentially enabling financial returns.
✓ **Policy alignment**	The CMSR should incorporate national offtake agreements and selective stockpiling, in line with policy announcements.

Source: Anthony Albanese (2025) *Albanese Government to establish critical minerals strategic reserve;* Department of Industry, Science and Resources (2024) *Australian critical minerals projects in the global spotlight*; Center for Strategic and International Studies (2025) *The Future of U.S.-Australia Critical Minerals Cooperation*; Parliamentary Budget Office (2025) *Critical Minerals Strategic Reserve*; Industry consultation; Mandala analysis.

This paper provides a consolidated industry perspective on the design of key dimensions for the Critical Minerals Strategic Reserve

Output

- Initial set of CMSR model options based on international experience and industry input.
- Shortlisted CMSR model options based on structured assessment and industry engagement.
- Recommended CMSR model design that balances fiscal sustainability, commercial bankability, and policy objectives.

Design Paper for the Critical Minerals Strategic Reserve

Participants

Australian Rare Earths; Australian Strategic Materials; COBRA; CRITICA; hastings; Northern Minerals; OD6 Metals Ltd; Victory Metals; WYLOO

Source: Mandala analysis.

The Government must consider three key dimensions for the CMSR design: mineral type and form, project eligibility, and the intervention mechanisms used

Key dimensions	Importance for CMSR design
Rare earths type and form 	▪ The Government should ensure the **type of rare earths selected aligns** with national security and economic objectives. There are 17 rare earths, classified into light and heavy rare earths. A subset of those are critical for producing permanent magnets, required for national security and the energy transition (see page 5). ▪ The Government should focus on parts of the supply chain where Australia has the potential for sustained comparative advantage, consistent with the Future Made in Australia (FMIA) framework. Australia's rare earths industry spans mining through to refining and separation, producing **different forms of rare earths**.[1]
Eligibility 	▪ The Government needs to determine the **appropriate time horizon** over which support is provided, balancing the need to enhance a project's commercial bankability against fiscal risk. An appropriate time horizon would help support industry competitiveness while avoiding the need for long run government support, consistent with the FMIA framework. ▪ The Government will need to determine what, if any, **restrictions** relating to project ownership, feedstock country of origin, end customer location, and operational requirements are reflected in the scheme eligibility settings.
Intervention mechanism 	▪ The Government needs to determine **how it intervenes** to support rare earths supply. It should ensure the chosen intervention supports commercial bankability while preserving efficient price signals and maintaining fiscal discipline. ▪ This includes considering whether and how price support is implemented, how prices are set and referenced, how volumes are allocated across eligible participants, and how risk is shared between the Government and industry over time.

1 See the Appendix for an illustrative diagram of the rare earths supply chain.
Source: Australian Government (2024) *National Interest Framework*; Industry consultation; Mandala analysis.

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The proposed Rare Earths Production Scheme will support new rare earths projects, minimise taxpayer risk, and align with the Government's policy objectives

Recommended design for the Rare Earths Production Scheme (REPS)

Under the REPS, rare earths producers and the Government enter a **CfD with a price collar**. Under a price collar structure, the Government covers any gap when the spot price falls **below an agreed floor** and receives a negotiated proportion of revenue when the spot price rises **above an agreed ceiling**.

The referenced spot price may be the higher of the market price on either the **Shanghai Metals Market (SMM)** or **an ex-China index** (if operational).[1] Volume for the scheme will be allocated through a tender process, and prices will be set via a reverse auction.

Dimension	Key question	Recommended approach	Rationale
Rare earths type and form	What rare earths are included?	Nd, Pr, Dy, and Tb	Magnetic rare earths are critical to Australia's national security and the energy transition.
	In what form will they be bought?	Concentrate/MREP[2] downstream to oxides	Production upstream of rare earth oxides is currently feasible. The intervention should initially focus on producers' existing capabilities.
Eligibility	What will the time horizon be?	5-10 years	A 5-10 year time horizon provides adequate project support while limiting long-term risk to the budget.
	What projects will be eligible?	Projects based in Australia	Existing FIRB processes provide a baseline safeguard for national interest and security considerations.
Intervention mechanism	How will price be implemented?	CfD with collar structure	The price collar creates industry price support for commercial bankability while creating potential government upside.[3]
	How will price be set?	Reverse auction	A competitive reverse auction will support a price discovery process and bid down the level of support required, limiting fiscal impact for Government.
	What will the reference price be?	Higher of the SMM or ex-China price[1]	An ex-China index would support price stability and investment, and should be supported by the Government. Where this doesn't exist, the SMM is used.
	How will volume be allocated?	Tender process	A competitive tender process will allow the Government to allocate volume for LREE and HREEs. Contracted volumes should be listed on an ex-China index.

Commercial bankability ✓ **Fiscally sustainable** ✓ **Policy alignment** ✓

1 In the absence of mature public markets for Dy and Tb, analyst estimates may be used as a reference price.
2 Mixed Rare Earth Product, which may be a mixed rare earth oxide or mixed rare earth carbonate.
3 Payments for a CfD's upside would be considered a secondary priority to commercial lenders.
Source: Industry consultation; Mandala analysis.

The Rare Earths Production Scheme is the most optimal model for implementing the Critical Minerals Strategic Reserve

Recommended approach supported by industry

	Offtake without price support	Rare Earths Production Scheme	Uncapped price floor
Model overview	The Government guarantees to offtake at market prices with volume allocated via tender process. Producers retain the ability to negotiate offtake agreements. The Government could reallocate offtake as projects achieve commercial viability.	The Government enters a Contract for Difference with a collar structure. Government covers the gap when the spot falls below the agreed floor and receives a payment when the spot rises above the agreed ceiling.	The Government provides producers with a guaranteed minimum price, and covers any shortfall when market prices fall below that level.
Key model considerations			
Commercial Bankability	✗ Provides limited uplift to bankability, as revenue risk remains and price certainty is insufficient to materially support financing.	✓ Materially improves bankability by providing price support and downside protection, while retaining upside participation.	✓ Provides price certainty to projects and lenders that can ensure project survival through periods of market volatility.
Fiscally sustainable	✓ Fiscal exposure is capped to $1B, in line with the Government's budget commitment announced in April 2025.	✓ Fiscal exposure is limited, with the potential for cost recovery if prices exceed the agreed price ceiling.	✗ Exposes the Government to uncapped fiscal risk, potentially exceeding $15B over a 10-year horizon.[1]
Policy alignment	✓ Consistent with the Government's election commitment, industry participants indicated that without price support the objectives of the policy would not be achieved.	✓ Consistent with the Government's objective to grow Australia's sovereign capability in rare earths while minimising economic and fiscal risk.	✗ Provides price support but is fiscally unsustainable and inconsistent with the Government's stated policy objectives.

1 See the Appendix for more details on fiscal costings.

Source: Parliamentary Budget Office (2025) *Critical Minerals Strategic Reserve;* Industry consultation; Mandala analysis.

The CMSR should focus on Australian rare earths projects producing magnet rare earth oxides upstream to concentrates or carbonates over a 5 to 10-year period

	Key question	Recommended approach	Rationale for the recommended approach
Rare earth type and form	What rare earths should be included?	Nd, Pr, Dy, and Tb	▪ The selected rare earths are crucial to creating permanent magnets and to supporting national security (see page 5). Magnet rare earths collectively account for more than 80% of the value of global rare earths.[1] ▪ Selecting alternative rare earths may limit the number of producers able to participate in the Critical Minerals Strategic Reserve and would risk targeting lower priority rare earths.
	What form will rare earths be bought in?	Concentrate/MREP downstream to oxides	▪ The form of rare earths targeted should align with existing capabilities. ▪ Australia has capabilities in producing rare earths up to an oxide stage. Targeting more processed forms of rare earths could better support Australia's supply chain resilience in the long term. However, this would be impractical in the short term.
Eligibility	How long is the time horizon for this intervention?	5-10 years	▪ The chosen timeframe supports commercial bankability while limiting fiscal exposure. ▪ A time horizon of less than 5 years may not be sufficient to materially improve bankability, as it would not provide the level of certainty required to satisfy private lenders. ▪ A time horizon of more than 10 years would lock the Government into an extensive period of financial support, increasing fiscal risk.
	What projects will be eligible?	Projects based in Australia	▪ Relying on existing Foreign Investment Review Board (FIRB) processes to determine project eligibility will help ensure the Critical Minerals Strategic Reserve aligns with the Government's existing policies as well as national interest and security considerations. ▪ The Government may consider incorporating further national security considerations beyond reliance on FIRB processes as a baseline safeguard.

1 Magnet rare earths include neodymium (Nd), praseodymium (Pr), terbium (Tb), dysprosium (Dy), gadolinium (Gd), holmium (Ho), samarium (Sm), and yttrium (Y). See the Appendix for further details on the rare earths supply chain.

Source: Discovery Alert (2025) *Rare earths discovery*; Treasury (2023) *Foreign investment in Australia - National security*; Industry consultation; Mandala analysis.

The Critical Minerals Strategic Reserve should ensure the form of government intervention balances fiscal sustainability with commercial bankability

	Key question	Recommended approach	Rationale for the recommended approach
Intervention mechanism	How should price be implemented?	CfD with collar structure	▪ A CfD with a collar ensures that the CMSR's pricing mechanism provides downside price protection to provide price certainty for projects, whilst avoiding open-ended fiscal exposure. Payments to private lenders could be prioritised to ensure bankability. ▪ Pure price floors or ad hoc support mechanisms expose the Government to one-way risk and weaken fiscal sustainability, especially in volatile markets.
	How should price be set?	Reverse auction	▪ Price setting under the CMSR should ensure the level of support required by the Government is limited, by allowing price discovery through a competitive process based on project economics. This approach promotes transparent and efficient price setting. ▪ Other mechanisms, such as cost-based pricing or a government-regulated price, risk subsidising uneconomic projects and distorting market prices.
	What should the referenced spot price be?	The higher of the SMM and ex-China price[1]	▪ Rare earths spot prices are vulnerable to distortion. A credible reference price is required to ensure transparency and alignment with non-China market conditions. ▪ Relying on a single China-linked or illiquid spot price risks anchoring support to prices that do not reflect supply risk diversification objectives.
	How should volume be allocated?	Tender process	▪ A tender process will allow the Government to consider factors such as project feasibility, time to supply, environmental factors, and apportionment for value-addition by producers. It may also consider producers' existing offtake agreements and/or their strategic importance.[2] ▪ Separate tender processes may be considered for LREEs and HREEs.

1 Credible rare earths indices would need to be established for LREEs and HREEs. In the absence of mature public markets for Dy and Tb, analyst estimates may be used as a reference price.
2 The Government may also consider prioritising projects that support growth in the rare earths sector and may prioritise additionality (i.e. new production) in the tender process.
Source: Industry consultation; Mandala analysis.

CfDs are emerging as a key mechanism to support government interventions in strategically important markets, while maintaining economic and fiscal objectives

Contracts for Difference for low carbon energy

- The UK's Contracts for Difference scheme aims to support energy security and give developers certainty to invest in low carbon energy.
- Each year, the UK Government holds an auction in which renewable developers submit competitive bids to enter the scheme. Successful renewable energy generators are guaranteed a set price for electricity.
- If prices rise above the agreed price, generators pay back the difference to customers, and vice versa if prices fall.

Capacity Investment Scheme

- The Capacity Investment Scheme aims to boost investment in renewable energy by underwriting revenue for selected projects.
- Project owners bid in tenders for the agreements, with benefits weighted against expected costs.
- Successful projects out of the tenders are provided long-term revenue support with an agreed price floor and ceiling (price collar).
- The Government plans to run tenders until 2027.

Price Floor with MP Materials for rare earths

- The US Department of War has introduced a price floor of US$110 per kilogram for NdPr oxide produced by MP Materials.
- The price floor is only applicable for MP Materials.
- Where the market price is below the floor, the US Government will make up the shortfall. Where the market price exceeds the floor, it will receive 30% of the additional revenue.
- The scheme will run over the next 10 years.

Implications for the CMSR

- Price certainty can unlock investment where markets are volatile.
- An auction mechanism can be used to support a competitive, price discovery process.
- CfDs are well suited where long-term demand exists but price risk deters private investment.

- Government underwriting can de-risk projects.
- Tender-based allocation promotes competition and fiscal discipline.
- Demonstrates Australian capability to design and operate CfD-like mechanisms.

- A price floor risks subsidising uneconomic projects (past ownership of Mt Pass filed for Ch 11 bankruptcy due to rare earths prices).
- Risk of being seen as "picking winners" if support is only given to select companies.

Source: Energy UK (2025) *Energy UK Explains: Allocation Round 7 and Contracts for Difference*; Department of Climate Change, Energy, the Environment, and Water (2025) *Capacity investment scheme*; Center on Global Energy Policy (2025) *MP Materials Deal*; CNBC (2025) *Pentagon to become largest shareholder in MP Materials*; Forbes (2015) *Three Lessons From The Woeful Tale of Molycorp.*

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To maintain momentum, the Government needs to move quickly to implement the Critical Minerals Strategic Reserve

The Federal Government needs to quickly implement the Critical Minerals Strategic Reserve to provide certainty and support for Australia's rare earths industry as global supply chain risks continue to evolve

Establish appropriate governance for the CMSR

- Identify the appropriate entity to administer and manage the CMSR.
- Establish the relevant powers, frameworks, and legislation for the CMSR.
- Establish funding arrangements for the CMSR, including budget treatment.

Finalise the design of the CMSR

- Finalise the design of the CMSR, incorporating the recommended design from industry.
- Define the auction and tender processes to be used when allocating funding to Australian rare earths projects.
- Determine the timing and sequencing of expenditure under the CMSR.

Implement the CMSR through its first tender

- Launch expression of interest for Australian rare earths projects eligible to participate in the CMSR.
- Establish first round budget allocations.
- Conduct reverse auctions for relevant rare earths contracts.
- Award contracts based on tender criteria and auction outcomes.

Source: Industry consultation; Mandala analysis.

The Rare Earths Production Scheme tenders will be based on criteria defined by the Government, with support apportioned by each participant's value-add

Party	Government	Mining companies	
		Project A (Upstream only)	Project B (Integrated to midstream)
Step 1: Announce tender	Announces a tender round, detailing the maximum amount of rare earths product it will take, the reverse auction process, and other criteria. The reverse auction's ceiling will be the higher of the SMM or ex-China price, with amount of yearly product in a round limited by any fiscal limits divided by the price ceiling.	*n/a*	
Step 2: Bid submission	n/a	Proponents respond to the tender by detailing project details, merit criteria, and financial details. The financial details will set the minimum cost at which they can supply, and the amount of product (kg) they will commit to supplying.	
		Upstream producers will note their value-added component in submission.[1]	Midstream producers will note their value-added component in submission.
Step 3: Assessment	The CMSR body undergoes three steps for assessment of tenders; 1. Conducts an initial eligibility check (Australian projects, no FIRB issues) 2. Score bids based on financial viability (lowest cost) and volume 3. Non-financial criteria set by the CMSR body under the tender	n/a	
Step 4: Selection or re-tender	Winning tenders are notified, and price support is awarded and apportioned based on the proponents' value-add in getting rare earths to an oxide-level component for their respective project.	Winning tenders get price support apportioned to their value-add (if upstream only, otherwise full support).	Winning tenders get price support apportioned to their value-add (if upstream only, otherwise full support).
	Notifies unsuccessful proponents of the outcome, and that there may be an opportunity to re-tender or be part of future tender rounds.	Unsuccessful tenders are informed, noting they may be eligible to re-tender if winning tenders are unable to commit, or in future rounds.	

Note: This is an illustration of how the REPS could be operationalised.
1 It is suggested that concentrate producers will be able to participate directly in the REPS without requiring vertical integration to oxide production, and that the value apportionment mechanism will credit the content contribution from the upstream producer.
Source: Industry consultations; Mandala analysis.

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Ten Australian rare earths producers at various stages of production were consulted with to develop REPS, the proposed model for the CMSR

Australian producer	Overview of their projects	Stage of project	Location of projects
	▪ The Nolans project contains neodymium and praseodymium, and will produce up to 4,440tpa over its life.	Funding / construction	Northern Territory
AUSTRALIAN RARE EARTHS	▪ Koppamurra Project is an ionic clay resource focused on neodymium (Nd), praseodymium (Pr), terbium (Tb) and dysprosium (Dy).	PFS	South Australia
ASM Australian Strategic Materials	▪ ASM's Dubbo Project is focused on neodymium, praseodymium, terbium and dysprosium.	Funding / construction	New South Wales
COBRA	▪ Cobra's Boland Project focuses on the sustainable recovery of Dysprosium and Terbium through in situ recovery mining.	Exploration / Pilot study	South Australia
CRITICA	▪ Critica's Jupiter Project is a rare earths project with a defined clay-hosted resource and magnet rare earths–dominant mix, including Nd, Pr, Dy and Tb.	Exploration	Western Australia
hastings	▪ Hastings, in partnership with Wyloo through a joint venture, owns the Yangibana project which focuses on Nd and Pr.	Funding / construction	Western Australia
NORTHERN MINERALS	▪ Northern Minerals' Browns Range project is heading towards Final Investment Decision and targeting Dy and Tb.	DFS	Western Australia
OD6 METALS LTD	▪ OD6's Splinter Rock Project aims to produce MREC and is reviewing selective Nd, Pr, Tb and Dy oxide production potential.	Exploration	Western Australia
VICTORY METALS	▪ Victory Metals is developing its North Stanmore, a heavy rare earths clay project.	Exploration / PFS	Western Australia
WYLOO	▪ Wyloo, in partnership with Hastings through a joint venture, owns the Yangibana project which focuses on Nd and Pr.	Funding / construction	Western Australia

Note: This paper is a collective submission by industry participants, but some participants may also make individual submissions which may differ from this paper.
Source: Information on participants' websites and/or provided by participants.

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4 **Appendix**

A: Industry participants
B: Supporting analysis
C: Fiscal costings
D: References

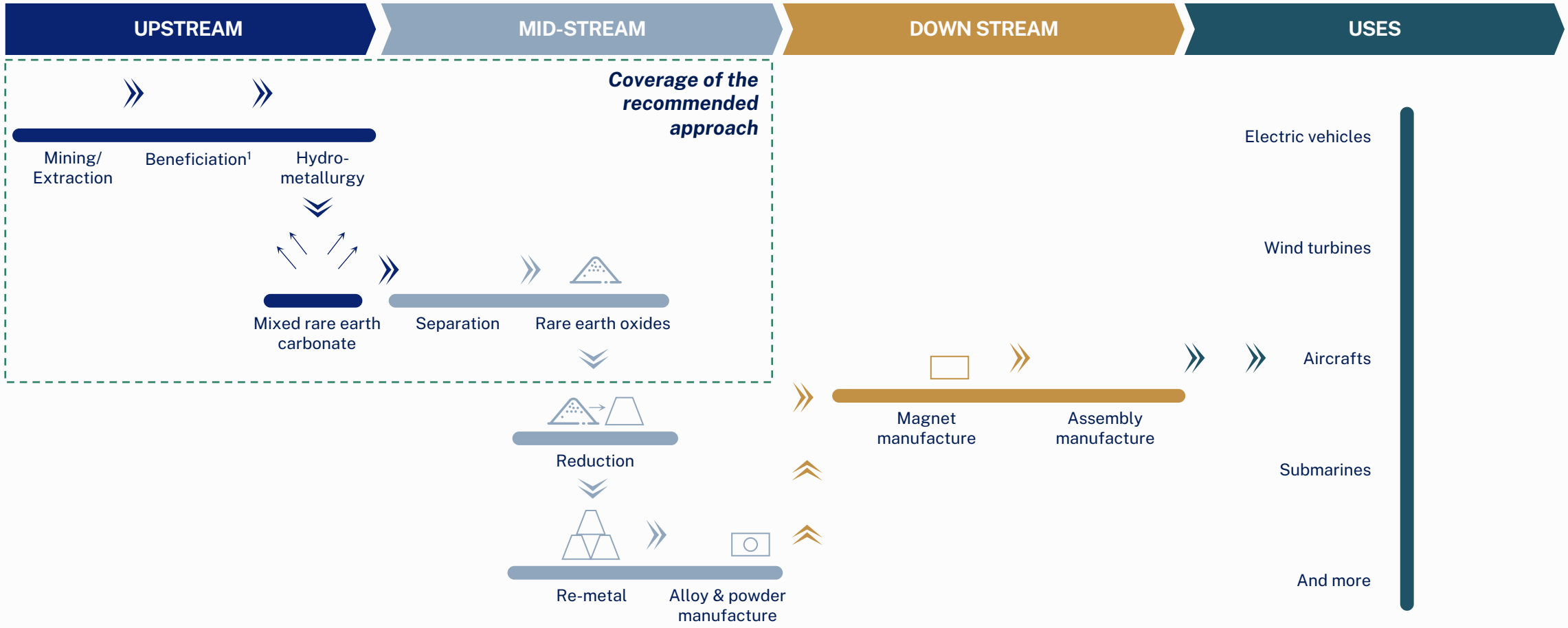
The Government has some optionality it could consider for the CMSR design that industry may be willing to accept

	Key question	Recommended approach	Potential options and inclusions	Discussion of options
Intervention mechanism	How should price be implemented?	CfD with collar structure	Revolving credit facility with a collar structure, allowing producers to draw down on a facility provided by the Government if spot prices are below the collar. Repayments are made only when prices are above the collar.	▪ The revolving credit facility would support producers by reducing the risk of liquidity-driven default, while limiting fiscal exposure. ▪ This approach is more complex, but may provide a suitable structure, subject to key conditions.[1]
	How should price be set?	Reverse auction	US Price Floor	▪ Setting an NdPr price floor consistent with US policy would create a consistent international approach. ▪ The US Price Floor may however reduce the fiscal sustainability of the CMSR.
	What should the referenced spot price be?	The higher of the SMM and ex-China price[2]	Establishment of an ex-China index could provide an exit ramp for Government	▪ An ex-China index would support stable pricing, which may attract further investment in rare earths. ▪ However, this would be difficult to establish. The Government may consider supporting the creation of the ex-China index as part of its exit strategy.
	How should volume be allocated?	Tender process	Project stage	▪ Government could allocate volumes by project stage on a tiered basis, based on how close projects are to production. ▪ Prioritising near-term supply in this way would help to limit delivery and fiscal risk.

1 For example, industry participants specified that any interest repayments required as part of the credit facility would need to be ranked below interest payments to private lenders.
2 In the absence of a mature public market for Dy and Tb, analyst estimates may be used as a reference price.
Source: Industry consultation; Mandala analysis.

Rare earths are critical inputs for products used for national security, energy transition, and everyday uses

Rare earths magnet supply chain

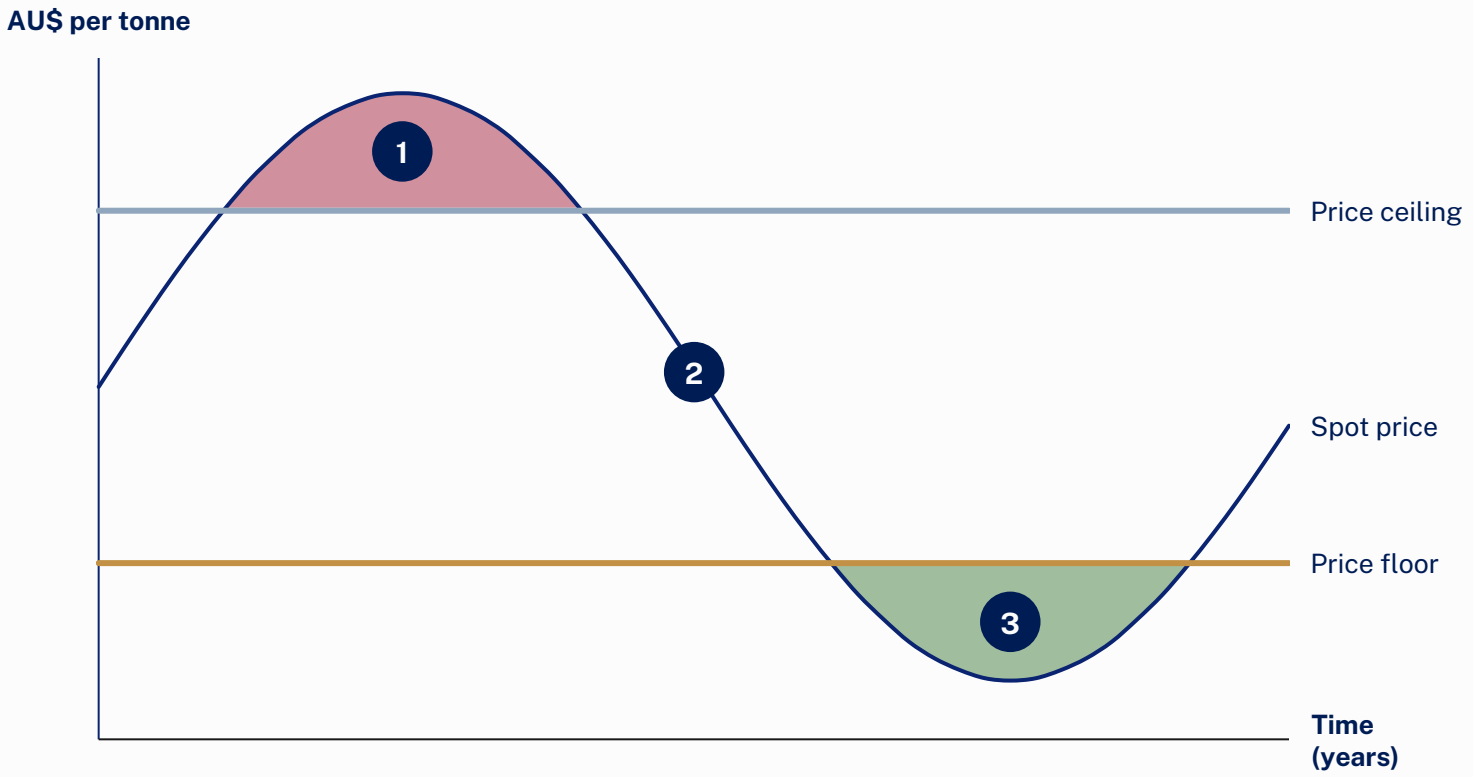


Note: Diagram is illustrative of a hard-rock rare earths project. The process may change between producers and for projects that host ionic clay rare earths.
1 A rare earths concentrate is produced after beneficiation, which is then processed via hydrometallurgy.
Source: ASM (2025) *Delivering an ex-China rare earths supply chain;* Mining International (2025) *Rare Earth Elements Role in the Energy Transition;* Industry consultation; Mandala analysis.

A collared CfD protects the producer from price falls below a floor, in exchange for sharing revenues with the Government when prices exceed a ceiling

Simplified price collar diagram

Y-axis: AU$ per tonne; X-axis: Time (years)



Definition of Contracts for Difference

A collared Contract for Difference contains, two strike prices: (i) the price ceiling; and (ii) the price floor.

1. When the market or spot price rises above the price ceiling, the Government receives a set percentage of the additional revenue resulting from elevated prices.
2. When spot prices fall between the price floor and price ceiling, producers receive all revenue from the product sold. No price intervention is made by the Government.
3. When the spot price falls below the price floor, the Government pays producers the difference between the spot price and the price floor. This provides the producers with protection against the downside risk of falling market prices.

Source: AEMO (n.d.) *The Capacity Investment Scheme*; DCCEEW (2025) *Capacity Investment Scheme*; Mandala analysis.

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4 **Appendix**

The proposed REPS would limit the fiscal exposure, while other options, such as the uncapped price floor, could exceed $15B in costs over a 10-year horizon

Design options	Overview of design	Potential fiscal costs, *AU$ billions, 2027–2036*		
		Low price scenario[1]	*Base case scenario*[1]	*High price scenario*[1]
1 **REPS**	▪ Government enters a Contract for Difference with a collar structure. ▪ Government covers the gap when the spot falls below the agreed floor, and receives a payment when the spot rises above the agreed ceiling.	–$1B	–$0.7B	$0B
2 **Offtake without price support**	▪ Government guarantees to offtake at market prices with volume allocated via tender process. ▪ Producers retain the ability to negotiate offtake agreements. Government could reallocate offtake as projects achieve commercial viability.	–$1B	–$1B	$0B
3 **Uncapped price floor**	▪ Government provides producers with a guaranteed minimum price, and covers any shortfall when market prices fall below that level.	–$15.5B	–$2.1B	–$0.1B

- Only NdPr has been modelled, reflecting that it is the more established market and the availability of price and volume forecasts (UBS, Argus, CRU, Adamas).
- Our modelling is indicative only.[1]

1 Base case scenario is based on current NdPr spot price of US$85/kg. Low price scenario is based on a 50% decrease in price. High price scenario is based on a 50% increase in price. Our modelling is indicative only and focused on Nd Pr as the most liquid market. The Government should consider modelling its potential fiscal exposure to both light and heavy rare earths.

We estimated the indicative fiscal costs of each design option for the CMSR to assess their fiscal sustainability

Models	Approach to Spot (or OPEX)	Approach to volume	Approach to government intervention	Approach to Government upside	Other key assumptions used
REPS	Spot price is the average of estimates from Adamas, Argus, CRU, and UBS (to 2035, with UBS only providing estimates to 2030)[1,2]. This has been adjusted from USD to AUD based on the last close of the exchange rate (USD/AUD 1.53).	Volume estimates are based on UBS' estimates up to 2030, with our modelling holding the 2030 volume estimate constant from 2030 to 2035. This is due to the limited availability of public estimates beyond 2030[2]. Comparing the volume estimate to the Department of Industry, Science and Resources ('DISR') quarterly resource update, the volume estimates provided are materially comparable from 2025 to 2027, which is how far DISR have forecasted NdPr out for.	Calculated if strike exceeds "spot" then repayment of the gap amount (strike – spot) * volume forecasted for year	Calculated if spot exceeds "strike" then repayment of 30% from gap amount (strike – spot) * volume forecasted for year	**Price floor/Strike Price** For modelling efficiency, assumed that the price floor is the same price as the strike price, so it is identical to the US policy **Variance Year 1 – 3** Worst to Best case considers variance of +/- 50%, this has been step-changed over three years. Year 1 assumes +/- 17% Year 2 assumes +/- 33% Year 3 onwards +/-50% **CfD repayment rate** Assumed - 30% **Maximum budget** Maximum fiscal cost of $1B has been applied to be in line with CMSR aims
Offtake without price support			Assuming Government purchases and resells at spot. Volume is adjusted for each company's mining schedule	No Government upside forecasted	
Uncapped price Floor			Gap between a set floor and spot price for a year (price gap) multiplied by NdPr volume for total subsidy	No Government upside under this model	

1 Volumes are forecasts only and based on when production is expected to come online. They do not reflect producers' long-term viability.
2 These estimates are confidential in nature and cannot be disclosed publicly.
Source: Market analyst estimates; Department of Industry, Science, and Resources (2025) *Resource and Energy Quarterly*; Mandala analysis.

Our fiscal estimates are based on a range of publicly available data for rare earths prices and volumes, and assumptions about the CMSR's implementation

Estimate	Sources used
USD/AUD Exchange Rate	Excel plug-in
NdPr REO volume 2025-2030	Confidential[1] - UBS IB Research Report 'Rare Earths Back to Basics' – Oct 2025
NdPr REO spot prices ($US/kg)	Confidential[1] - UBS IB Research Report 'Rare Earths Back to Basics' – Oct 2025
	Confidential[1] - Argus Media 'Argus Rare Earths Analytics' – Oct 2025
	Confidential[1] - CRU 'REE Special Report 2025' – Jul 2025
	Confidential[1] - Adamas Intelligence 'Rare Earths Pricing Quarterly Outlook' – Q4 2025
US Price Floor	MP Materials 'A Transformational Public-Private Partnership' – Jul 2025

Assumption	Rationale
2026 implementation date	Assuming any model can be stood up and run within calendar year 2026
Variance to spot price +/- 50%	To showcase maximum upside/downside to government under each option, with ramp-up from 2026 to 2028+
NdPr REO volume 2031-2035	Assumed supply remains constant from 2031 to 2035 given maturity of sector/projects online
Projects in each stage (adj. price floor for mining stage)	Weightings based on participants project timelines where available and using as representative sample
Proportion of price weighted for each mining stage	Based on commentary provided from participant on how to allocate across each mining stage
Contract for Difference Repayment Rate to Government	Based on MP Materials existing agreement with US Department of War (refer to US Price Floor estimate)

1 Report is confidential and cannot be distributed to third parties without the consent of the author.
Source: MP Materials (2025) *A Transformational Public-Private Partnership; Mandala analysis.*

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4 **Appendix**

A: Industry participants
B: Supporting analysis
C: Fiscal costings
D: References

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