



# ASX ANNOUNCEMENT

## MINERAL SANDS AND RARE EARTHS CONFERENCE

22 November 2022

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**Arafura Rare Earths Limited (ASX: ARU)** ("**Arafura**" or the "**Company**") is pleased to attach a copy of its presentation delivered by Managing Director, Gavin Lockyer, at the 23<sup>rd</sup> Annual Mineral Sands and Rare Earths Conference held in Perth on 22- 23 November 2022.

Mr Lockyer presented on the topic- The recent developments of the Rare Earths market and the Nolans Rare Earths project.

**-ENDS-**

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*"Our goal is to be a trusted global leader and supplier of choice for sustainably mined and processed rare earth products, helping our customers deliver clean and efficient technologies. We are committed to delivering positive intergenerational economic, environmental and social benefits to our stakeholders."*

# Nolans Project Recent Market Developments

22 November 2022

Mineral Sands & Rare Earths Conference  
Perth Western Australia





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## Mineral Resources and Ore Reserves

The information in this presentation that relates to Mineral Resources is extracted from the Company's ASX announcement dated 7 June 2017 (Detailed Resource Assessment Completed) and was completed in accordance with the guidelines of the JORC Code (2012). The information in this presentation that relates to Ore Reserves is extracted from the Company's ASX announcement dated 16 March 2020 (Major Increase in Mine Life for the Nolans Project) and was completed in accordance with the guidelines of the JORC Code (2012). Arafura Rare Earths confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed. Arafura Rare Earths confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## Production Targets and Forecast Financial Information

The information in this presentation that relates to production targets and financial information is extracted from the Company's ASX announcement dated 11 November 2022 (Nolans Project Update). The production target is based on 12% Proved Reserves, 62% Probable Reserves and 26% inferred resources as reported in the Company's ASX announcement dated 11 November 2022. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. Arafura confirms that all material assumptions underpinning the production target and forecast financial information derived from the production target set out in the Company's ASX announcement dated 11 November 2022 (including any assumptions referred to in the Company's ASX announcement dated 11 November 2022 that were used from the DFS as set out in the Company's ASX announcement dated 7 February 2019 (Nolans Project Definitive Feasibility Study) or from the Updated Mining Study as set out in the Company's ASX announcement dated 16 March 2020 (Major Increase in Mine Life for the Nolans Project)), continue to apply and have not materially changed.

# A World Class Project in the heart of Australia



# Corporate Snapshot



Nolans is a shovel-ready world class NdPr project



NdPr is the key input for high performance NdFeB permanent magnets



NdPr is central to many clean energy applications including EVs and wind turbines



Arafura is aiming to be a trusted global leader for sustainably mined and processed rare earth products



Production is aligned with forecast supply shortage



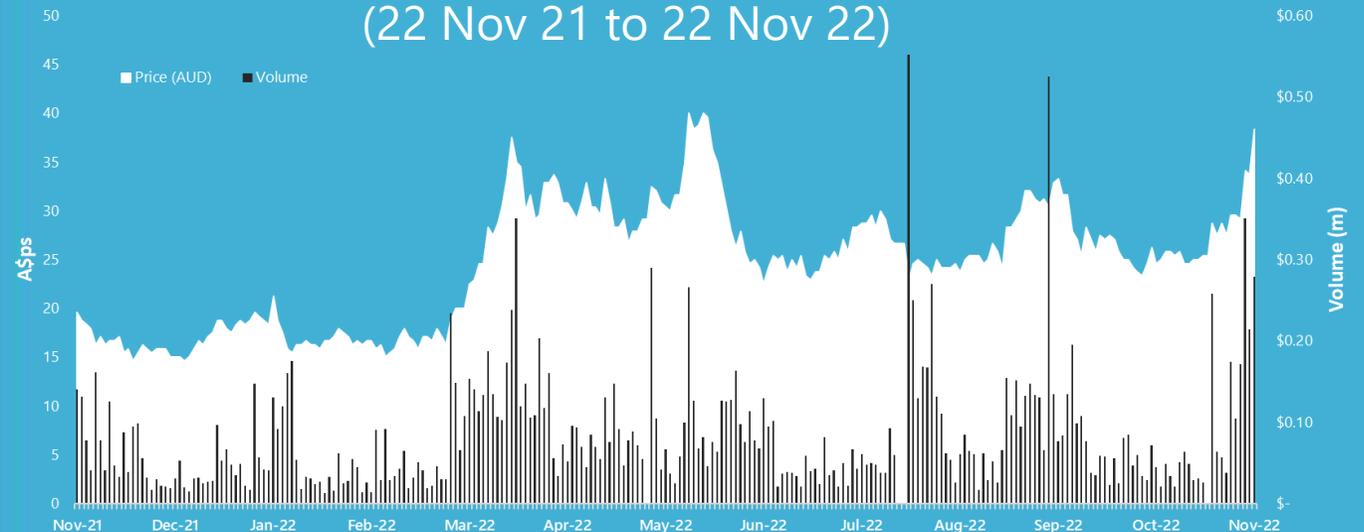
Nolans aims to supply  
**5-10% of global demand**  
for NdPr oxide

## Capital Structure

ASX Code	ARU
ASX Share Price (18 Nov 2022)	\$0.46
Shares on Issue	1,727m
Market Capitalisation	\$794.62m
12 Month Liquidity	\$544.43m
Cash*	\$49.01m
Debt	Nil
Enterprise Value*	\$745.61m

*\*Data based on 30 September 2022 Quarterly Report*

## Share Price Performance (22 Nov 21 to 22 Nov 22)



# Delivering to an ESG World

Nolans is the **only** NdPr focused project in Australia that plans to **mine and process ore to oxide at a single site.**



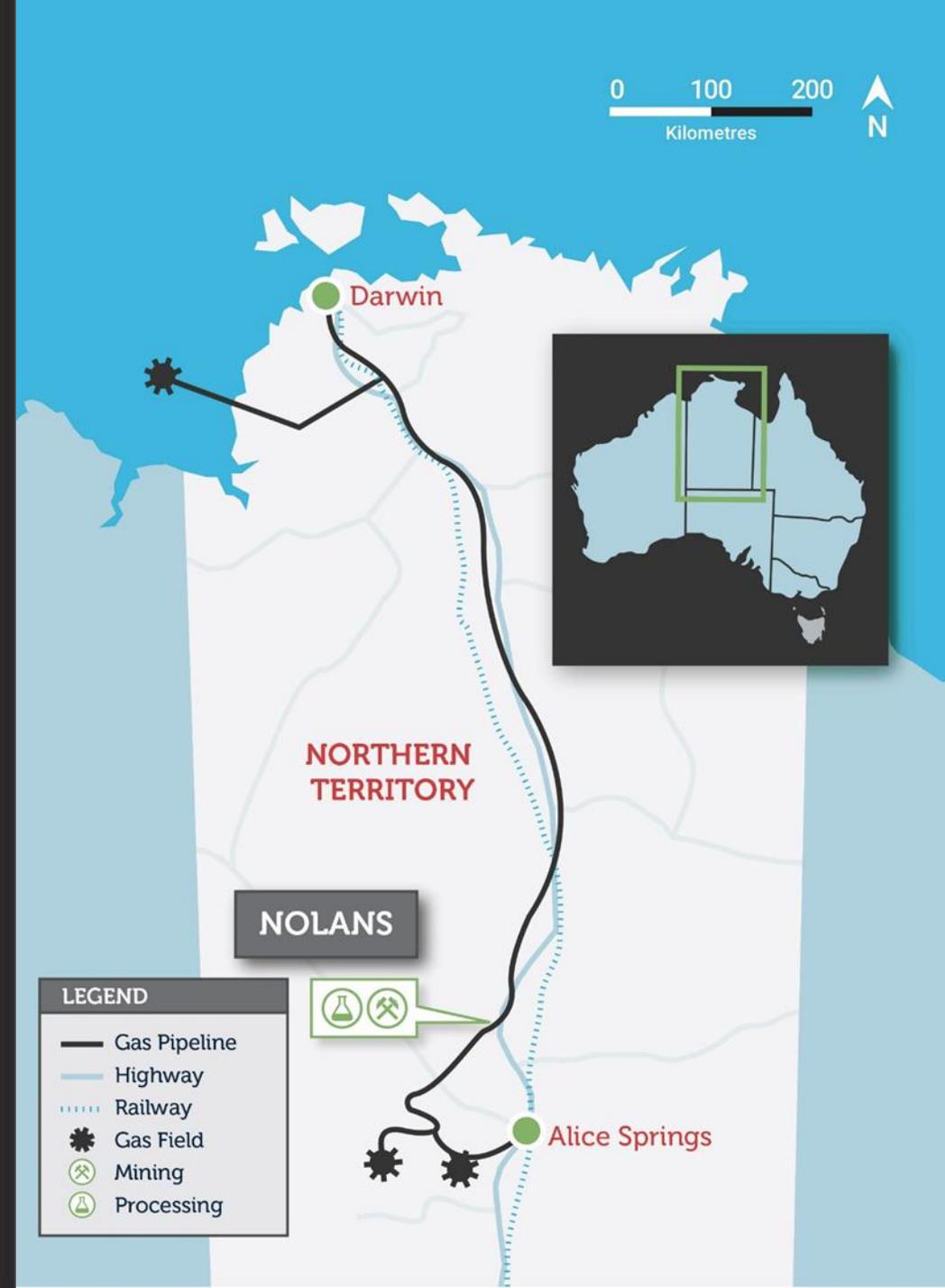
In a changing world a focus on environmental responsibility has become paramount



**All environmental approvals** have been secured and waste management & site rehabilitation fully costed.



**Single site processing** provides traceable product, waste management certainty and an ability to drive GHG reduction which is **aligned with customers' ESG expectations.**



# Updated Project Economics

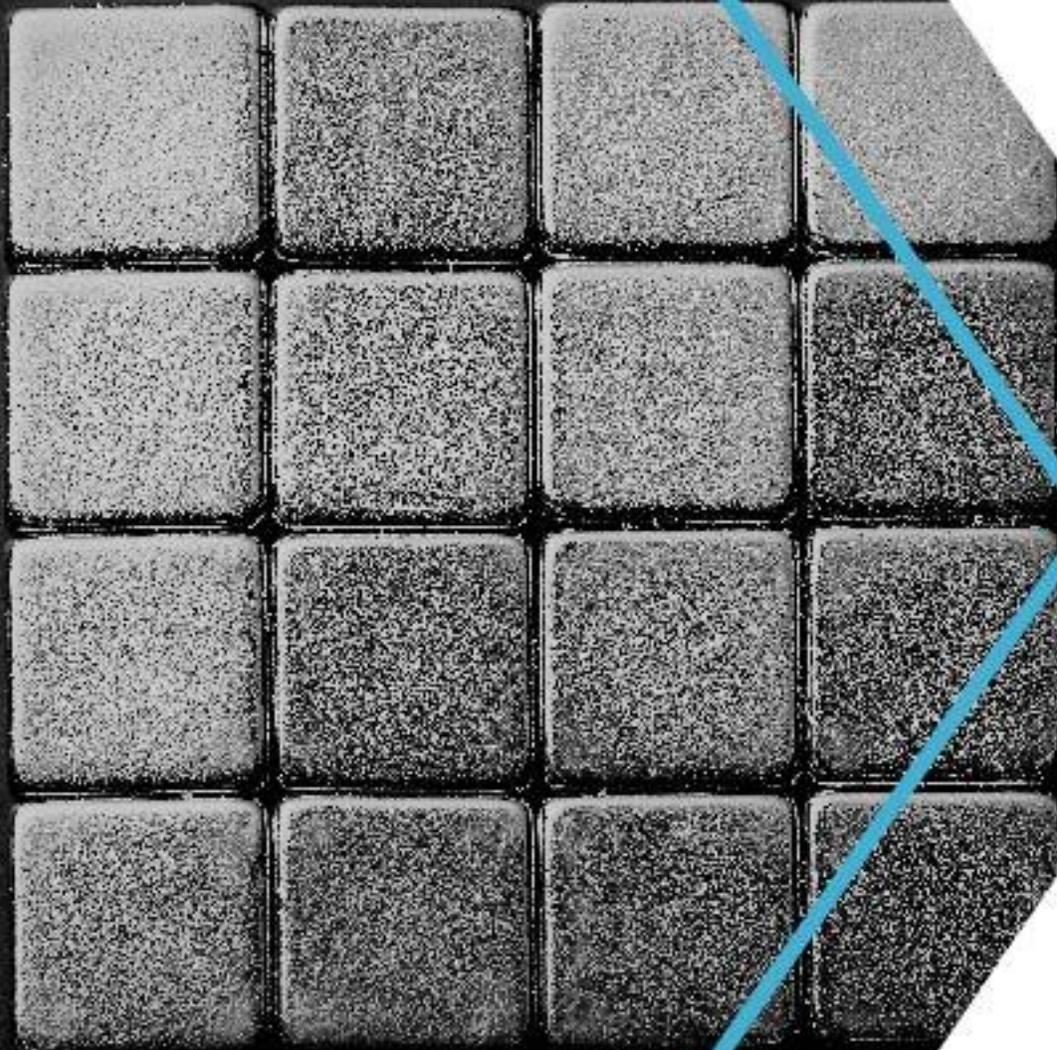
Key Project Information		
<b>Mining and Production</b>		
Mine Life (years)		38
NdPr Oxide (tpa)		4,440
SEG/HRE Oxide (tpa)		474
Phosphoric Acid (tpa 54% P <sub>2</sub> O <sub>5</sub> MGA)		144,393
<b>Product Pricing</b>		
US\$/kg NdPr Oxide price – offtake period		125.50
US\$/kg NdPr Oxide price – LOM		130.10
<b>Financial</b>	<b>US\$</b>	<b>A\$</b>
<b>Capital Cost</b>		
Pre-production Capital (\$m)	995	1,394
Contingency (\$m)	140	196
Total (\$m)	1,135	1,590
<b>Revenue</b>		
Rare Earth Sales Revenue (\$m/annum)	587	822
Phosphoric Acid Sales Revenue (\$m/annum)	65	91
<b>Operating Costs</b>		
Mining Costs (\$m/annum)	(31)	(44)
Processing Costs (\$m/annum)	(138)	(193)
General and Administration Costs (\$m/annum)	(26)	(36)
EBITDA (\$m/annum)	409	573
<b>KPI Analysis</b>	<b>US\$</b>	<b>A\$</b>
Operating Cost \$/kg NdPr	43.95	61.60
Operating Cost \$/kg NdPr net of P <sub>2</sub> O <sub>5</sub> credit	34.64	48.52
NPV <sub>8</sub> after tax (\$m)	1,693	2,358
IRR after tax (%)		19.3%

The Project Economics table is based on the assumptions and estimates set out in the Nolans Project Update (refer to ASX Announcement dated 11 November 2022). Numbers may not compute because of rounding. Product prices during the offtake period refer to the first seven years of production when offtake agreements will include discounts and other contract mechanisms put in place to underpin project finance for up to approximately 85% of NdPr oxide production with averages calculated as the weighted average over the specified period. Average revenue, costs and EBITDA are calculated as the arithmetic annual average following the anticipated two year ramp up period and excluding the final years of production from low grade stockpiles.

- ✓ Base case scenario average LOM NdPr US\$130/ kg
  - ✓ **Post-tax NPV<sub>8</sub> of A\$2.4 billion** and IRR of 19.3%
- ✓ Upside Case average LOM US\$190/ kg
  - ✓ **Post-Tax NPV<sub>8</sub> of A\$4.2 billion** and IRR of 24.1%
- ✓ Capital cost **A\$1,394m** plus **A\$196m** contingency
- ✓ **Annual average EBITDA of A\$573m**
- ✓ Key Milestones\*
  - ✓ FID March 2023
  - ✓ Financial Close mid-2023
  - ✓ Plant Commissioning Dec 2024
  - ✓ First Production mid-2025

\*Milestone targets are indicative and subject to change and are contingent upon funding, offtake activities and general market conditions

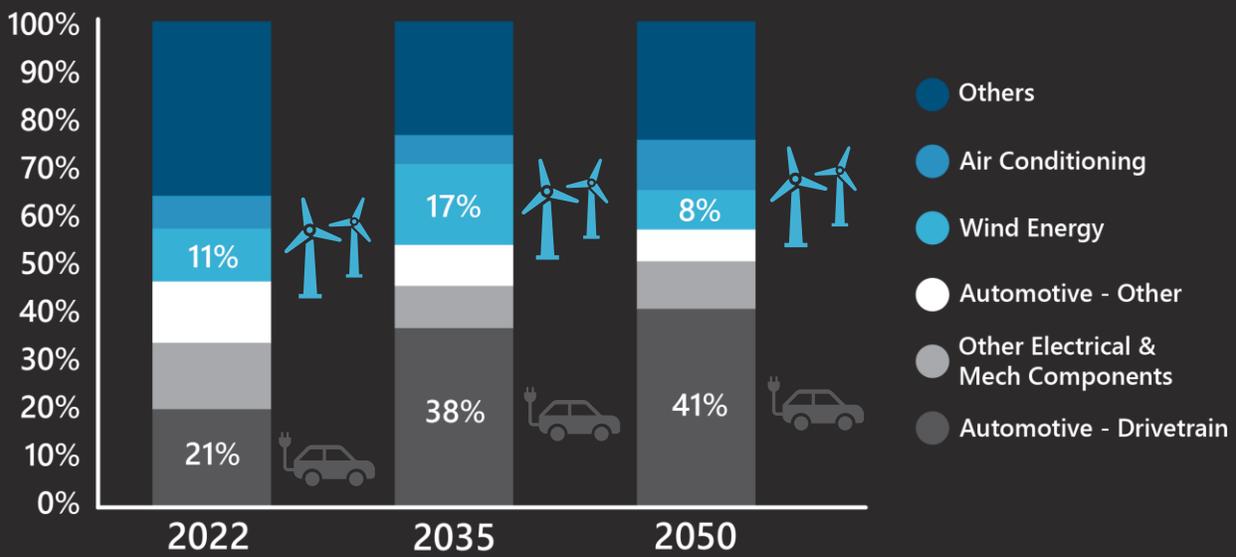
# NdPr Market Development



# NdPr for Magnets Critical Component in Clean Energy Sector

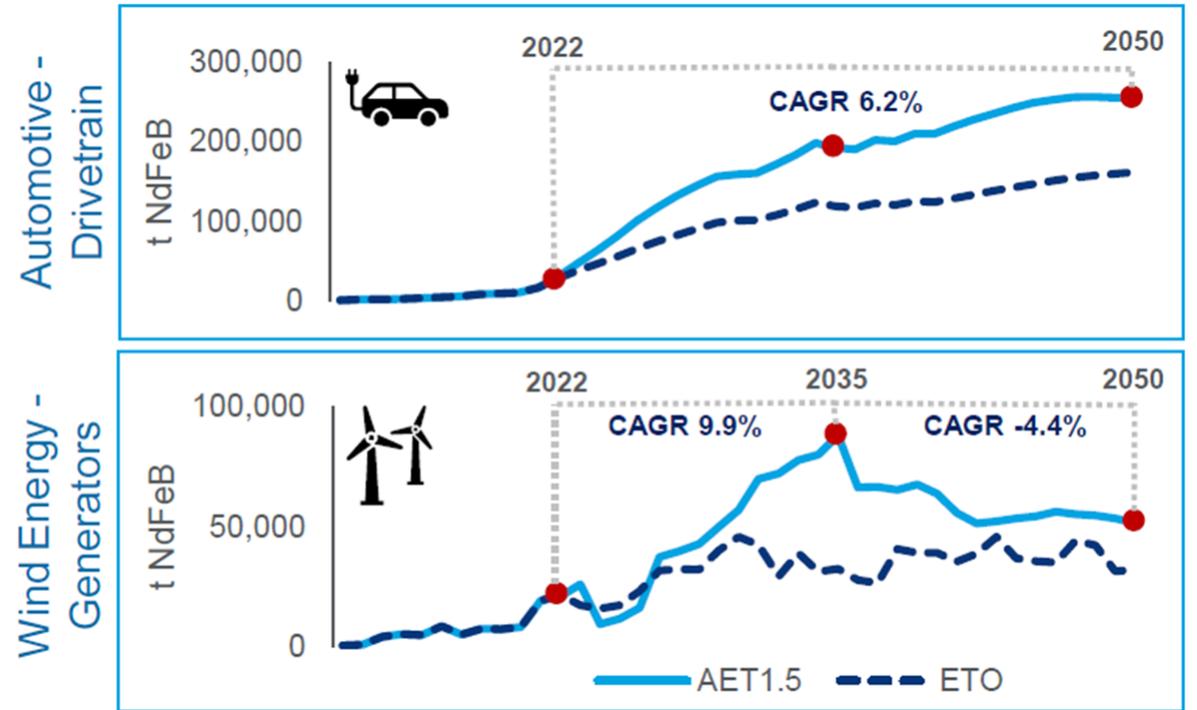
- Wood Mackenzie forecast an Accelerated Energy Transition (AET) 1.5°C scenario (Global net zero by 2050) requires significant and prolonged ramping-up of RE production
- Security of supply will be challenged, sustained higher NdPr prices will be required to stimulate the development pipeline
- Drivetrain automotive and wind energy to represent 55% of magnet demand in 2035

## NdFeB Magnet Demand by Major End-Use (AET1.5)



Source: Wood Mackenzie Business

Forecast supply gap emerging by 2030 represents in excess of **10 Nolans Projects**



ETO = Energy Transition Outlook (Base Case)  
 AET1.5 = Accelerated Energy Transition 1.5°C (Scenario)

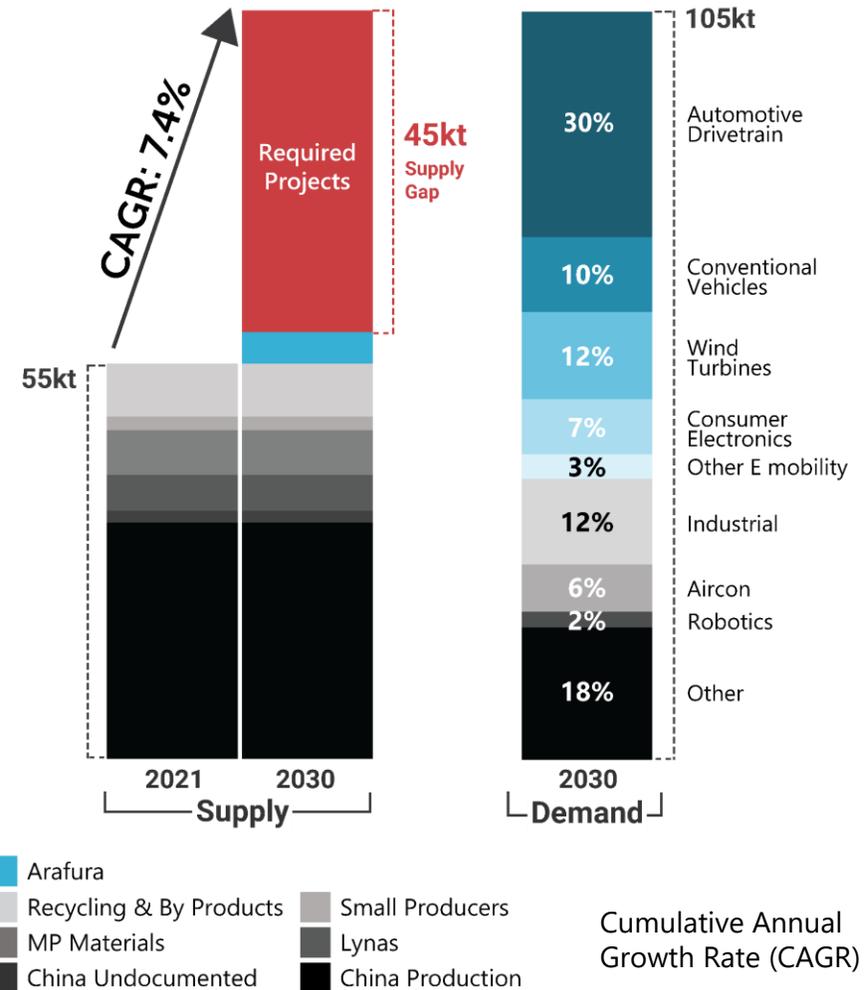
Source: Wood Mackenzie Business

# NdPr Supply Gap

- ✓ New supply will lag significantly behind demand growth and only a handful of non-China NdPr projects will be in production in the next 5 years
- ✓ Tighter regulatory and policy controls will constrain China's ability to expand at the same pace and open new mines after a decade of environmental legacy issues
- ✓ China supply growth supports its own China 2025 strategy and downstream industry demand growth in Wind and NEV
- ✓ Supply gap will largely be concentrated with non-China NdPr users
- ✓ Significant competition for NdPr between offshore wind and EV makers

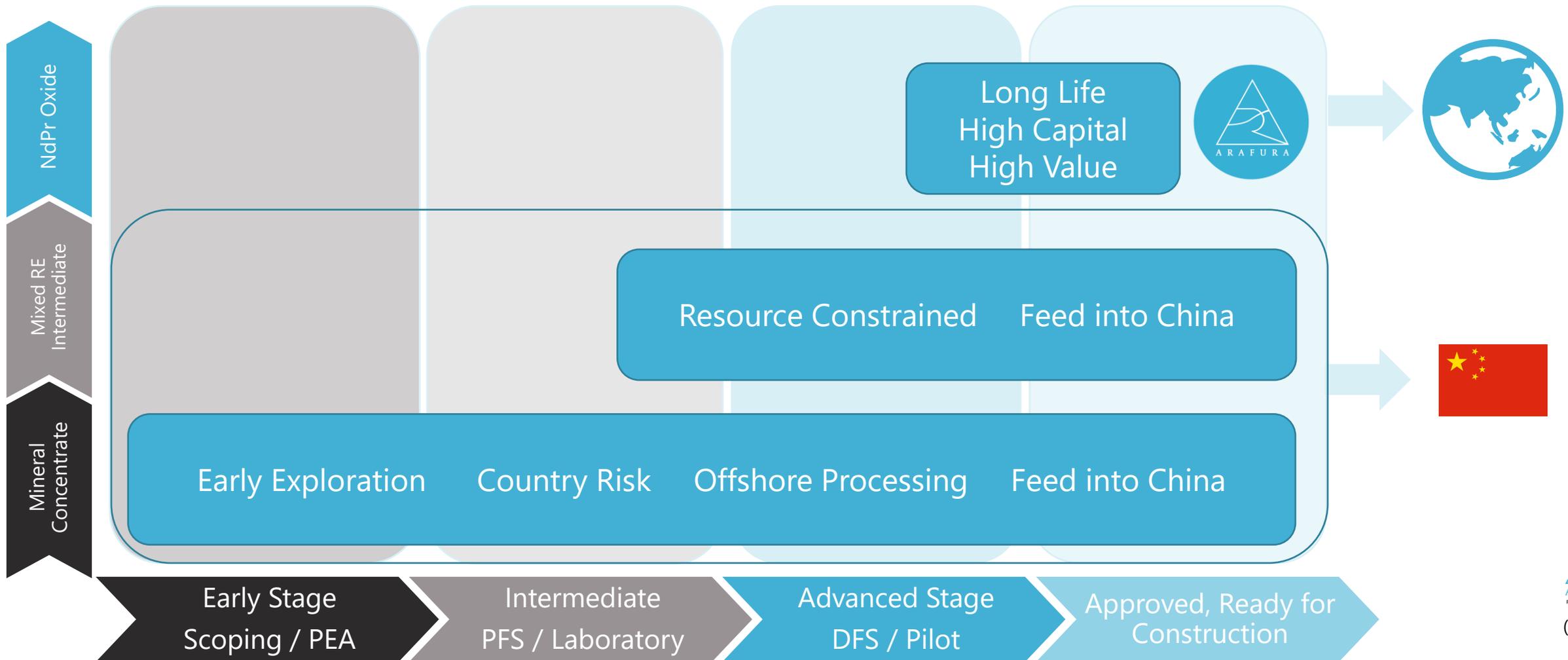
Investment in new projects is required to meet demand requirements

## NdPr Supply & Demand



Source: Arafura internal Supply Demand forecast referencing Wood Mackenzie - Rare earth market Outlook to 2050, 2021; CRU - Rare Earth Market Study, 2020; General Administration of Customs of China via Baiinfo January 2022. Supply is primary supply and excludes secondary source of NdPr supply from waste magnet production.

# NdPr Resource Project Pipeline



# Offtake Update



# Offtake



Offtake strategy aligned with NdFeB users who need a diversified supply chain

Binding offtake agreement entered into with Hyundai and Kia for up to 1,500 tpa oxide (or metal equivalent)

Four other companies in contract negotiations representing 63% of Binding Offtake Target



**Arafura is targeting 85% of Planned Production<sup>1</sup> as binding offtake for FID (Binding Offtake Target).**

Offtake Discussion Group	Location	NdPr Oxide (tpa) <sup>2</sup>	% of Binding Offtake Target
<b>Secured Offtake (binding agreement)</b>			
Hyundai & Kia	Korea	1,500	40%
<b>Offtake under discussion<sup>3</sup></b>			
Contract negotiations	Japan & Europe	2,375	63%
Advanced offtake discussions	Europe & US	2,600	69%
<b>Total</b>		<b>6,475</b>	<b>172%</b>

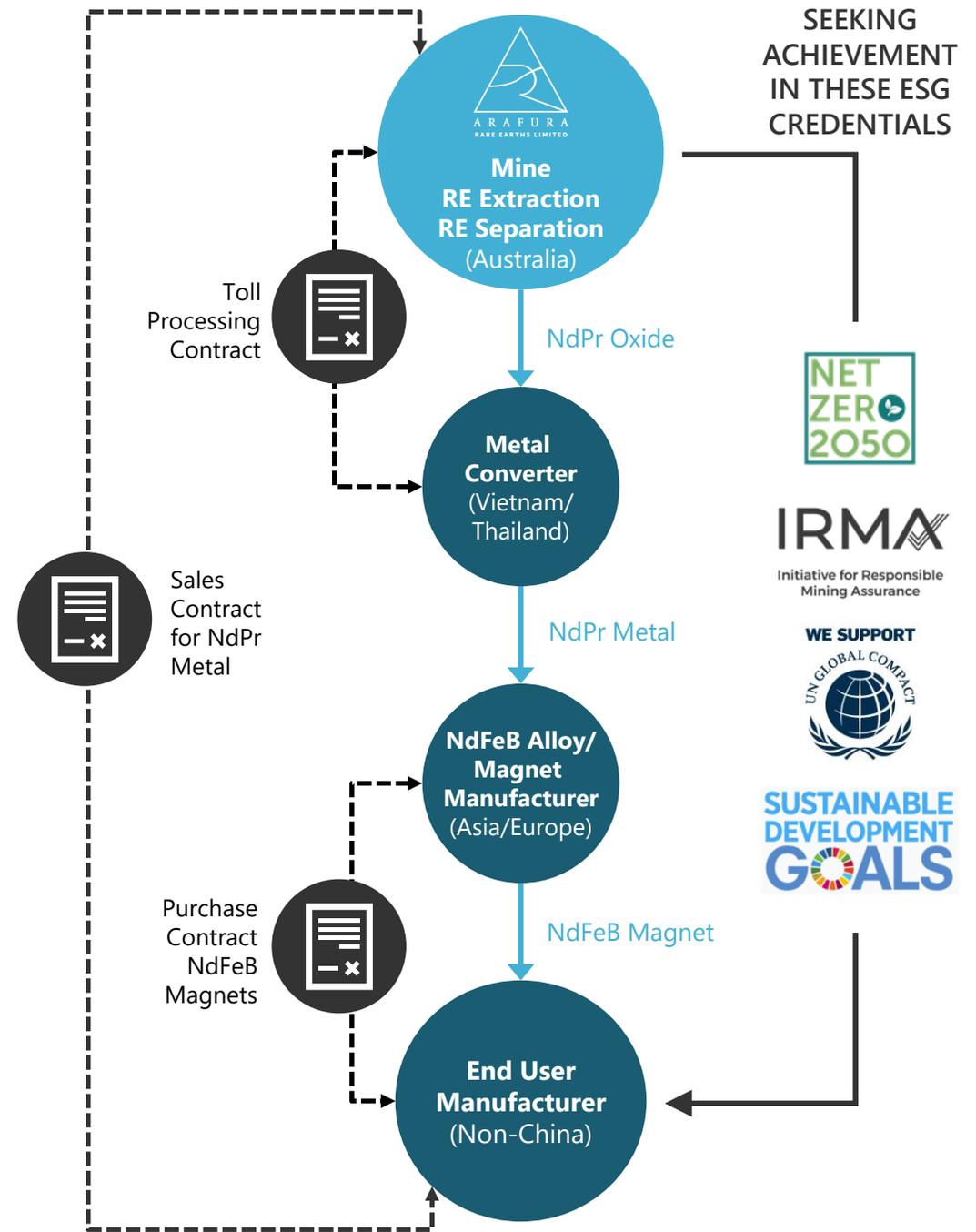
Targeting NdPr users not aligned with *Made in China 2025 Strategy*

1. Planned Production refers to the average annual production from Nolans of 4,440 tpa (Refer ASX Announcement dated 11 May 2021).
2. Product may be supplied as NdPr Oxide or Metal equivalent.
3. The Company, at this stage, has no certainty as to the timing and likelihood of successfully concluding binding agreements being entered into.

# Offtake & Supply Chain

Sustainable producer of NdPr to align to "Green Procurement" strategy

- ✓ Enables access to a sustainable NdPr feedstock where provenance is easily traceable.
- ✓ Optionality of oxide or toll processed metal conversion
- ✓ Enables access to a sustainable NdPr feedstock where provenance is easily traceable.
- ✓ Provenance will also be important in US and European markets





# Offtake & Link to Project Funding

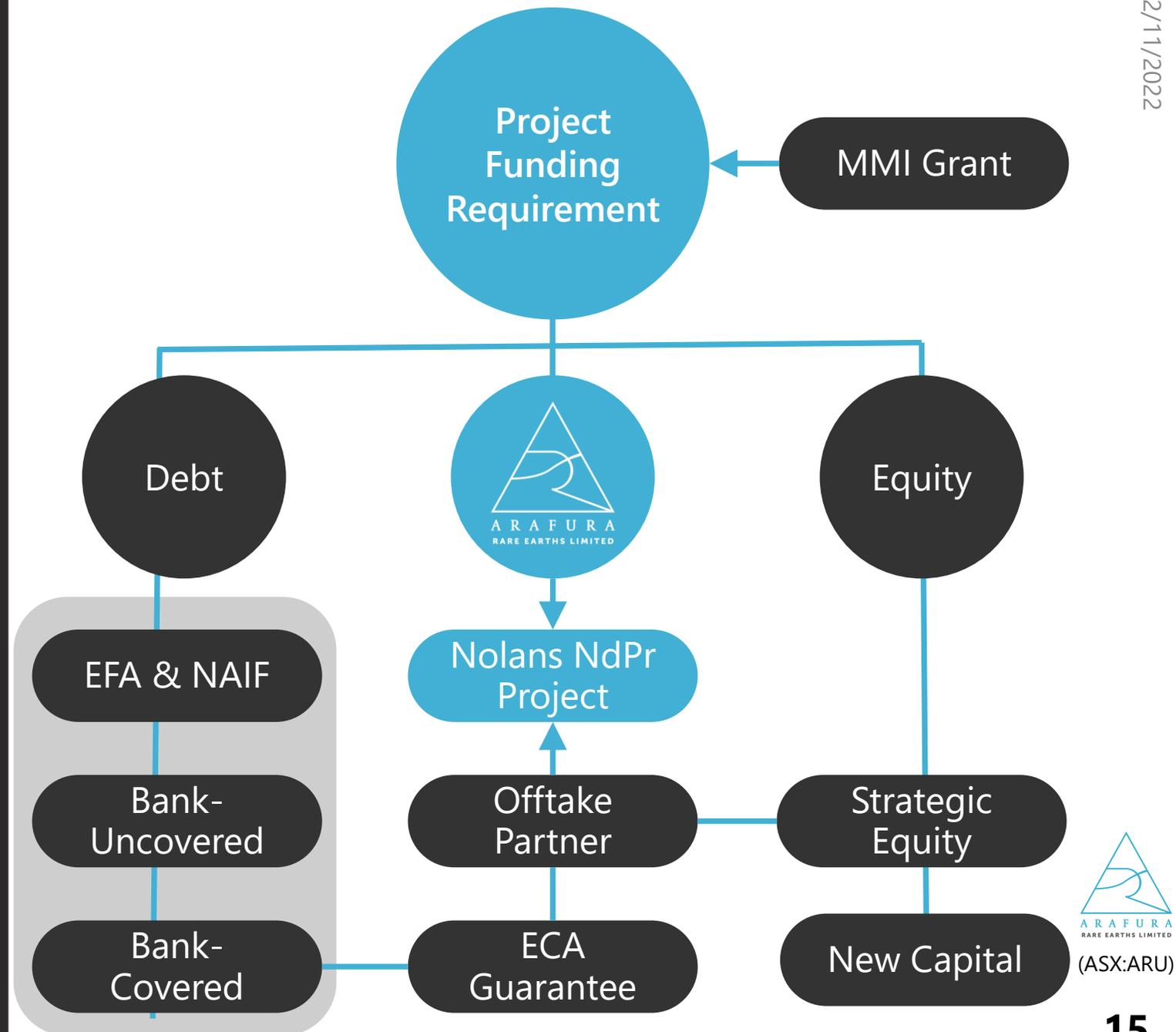
# Funding Structure

## Debt

- ✓ MLAs appointed, Société Générale and NAB seeking to arrange debt financing
- ✓ Some debt financing is being targeted through untied ECA funding and to the extent required additional MLA banks or via syndication
- ✓ NAIF & EFA will support A\$300m of debt subject to further DD and credit approval
- ✓ **Offtake drives the participation of untied ECA funding**

## Equity

- ✓ GE MoU & HMC HoA outlines a potential strategic investment in Arafura to be negotiated in conjunction with final offtake
- ✓ Strategic equity linked to other offtakes under discussion
- ✓ A\$30m MMI Grant reduced equity component



# Australia NdPr feedstock to facilitate a diversified value chain



- ✓ NdPr and NdFeB critical to energy transition
- ✓ Energy transition linked to policy and demand drivers but likely to be disrupted by procurement of critical materials
- ✓ Maintaining leadership in the future economy requires collaboration to establish robust and diversified NdPr supply chains
- ✓ China is the only country with a fully integrated ore to NdFeB magnet value chain
- ✓ Failure to secure diversified NdPr supply will result in the loss of future industry to China

Governments and industry collaboration to rebuild supply chains, provide the market signals to encourage the deployment of capital for production of critical materials and end to end value chains

- ✓ Multi lateral engagement to shore up supply chains
- ✓ Arafura well positioned as major non-China, ESG-compliant supply of NdPr for the manufacturing of EVs and renewable technologies



# Contact Information



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# Long Life Asset

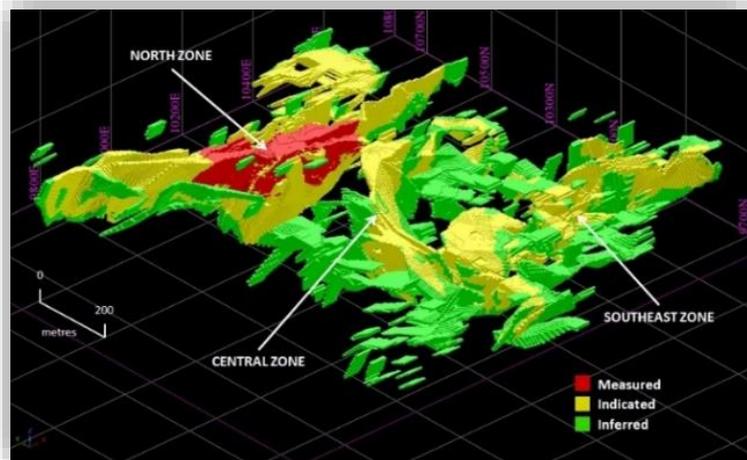
RESOURCES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P <sub>2</sub> O <sub>5</sub> %	NdPr ENRICHMENT %
Measured	4.9	3.2	13	26.1
Indicated	30	2.7	12	26.4
Inferred	21	2.3	10	26.5
<b>TOTAL</b>	<b>56</b>	<b>2.6</b>	<b>11</b>	<b>26.4</b>

As announced on 7 June 2017. 1% TREO cut-off grade. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd<sub>2</sub>O<sub>3</sub> and Pr<sub>6</sub>O<sub>11</sub>.

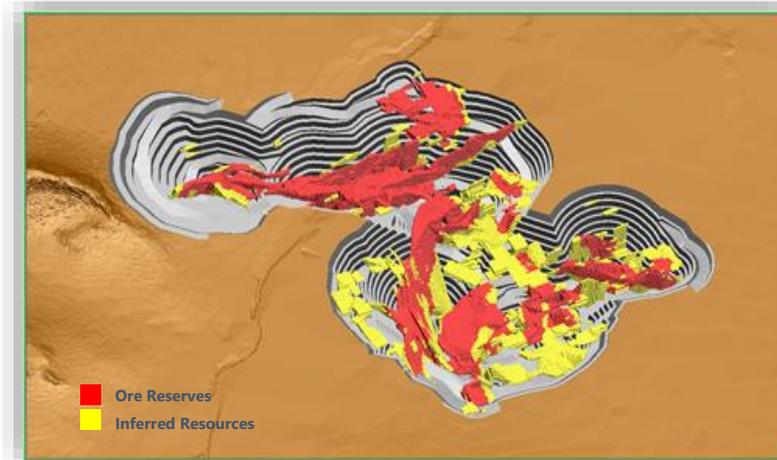
RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P <sub>2</sub> O <sub>5</sub> %	NdPr ENRICHMENT %
Proved	5.0	3.0	13	26.2
Probable	24.6	2.8	13	26.5
<b>TOTAL</b>	<b>29.5</b>	<b>2.9</b>	<b>13</b>	<b>26.4</b>

As announced on 16 March 2020. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd<sub>2</sub>O<sub>3</sub> and Pr<sub>6</sub>O<sub>11</sub>.

## Mineral Resources



## Ore Reserves



# Geology

- ✓ World class strategic resource
- ✓ NdPr enriched
- ✓ Apatite hosted
- ✓ Discovered through airborne radiometrics
- ✓ 90km of drilling to develop 29 yrs of reserves and 38 yrs LOM
- ✓ Open at depth