

Nolans Project

**Bell Potter- Emerging
Leaders Conference 2023**

13 September 2023





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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.

Nolans Project Overview



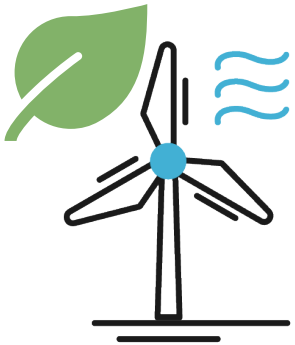
Nolans Project

Australian based, NdPr focused and aligned with global energy transition

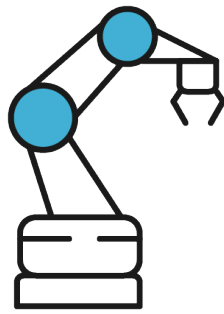
The Nolans Project contains all rare earths but is particularly enriched with the 'magnet feed' rare earths neodymium and praseodymium.



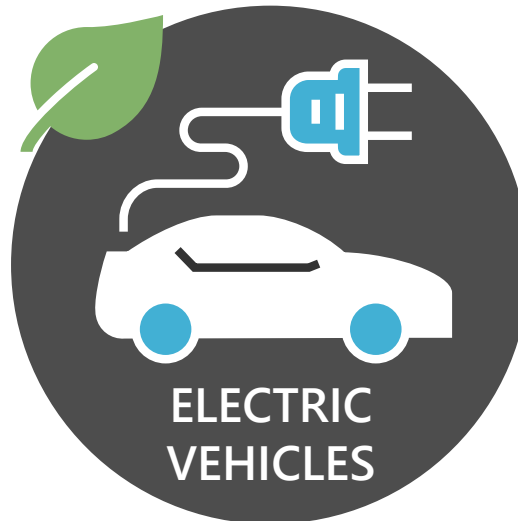
The dominant application for **NdPr Oxide** is in **NdFeB Magnets**, used in a wide range of specialty applications and key to electric vehicles (EV), offshore wind and more broadly energy transition.



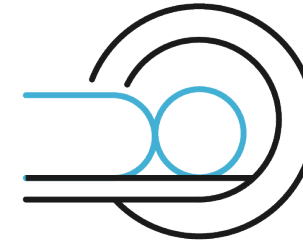
WIND
TURBINES



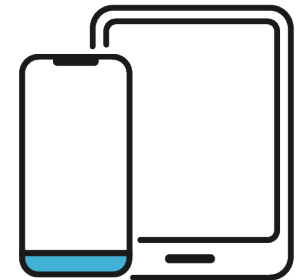
ROBOTS



ELECTRIC
VEHICLES



MRI
MACHINES



PHONES &
TABLETS

The Nolans Project



Advanced manufacturing on site
– ore to oxide at single site –
the first of its kind in Australia



Nolans aims to supply
~5% of total global magnet
demand for NdPr oxide



Large, high-grade resource base underpinning long
38-year mine life.^(1,2)



All **permitting in place** and early construction
underway.



Single site processing model and waste
management systems **support a commitment** to
responsible mining as a trusted supplier.



Commercial endorsement from leading strategic
parties and **binding offtake agreements in place**
with Hyundai and Kia and Siemens Gamesa. MOU with
GE Renewable Energy.



Well advanced **funding strategy** including
substantial government support.

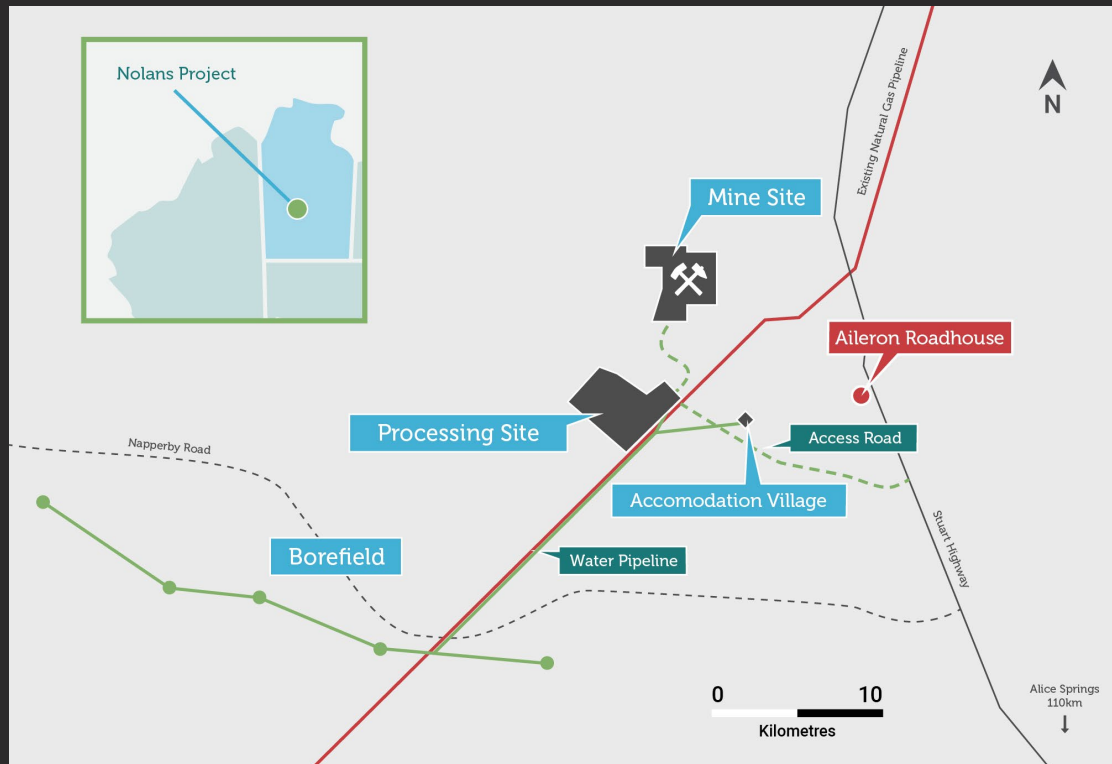
Sources: Nolans Project Update published 11 November 2022,

Notes: (1) Total mineral resource (incl. reserves) of 56 million tonnes with a total rare earth oxide (TREO) grade of 2.6% (1% TREO lower cut-off grade), which implies contained TREO resources of 1.5Mt. (2) Resource statement is currently JORC compliant and is being reviewed to be SEC compliant.

25/07/2023

Close to existing key infrastructure

- ✓ Stuart Highway 10km east
- ✓ Water supply 25km southwest
- ✓ Alice Springs railyard, airport and other services 135km south
- ✓ Amadeus natural gas pipeline- adjacent to project site
- ✓ Tailings and process wastes at site



Timeline to first production



Regulatory

- ✓ Federal and NT Environmental approvals secured
- ✓ Government and ministerial support for senior debt facility
- ✓ Mining Authorisation granted



Tenure & Social License

- ✓ Native Title Agreement in place
- ✓ Mineral License secured
- ✓ Federal and State Major Project status granted
- ✓ Indigenous Engagement Strategy being implemented



Technical

- ✓ Piloting of ore to oxides flowsheet
- ✓ Front-end Engineering & Design underpins latest capital cost update
- ✓ Expanding technical and operating team
- ✓ Co-located owner, engineering and constructor teams



Commercial

- ✓ Customer verification of oxide products completed
- ✓ Offtake agreements being advanced
- ✓ Project funding with lead debt arrangers appointed



(ASX:ARU)

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

Fly Camp and Construction Camp

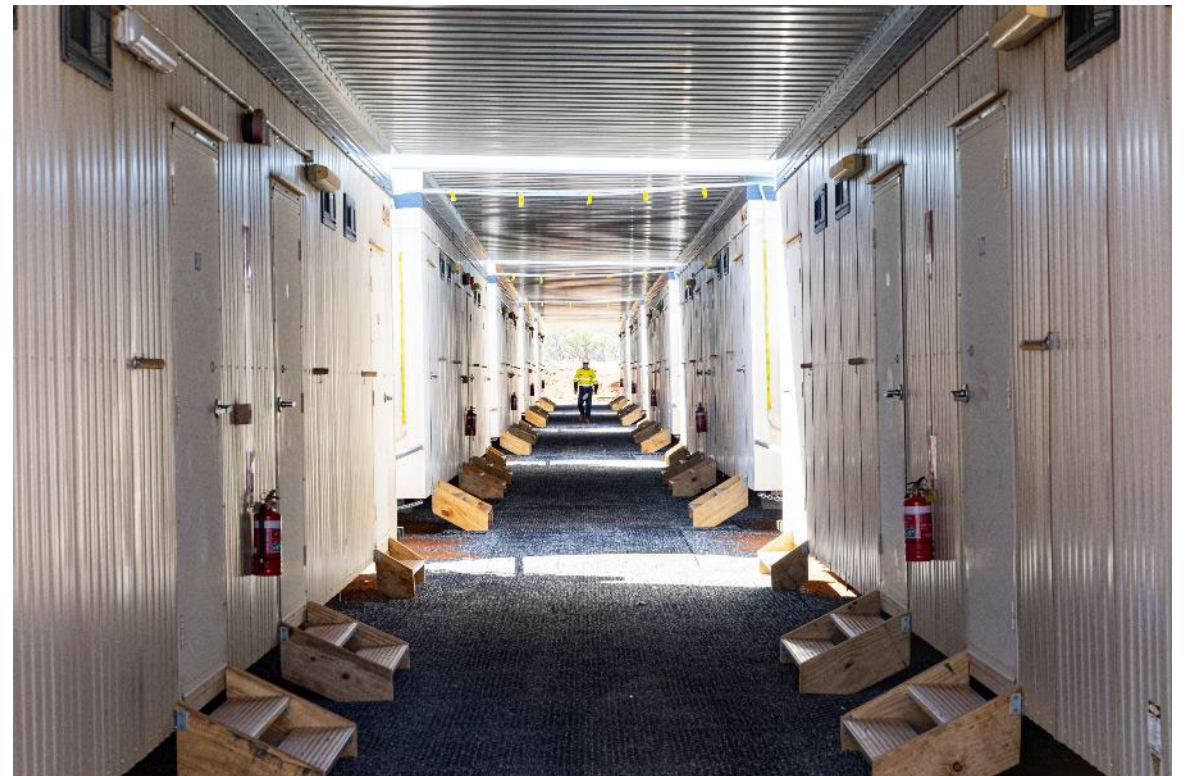
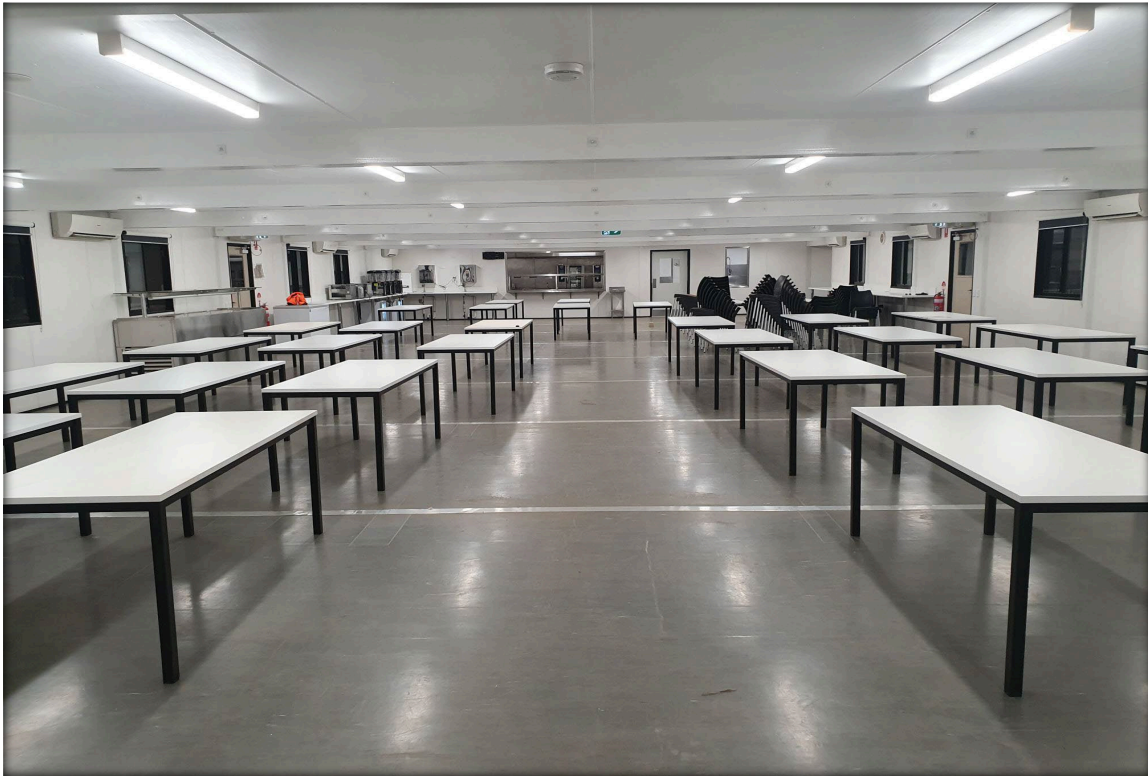
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25/07/2023

Camp Facilities

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25/07/2023

Site Activities

The images below illustrate a range of activities carried out on site during the first half of 2023

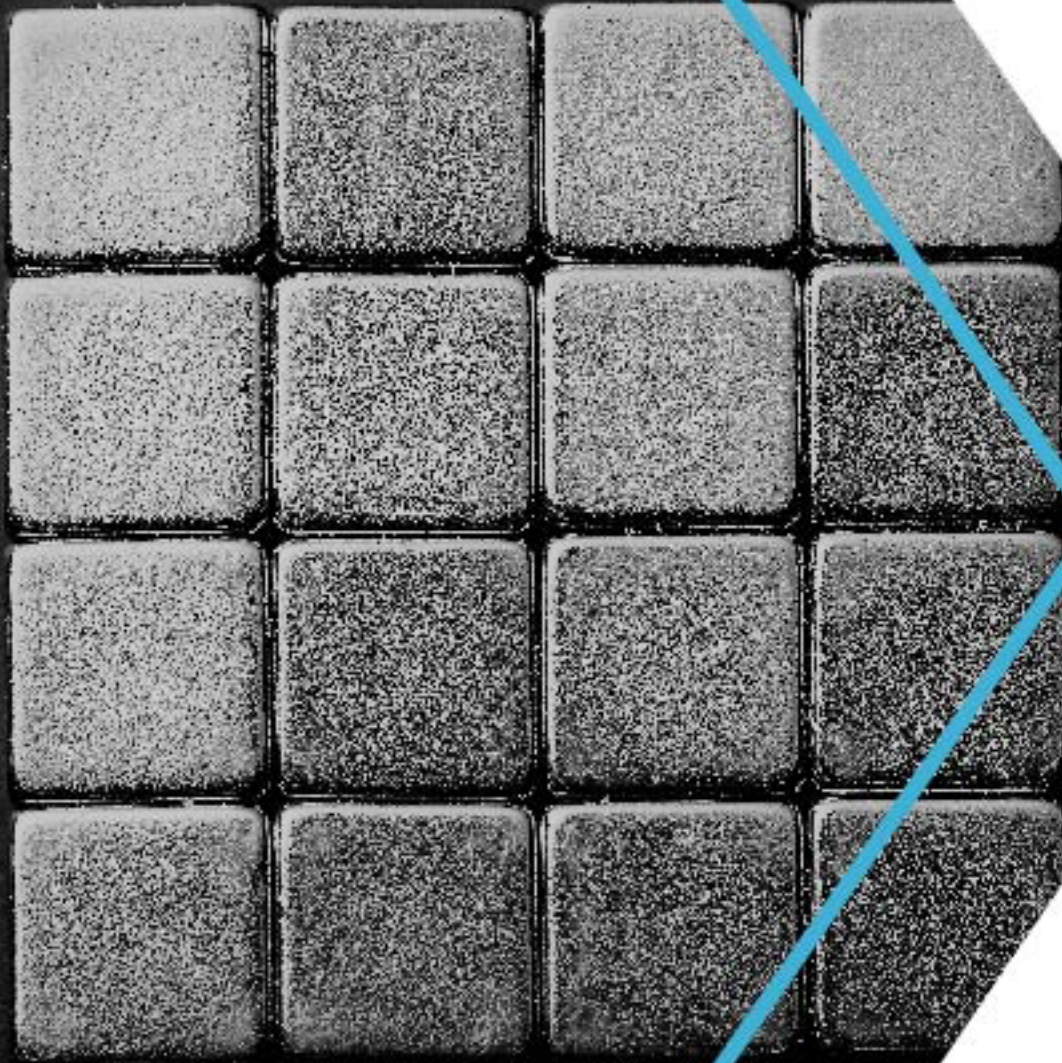


Installation of the arterial water pipeline between the Nolans borefield and the process plant site, June



Aerial view of turkey nest dam installation, June

NdPr Market & Offtake



Favourable Supply-Demand Profile

Demand

- ✓ Automotive sector is forecast to be the primary consumer of NdFeB magnet supply.
- ✓ 2032 forecast assumes ~51 million EVs sold⁽¹⁾.
- ✓ Achieving supply-demand balance over the next 10 years would require a cumulative annual growth rate (CAGR) in NdPr supply of ~6.9%.

Supply

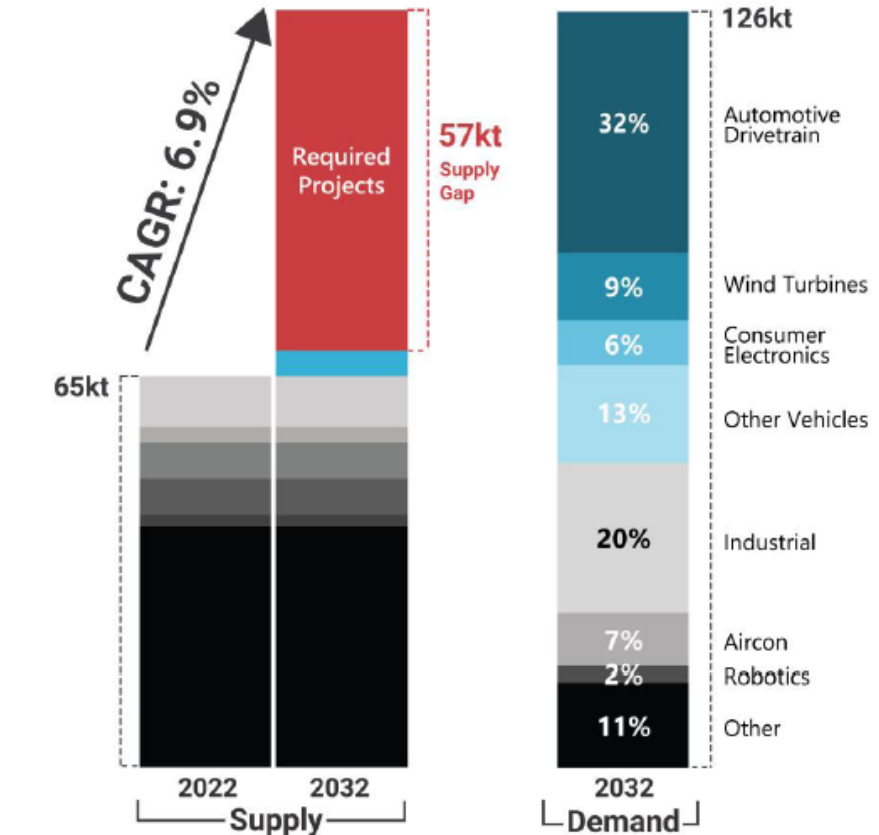
- ✓ Forecast supply gap represents ~88% of global supply today – **more than 12 Nolans projects.**
- ✓ Tighter regulatory and policy controls are expected to constrain China's ability to expand at pace and open new mines.
- ✓ Few non-China NdPr projects are anticipated to be in production in the next five years.
- ✓ Emerging supply gap has additional significance for companies not aligned with the *Made in China 2025* strategy.

Sources: Arafura internal Supply Demand forecast referencing Wood Mackenzie – Rare Earth Market Study, July 2022; Wood Mackenzie Rare Earth Markets 2022 Outlook to 2050 (September 2022), General Administration of Customs of China via Balinfo January 2022, Roskill 2021. Supply is primary supply and excludes secondary sources of NdPr supply from waste magnet production
Notes: (1) Growth to 2032 calculated off a base of 10.5 million EVs sold in 2022 and forecast production based on implied EVs produced given NdFeB alloy demand from automotive drivetrains and assuming 2kg of NdFeB alloy is used per EV sold. EVs include Battery Electric Vehicles (BEV), Hybrid Electric Vehicles (HEV) and Plug-in Hybrid Electric Vehicles (PHEV).

Material Investment in New Projects is Required to Meet Projected NdPr Demand

NdPr Supply & Demand

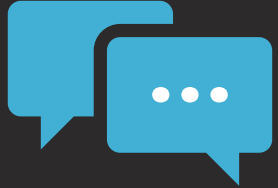
Based on end-use demand from magnets





Offtake & Funding

Offtake



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

Binding offtake agreements with Hyundai and Kia and Siemens Gamesa for up to 2,020 tpa oxide (or metal equivalent)

Other companies including GE in contract negotiations representing 50% of Binding Offtake Target



Arafura is targeting 85% of Planned Production¹ as binding offtake (Binding Offtake Target).

Offtake Discussion Group	Location	NdPr Oxide (tpa) ²	% of Binding Offtake Target
Secured Offtake (binding agreement)			
Hyundai & Kia	Korea	1,500	40%
Siemens Gamesa RE	Germany	520	13%
Offtake under discussion³			
Contract negotiations	Japan & Europe	1,855	50%
Advanced offtake discussions	Europe & US	2,600	69%
Total		6,475	172%

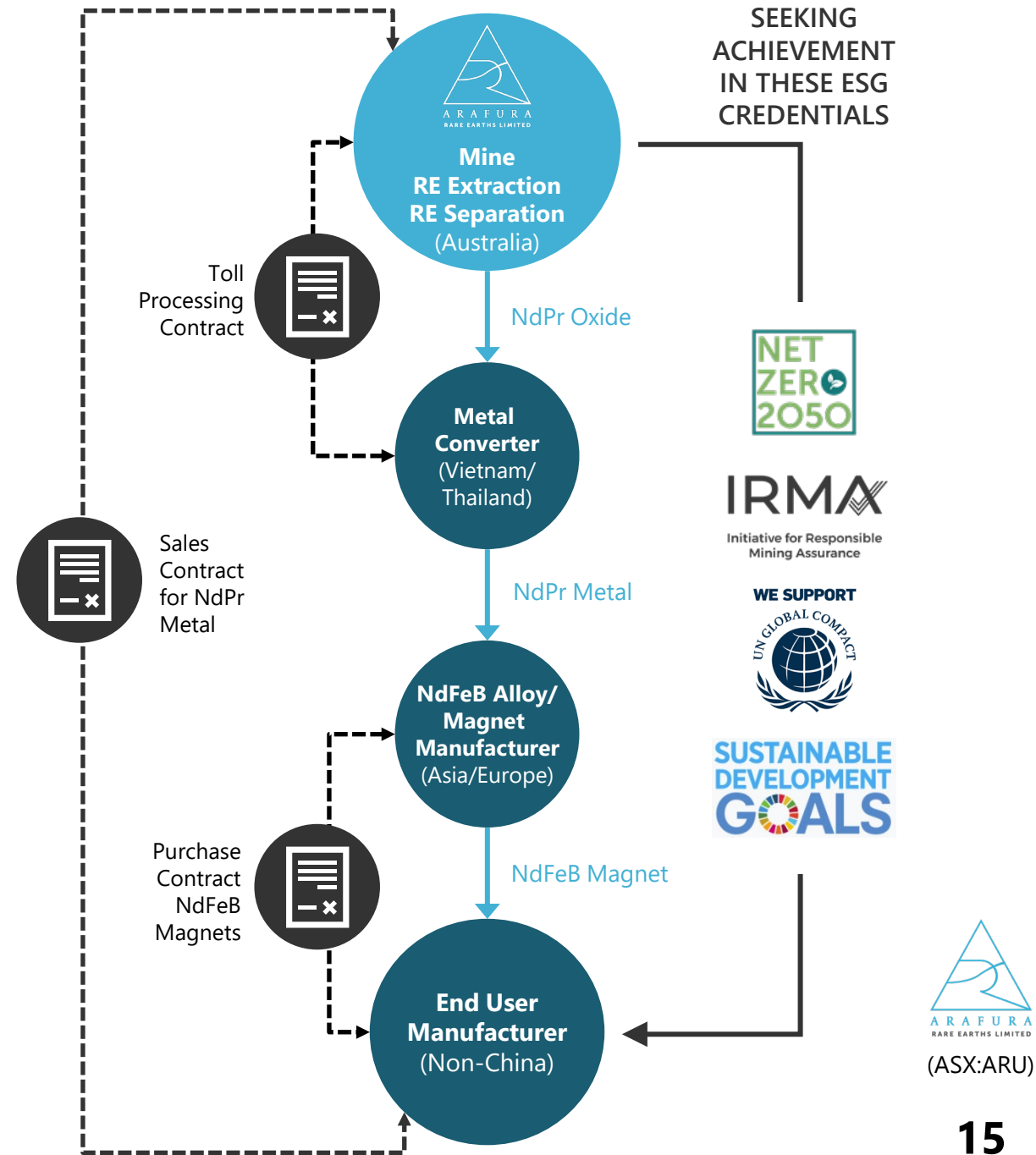
Targeting NdPr users not aligned with **Made in China 2025 Strategy**

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 traceable.
- ✓ Optionality of oxide or toll processed metal.
- ✓ Security of NdPr supply that can be directed to the end users preferred magnet maker.



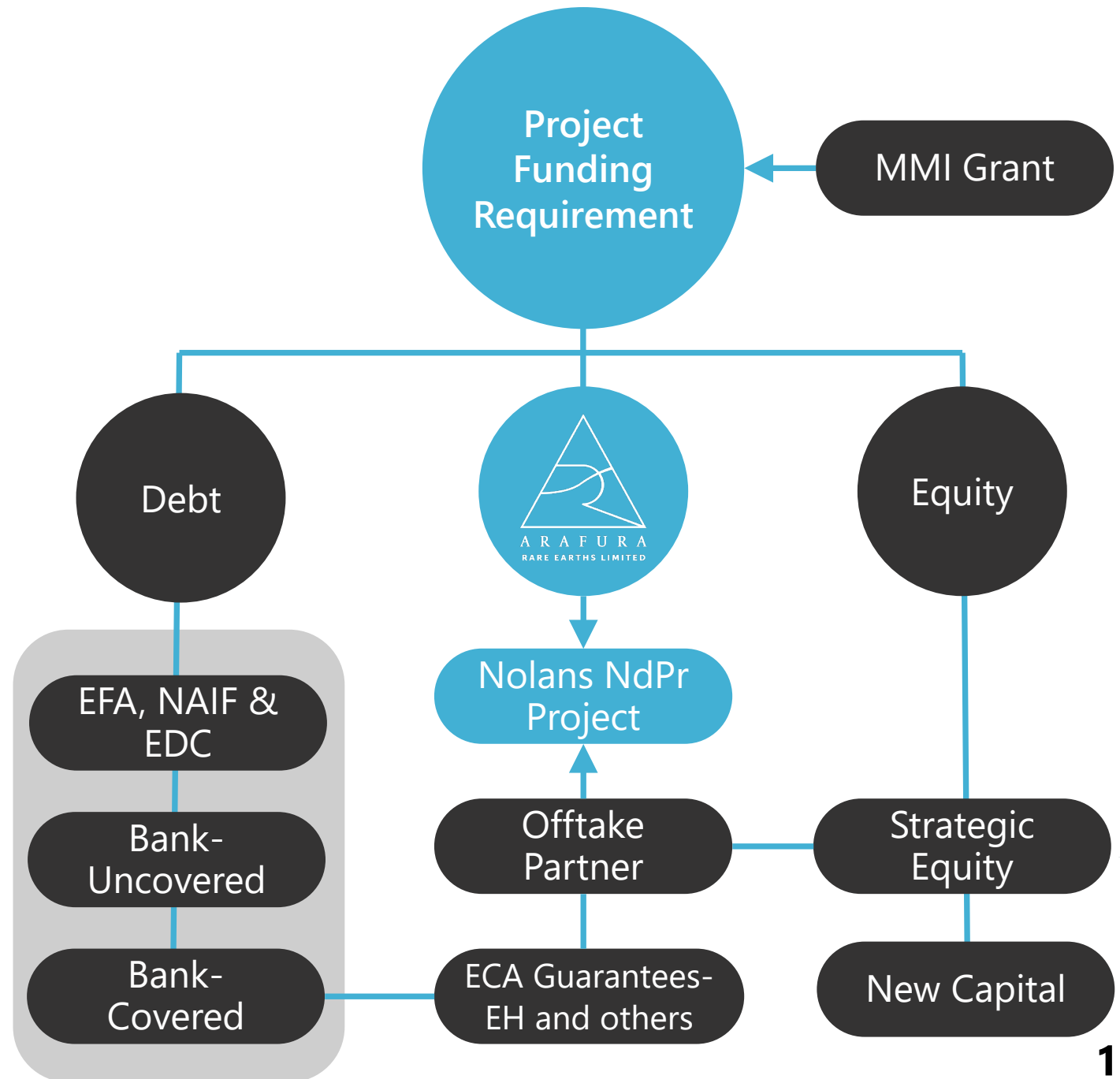
Funding Structure

Debt

- ✓ 2 x Commercial Banks / MLAs
 - Société Générale and KfW
 - KfW appointed as ECA structuring bank.
 - MLA financing will have a covered (supported by ECA guarantee) and uncovered portion.
- ✓ 3 x ECA direct lenders
 - NAIF and EFA letters of support A\$350m (~US\$225m)
 - EDC letter of support US\$300m
- ✓ ECA guarantees
 - Euler Hermes letter of support for up to US\$600m untied loan guarantee subject to offtake with German companies
 - Ongoing Potential ECA support linked to Hyundai offtake and potential investment

Equity

- ✓ Potential strategic investment being negotiated with Hyundai.
- ✓ Strategic equity linked to other potential offtakes partners.
- ✓ Potential strategic investment through Hancock Prospecting (10% shareholder).
- ✓ Institutional investors with a focus on critical minerals and energy transition
- ✓ A\$30m MMI Grant.





Rare earth extraction (candle filters)



Beneficiation plant



Pre-leach and sulphation (inset sulphation bake unit)



Concentrate handling and rare earths recovery

Hydro-metallurgical plant

A full flythrough of the plant (in render) can be viewed by scanning the QR code below.



Contact Information



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Appendices



Strong Project Economics

Key Project Information		
Mining and Production		
Mine Life (years)	38	
NdPr Oxide (tpa)	4,440	
SEG/HRE Oxide (tpa)	474	
Phosphoric Acid (tpa 54% P ₂ O ₅ MGA)	144,393	
Product Pricing		
US\$/kg NdPr Oxide price – offtake period	125.50	
US\$/kg NdPr Oxide price – LOM	130.10	
Financial	US\$	A\$
Capital Cost		
Pre-production Capital (\$m)	995	1,394
Contingency (\$m)	140	196
Total (\$m)	1,135	1,590
Revenue		
Rare Earth Sales Revenue (\$m/annum)	587	822
Phosphoric Acid Sales Revenue (\$m/annum)	65	91
Operating Costs		
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
KPI Analysis	US\$	A\$
Operating Cost \$/kg NdPr	43.95	61.60
Operating Cost \$/kg NdPr net of P ₂ O ₅ credit	34.64	48.52
NPV ₈ 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.

- ✓ Project Update released in November 2022
- ✓ **Post-tax NPV₈ of A\$2.4 billion** and IRR of 19.3%
- ✓ Capital cost **A\$1,394m** plus **A\$196m** contingency
- ✓ Annual average EBITDA of **A\$573m**
- ✓ NdPr pricing based on average over LOM of **US\$130 per kg**

Experienced Board



Mark Southey

NON-EXECUTIVE CHAIR

Mark Southey has previously held senior executive positions with Honeywell and ABB both in Australia and internationally, and more recently was part of the global executive leadership team within WorleyParsons, where he held the position of Group Managing Director for the Minerals, Metals and Chemicals Sector. He is Chair of Arafura Resources' Remuneration and Nomination Committee and is a member of the Risk Management Committee and Sustainability Committee.



Chris Tonkin

NON-EXECUTIVE DIRECTOR

Chris Tonkin has over 35 years' experience as a senior business executive with a broad industry background in business generation, management, and strategy development. He is Chair of Arafura Resources' Audit Committee and is a member of the Remuneration and Nomination Committee and the Risk Management Committee.



Cathy Moises

NON-EXECUTIVE DIRECTOR

Cathy Moises has extensive experience in the resources sector having worked as a senior resources analyst for several major stockbroking firms including McIntosh (now Merrill Lynch), County Securities (now Citigroup) and Evans and Partners where she was a partner of that firm. More recently in 2017-2019, Cathy was Head of Research at Patersons Securities Limited. Ms. Moises is also a non-executive director of WA Kaolin Limited and an advisory panel member for Argonaut Resources Fund.



Darryl Cuzzubbo

NON-EXECUTIVE DIRECTOR

Darryl has over 30 years' experience in global roles in multi-commodity resources, services and manufacturing, holding both Senior Executive and Executive Director roles over a very successful career. He brings a wealth of knowledge and experience in both the resources and manufacturing sectors having run major operational assets and led the development and execution of significant breakthrough strategies to deliver major projects.

Experienced Management



Gavin Lockyer

MANAGING DIRECTOR

Gavin Lockyer's diverse, global experience has provided management and leadership opportunities in a range of disciplines including; Accounting, Financial and Investment Banking, Major Resource Development and Operations, and Global Bank Treasuries. Over the past 20 years his career has exposed him to business practices in North America, Europe, and Australasia.



Peter Sherrington

CHIEF FINANCIAL OFFICER

Peter commenced employment with Arafura in 2008 as Commercial Manager and was appointed Chief Financial Officer in July 2013. He has more than 20 years' experience in professional and corporate roles in Perth. Prior to working with Arafura, he held senior finance and commercial positions with several ASX and public unlisted entities. He has also worked in public practice for 10 years in the areas of business services and corporate advisory.



Stewart Watkins

GENERAL MANAGER PROJECTS

Stewart has over 30 years' experience in many facets of the mining industry including operations, engineering consulting, project development and management. This has included a wide range of roles including corporate and business management, business development, project/study management, process design, commissioning and process plant operation. Stewart is a Fellow of the AusIMM.

Our Technical Team



Dr Alex Elliot



Kelvin Hussey



Michael Robinson

**TECHNOLOGY
MANAGER**

BSc (Chemistry), BEng (Chemical), PhD (Chemical Engineering)

Alex has more than 20 years in the metallurgical technology development space, more than 10 years of which were focused on the Nolans Project, including the development and testing of the patented flowsheet which Arafura is currently working to commercialise.

**PRINCIPAL
GEOLOGIST**

BSc (Hons), MAIG

Kelvin is an experienced Geologist with a demonstrated history of working in the mining industry for more than 30 years. He has an extensive range of geological, exploration and resource skills which include more than 20 years on rare earths.

**ESG
MANAGER**

BSc (Environmental Science)

Michael has over 20 years of experience in a broad range of environmental management roles including regulators, consultancy, and mining. With his strong environmentally focused ethics, and as an advocate for the environment, he works with Arafura to keep it focused on all things ESG.

Our Project Team



Robert Gerrard



Sam Binnie



Alvin Chin



Graeme Perkins



Alex Buchan



Bhupesh Kalia

DEPUTY PROJECT DIRECTOR

BEng (Civil), MBA (ongoing)

Robert has over 18 years experience in the engineering and construction industry globally, with over 10 years in leadership roles delivering major projects in Australia. Roberts most recent role was Deputy Project Director for the successful delivery of \$1B copper-gold mine in South Australia. Robert has a firm belief that embedding the right culture in a team early, is instrumental to a project's success.

NPI PROJECT MANAGER

BEng (Civil) (Hons), BSc (Environment)

Sam has 15 years' experience in delivery and execution of major projects in oil and gas, and minerals industries in Australia. From engineering to project management roles, going from strength to strength gaining experience on Lump Sum and EPC style contracts ranging from AU\$120M to over AU\$1B. Building team of teams brings diversity, and with it innovation.

PROJECT MANAGER E & I

BEng (Electronics & Comms), BSc (Computer), MIEAust, CPEng, NER (Elec)

Alvin has over 19 years experience in the engineering and construction industry as an electrical, instrumentation and communications engineer and project manager. He has worked in mining, oil and gas, infrastructure and defence and has extensive technical and practical experience having worked across all phases of projects.

PROJECT MANAGER – HYDROMET PLANT

BEng (Mechanical) (Hons), MIEAust.

Graeme is an experienced, principal-level mechanical engineer, area manager and engineering manager with project experience ranging from \$20 m lump-sum projects to \$2 b EPCM projects. He has executed projects in Turkey, UK, Canada, Ghana, Madagascar and Australia.

COMMERCIAL & CONTRACTS MANAGER

MBA

Alex is a highly skilled contracts and procurement professional who has worked in mining, oil and gas and supply organisations. He has worked on major contract packages over the last 15 years with a value of over two billion dollars which include major construction, service and supply and manufacture contracts.

PROJECT CONTROLS MANAGER

BEng (Mechanical) / NVQ ECITB

Bhupesh has over 30 years of experience in the Engineering and Construction industry, with over 20 years in planning and project controls, including recent 5 years in a management role at a multi-billion dollar project in NT. His mechanical engineering background has provided a strong foundation to build his project controls career.

Long Life Asset

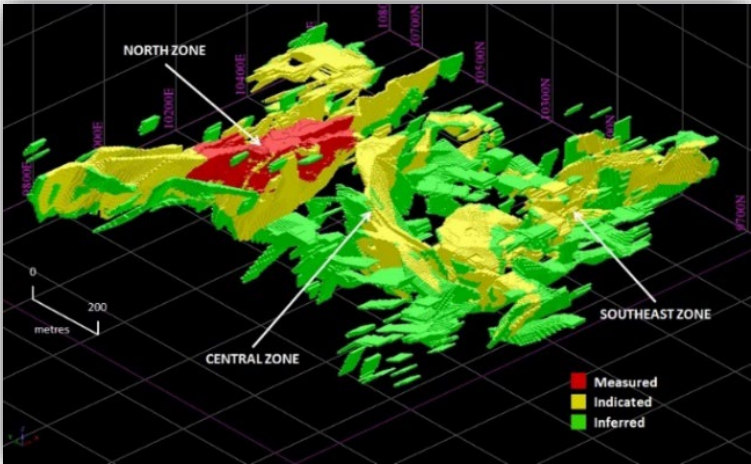
RESOURCES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr ENRICHMENT %
Measured	4.9	3.2	13	26.1
Indicated	30	2.7	12	26.4
Inferred	21	2.3	10	26.5
TOTAL	56	2.6	11	26.4

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 Nd₂O₃ and Pr₆O₁₁.

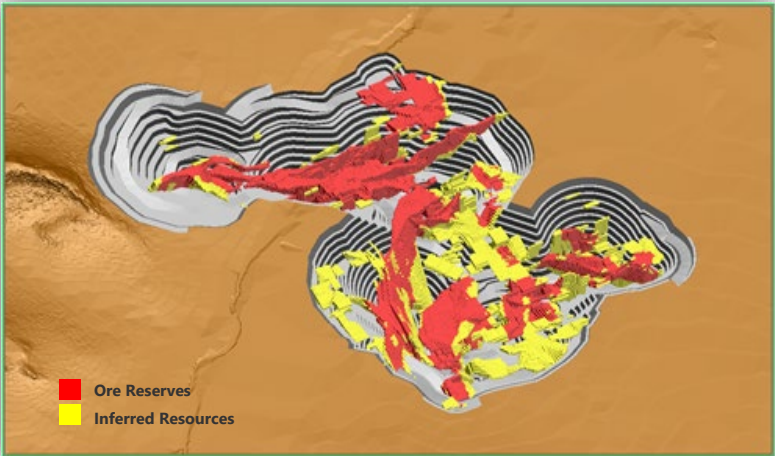
RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr ENRICHMENT %
Proved	5.0	3.0	13	26.2
Probable	24.6	2.8	13	26.5
TOTAL	29.5	2.9	13	26.4

As announced on 16 March 2020. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd₂O₃ and Pr₆O₁₁.

Mineral Resources



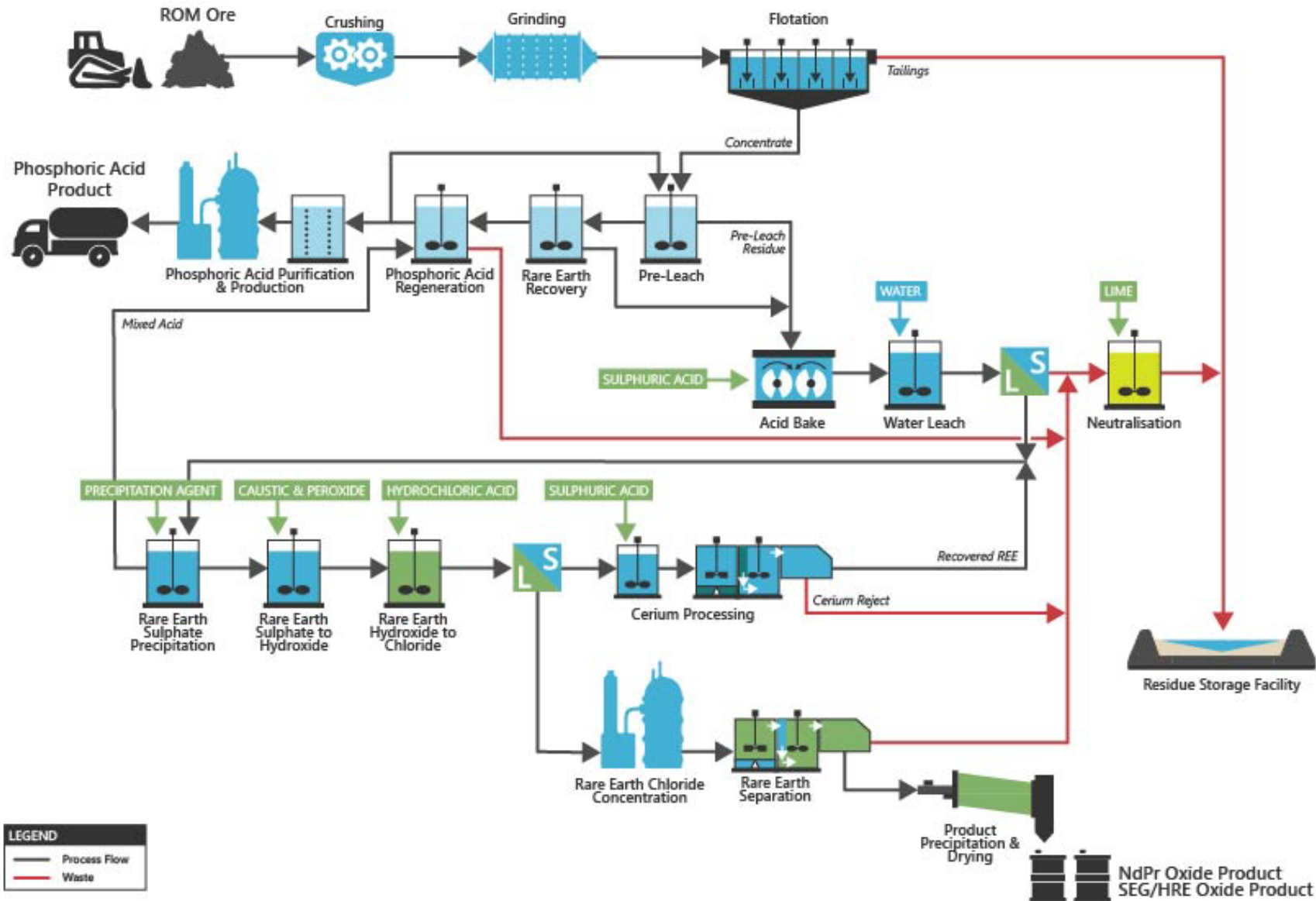
Ore Reserves



Geology

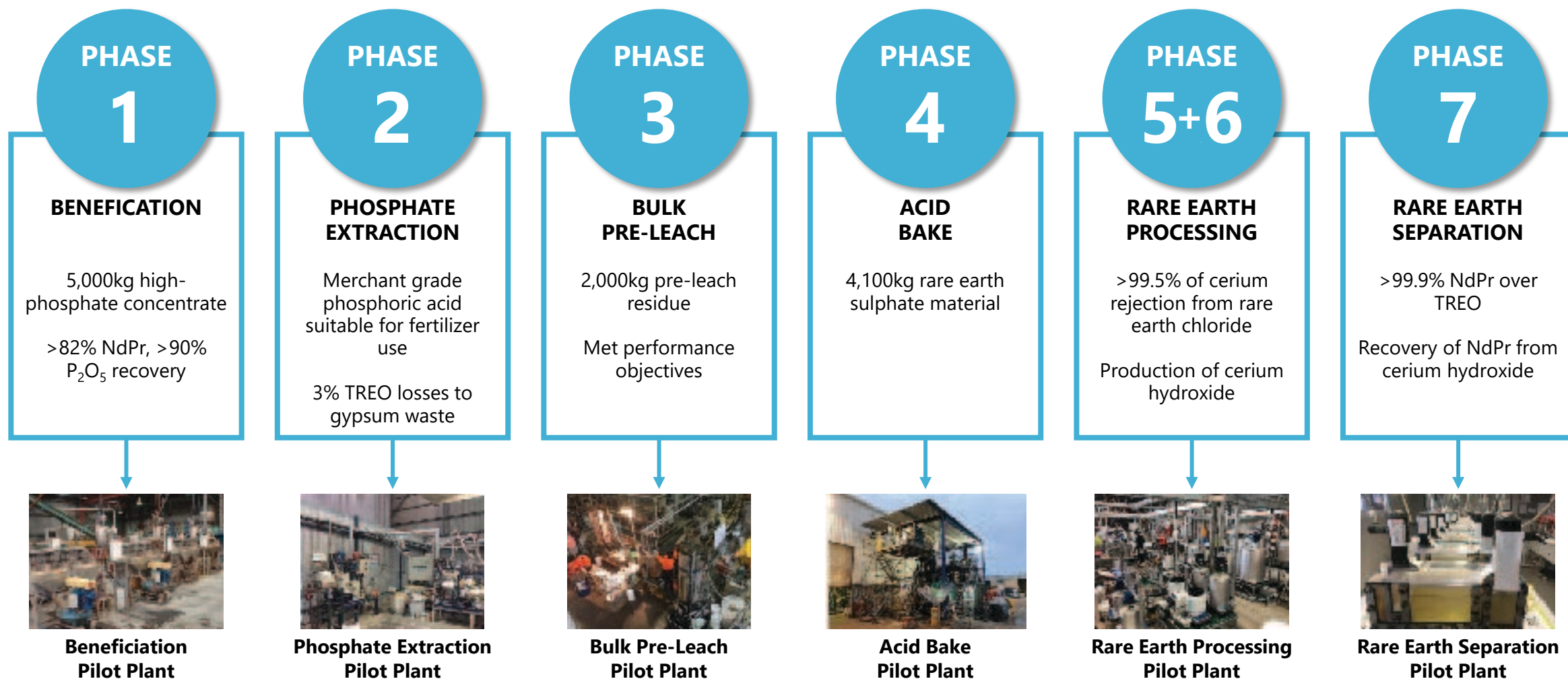
- ✓ World class strategic resource
- ✓ NdPr enriched
- ✓ Apatite hosted
- ✓ Discovered through airborne radiometrics
- ✓ 90km of drilling to develop 29 years of reserves and 38 years LOM
- ✓ Open at depth

Process Flowsheet



Technology Program Complete

Flowsheet Pilot



Waste and Water

Approved End to end Management

- ✓ Approved end to end waste management solution
- ✓ Waste rock dumps designed to “encapsulate” naturally occurring radioactive materials (NORM) rock at mine site
- ✓ Mine area surface water management captures sediment
- ✓ Residue storage facility (RSF) for containment of waste residue processed at site
- ✓ Progressive rehabilitation of RSF during Life of mine.



Arafura’s single site processing model provides traceable product and waste management systems which is aligned with customers’ ESG expectations.



Environmental Approval and Project Costing includes all costs for Waste Management System and Rehabilitation.

Rendering of Nolans Project Residue Storage Facility (RSF).

