

NdPr Essential for Energy Transition

Bell Potter – Emerging Leaders
September 2022





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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 Resources 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 Resources 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 May 2021 (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 May 2021. 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 May 2021 (including any assumptions referred to in the Company's ASX announcement dated 11 May 2021 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 introduction



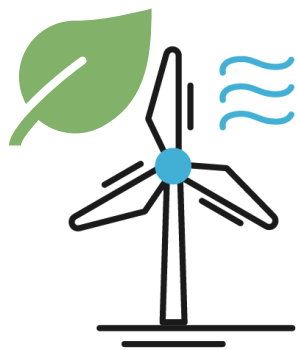
Nolans Project

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

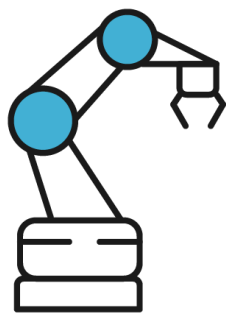
The Nolans Project contains all the natural Rare Earths but is particularly enriched in the 'Magnet Feed' Rare Earths NdPr



The fastest growing market for NdPr Oxide is in **NdFeB Magnets**. They help make everyday items smaller, lighter, mobile, more efficient and more affordable.



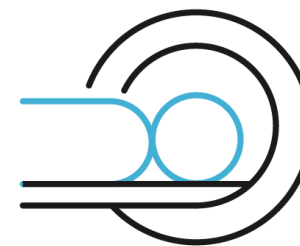
WIND
TURBINES



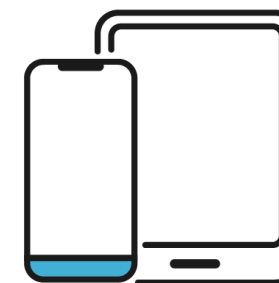
ROBOTS



ELECTRIC
VEHICLES



MRI
MACHINES

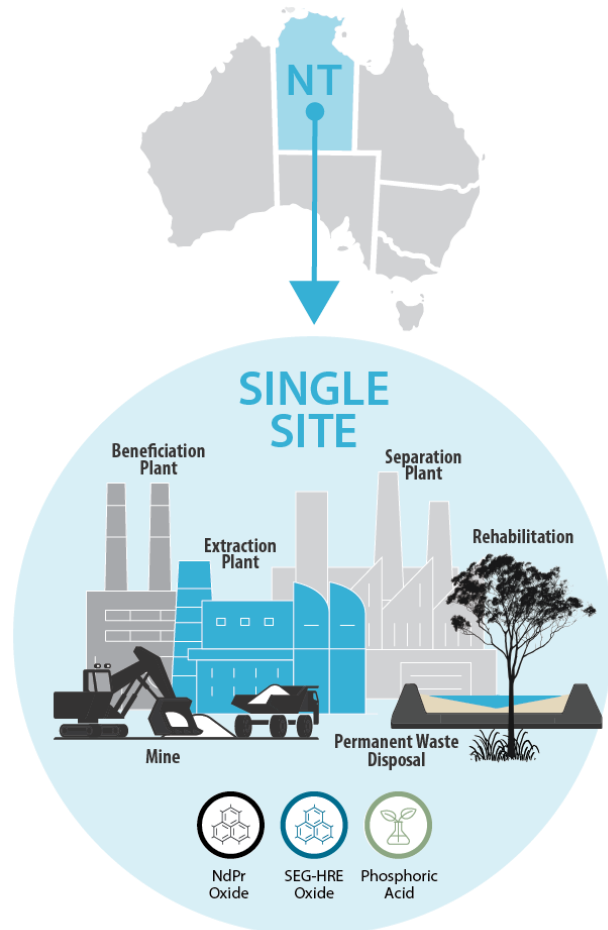


PHONES &
TABLETS

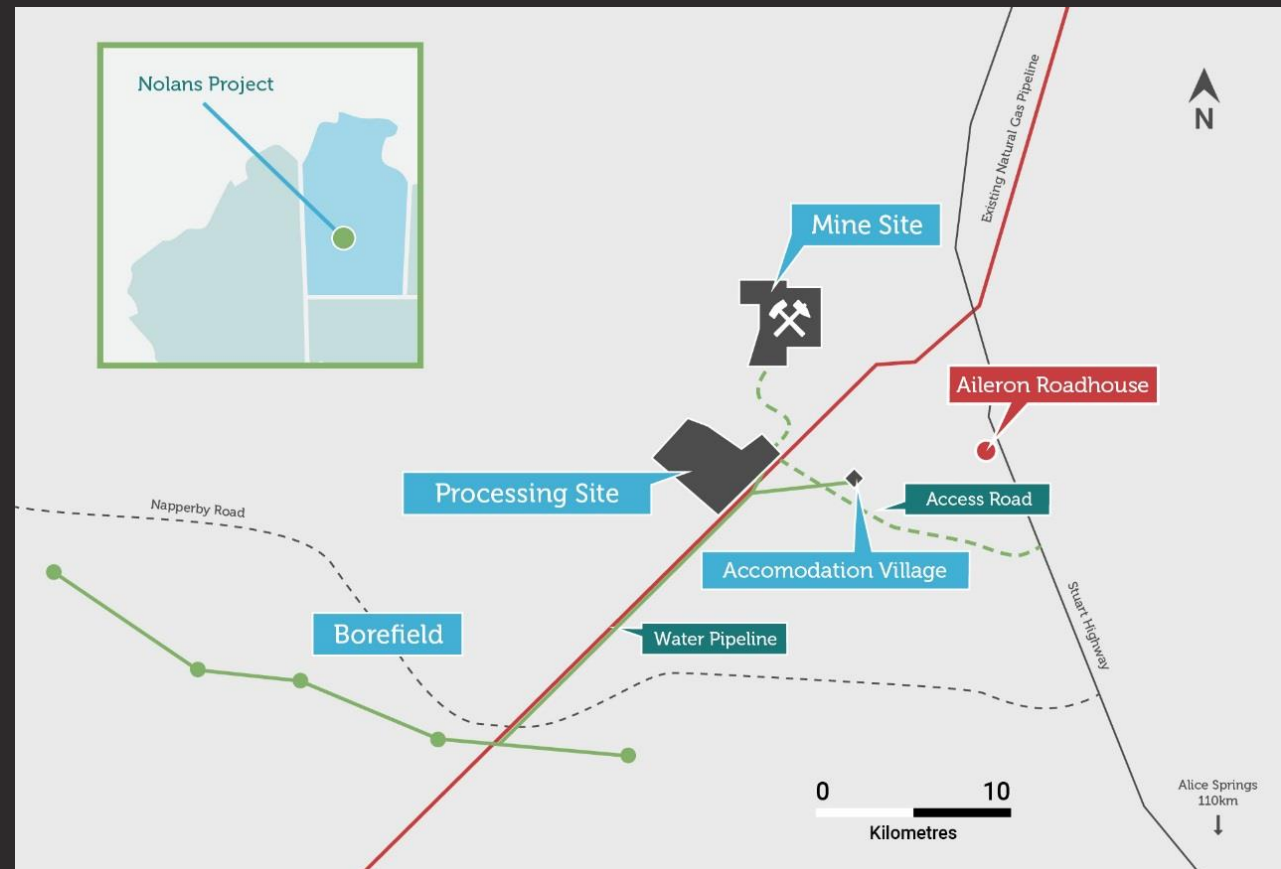
Key Facts

Advanced manufacturing onsite

– Ore to oxide at a single site –



- ➔ Nolans aims to supply ~5% of global demand for NdPr oxide
- ➔ Close to existing key infrastructure
- ➔ Key approvals in place: Mining Licence, Environmental and Native Title Agreement



Experienced Board



Mark Southey



Chris Tonkin



Quansheng Zhang



Cathy Moises



Darryl Cuzzubbo

NON-EXECUTIVE DIRECTOR

Mark Southey has extensive global experience in the industrial and natural resources sectors covering all aspects of asset management, maintenance, design and engineering, and major capital project development and execution. He is well versed in public company board and institutional investor engagement and has a background in both senior operational and financial roles. Mark has previously held senior executive positions with Honeywell and ABB both in Australia and internationally and was part of the global executive leadership team within WorleyParsons. He is Chair of Arafura's Remuneration and Nomination Committee and is a member of the Risk Management and Sustainability Committees.

NON-EXECUTIVE DIRECTOR

Chris Tonkin has over 40 years' experience as a senior business executive with a broad multiple industry background in resources, telecommunications and banking and finance covering project finance, business generation, management, technical and strategy development roles. Chris was Head of Natural Resources Project Finance at ANZ for a number of years, leading a highly successful team of project financiers. Chris is a Graduate Member of the Australian Institute of Company Directors. He is Chairman of Arafura's Audit Committee and a Member of its Remuneration and Nomination and Risk Management Committees.

NON-EXECUTIVE DIRECTOR

Quansheng Zhang holds a Doctoral degree in Engineering and a Masters degree in Geophysical Prospecting. He is based in Nanjing in the Peoples Republic of China and is the General Manager of Hong Kong East China Non-Ferrous Mineral Resources Co Ltd (HKECE). Quansheng has over 30 years of mineral prospecting and exploration experience, and expertise in mineral resource surveys and geophysics.

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. Cathy was Head of Research at Patersons Securities Limited. Cathy is also a non-executive director of WA Kaolin Limited, Australian Potash Limited and Podium Minerals Ltd and is Chairman of Pacgold Limited. She is Chairman of Arafura's Sustainability and a Member of its Audit and Remuneration and Nomination Committees.

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. 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. Darryl was previously President of Olympic Dam at BHP and Chief Manufacturing and Supply Officer as well as Group Executive and President of Auspac Asia at Orica Pty Ltd. He is current managing director at SolGold. He is Chair of Arafura's Risk Management Committee and a Member of the Audit and Sustainability Committees.

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 & Investment Banking, Major Resource Development & 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.



Lloyd Kaiser

GENERAL MANAGER SALES & MARKETING

Lloyd has more than 10 years' experience in the sales and marketing of industrial minerals into high value sector markets including the nuclear, automotive, and advanced ceramics sectors. Prior to joining Arafura, he held several senior positions in account management, business development and marketing across a diverse range of commodities and chemicals including alumina, coal, industrial minerals, refractories, and ceramics.

Our Technical Team



Dr Alex Elliot



Kelvin Hussey



Lourdes Valle



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.

PROCESS ENGINEERING MANAGER

FAusIMM (CP), FIEAust, NER (Chemical), RPEQ (Met, Chemical), MBA

Lourdes is a world-class, results-oriented Process Engineer with combined business knowledge and proven experience in end-to-end project lifecycle for more than 20 years. She has a strong technical knowledge backed with demonstrated practical experience and leadership gained from various roles and global exposures throughout her career.

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, CEng, 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

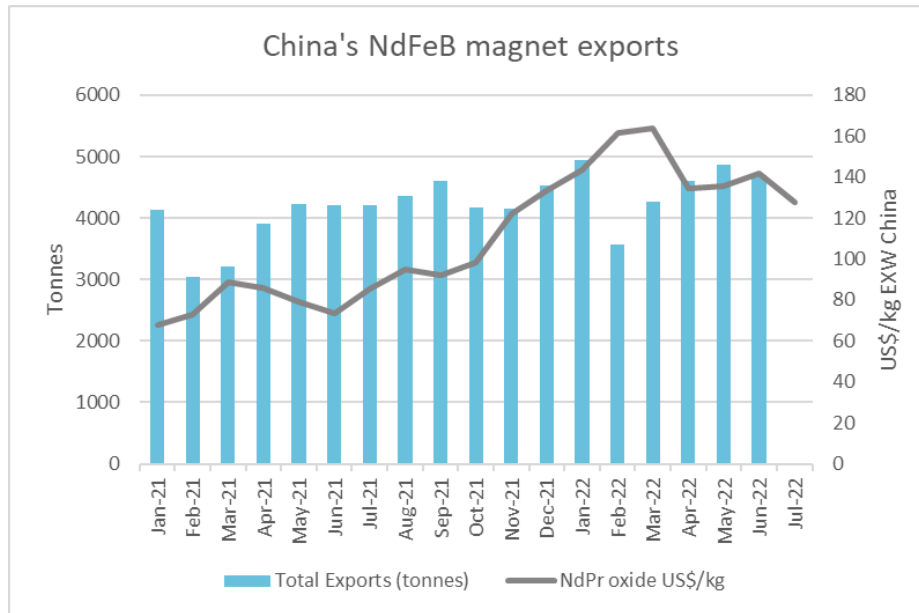
BEng (Mechanical) / NVQ ECITB

Bhupesh has over 30 years of experience in the Engineering and Construction industry, with over 20 years in planning & 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.

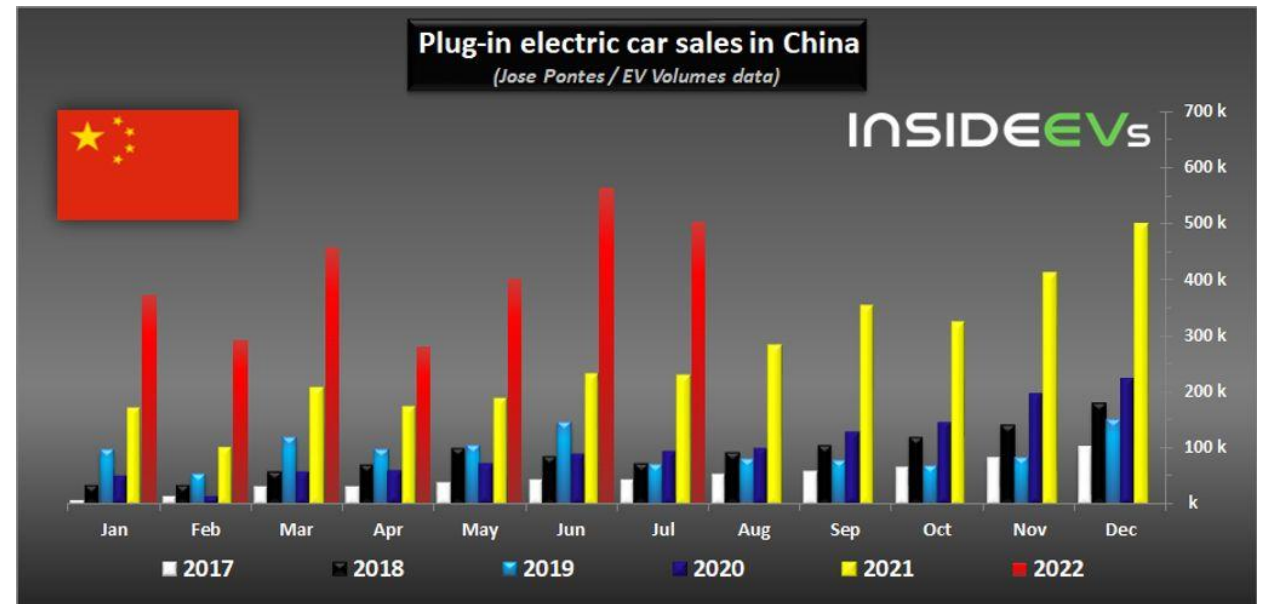
NdPr and NdFeB magnet market overview



China NdFeB Exports & China EV Sales



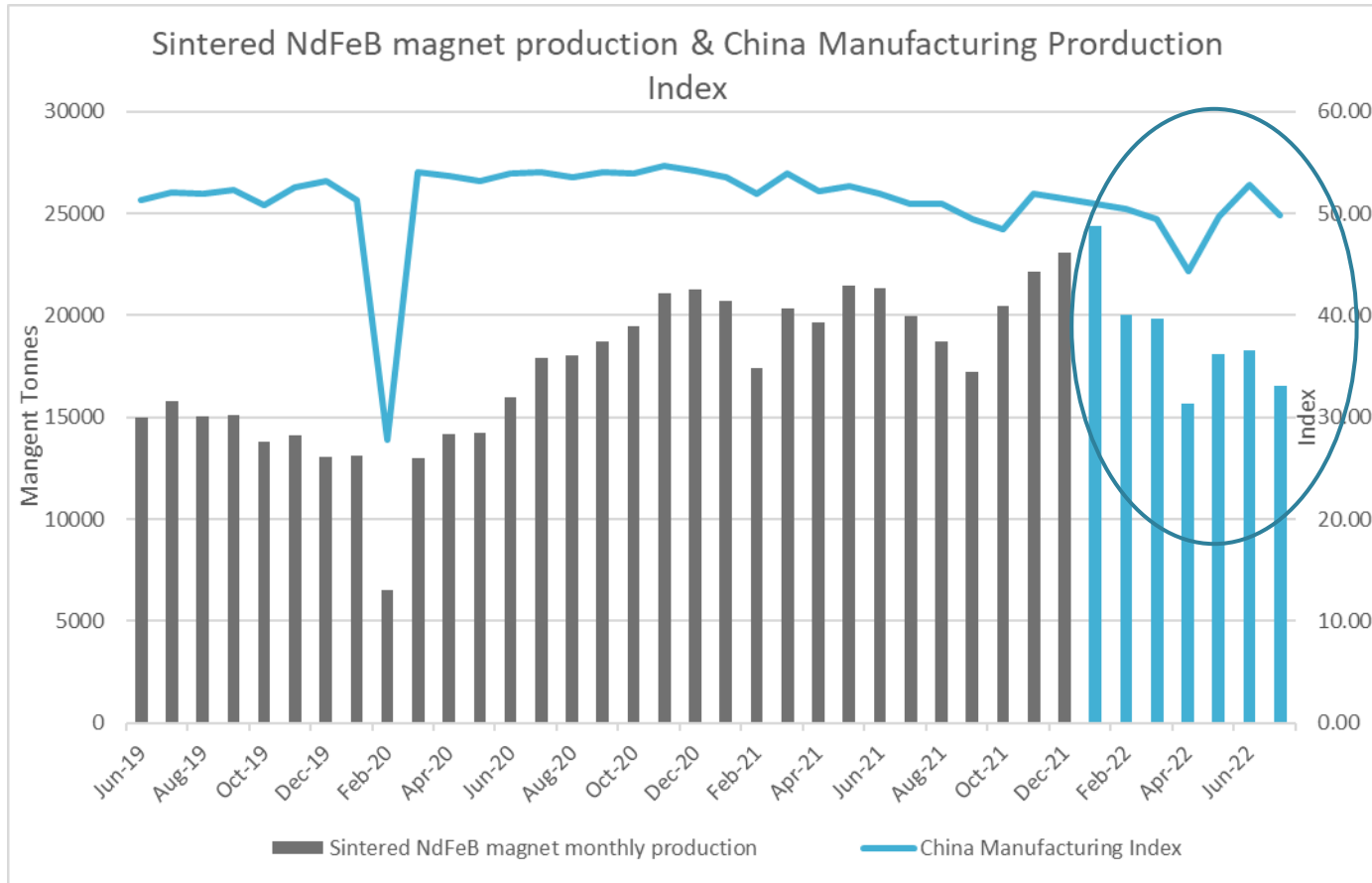
Source: Baiinfo



Source: www.insideevs.com

- ✓ China NdFeB magnet exports performed strong in the quarter through to June 2022
- ✓ China EV sales continued the trend of quarter-on-quarter growth to June 2022
- ✓ In the 12- month period NdPr oxide prices performed well peaking at a monthly average of US\$164 in March but then falling to a monthly average of US\$128 in July, this downward trend continued through August.

NdFeB Magnet Output & China Manufacturing Index



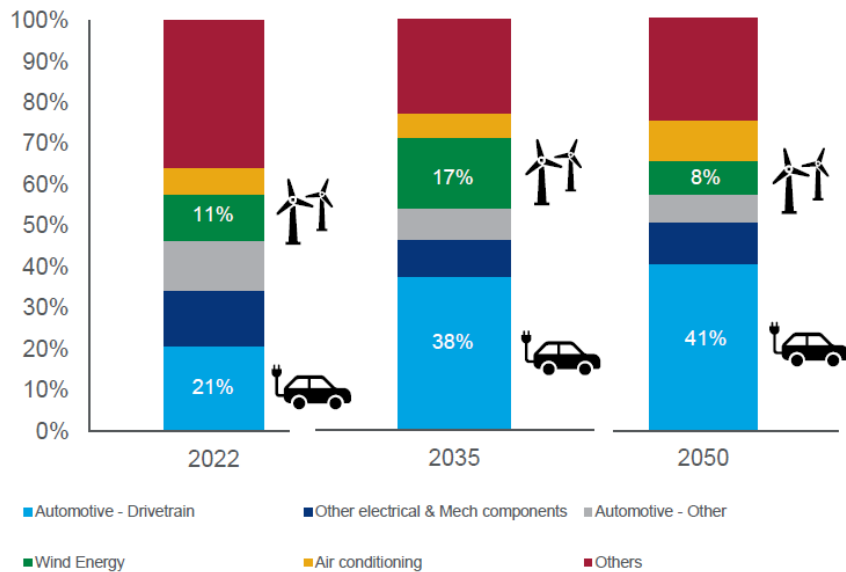
Source: Baiinfo

- ✓ EV demand was strong, exports were stable, but NdFeB magnet production tapered 1H CY2022
- ✓ NdPr price impacted by softer China domestic magnet demand and decreased manufacturing
 - ✓ Complete lockdown in April
 - ✓ July and August were impacted by power cuts
- ✓ Appears demand for some China domestic applications impacted magnet demand/ production and NdPr prices:
 - ✓ Wind orders have reduced off the high 2021 volumes
 - ✓ Weaker property sector a drag for air conditioner, home appliances and demand for electronic devices

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)

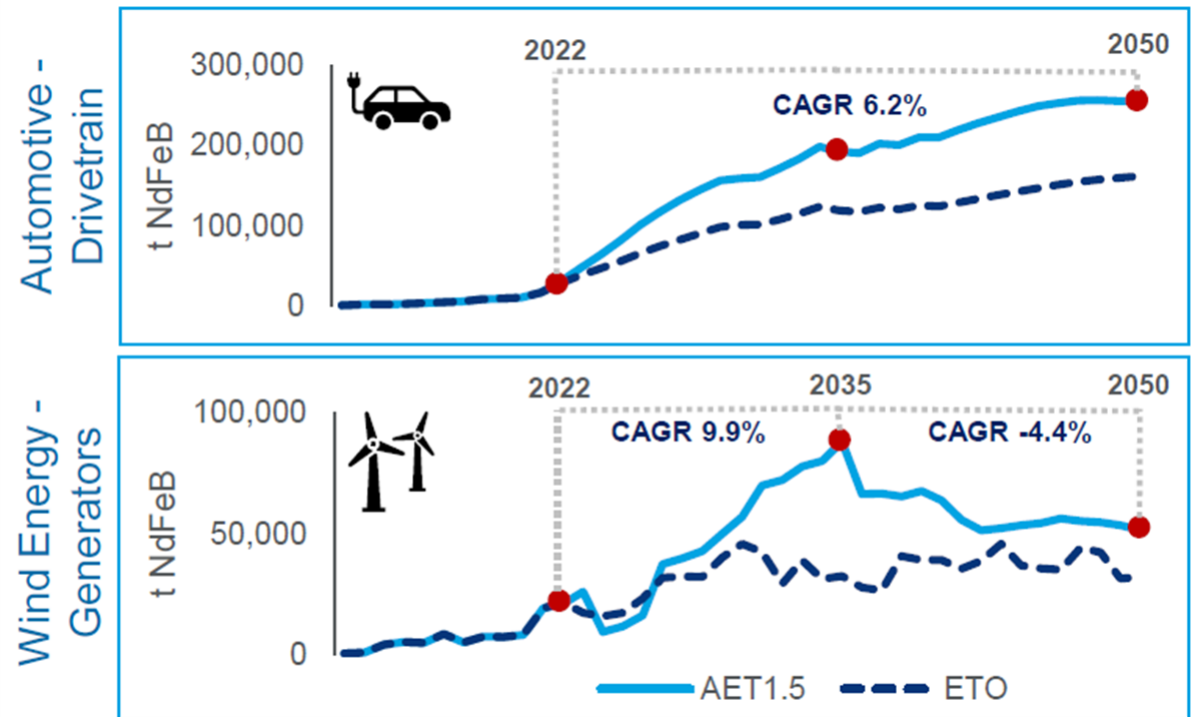


Source: Wood Mackenzie Business

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



6/09/2022



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



(ASX:ARU)

Source: Wood Mackenzie Business

Offtake Engagement



Offtake

MoU's signed:



Hyundai Motor Corporation

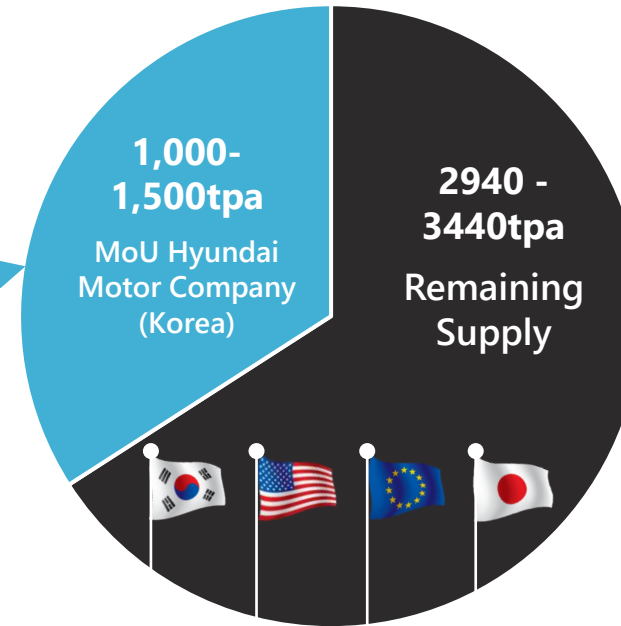


GE Renewable Energy

1/3 Planned Production¹ under MoU with Hyundai

Foundation Customer

Non binding MoU with Hyundai for 1,000tpa NdPr oxide with ability to secure additional 500 tonnes



Arafura's NdPr Oxide Planned Production 4,440tpa

Arafura is in discussions with more than **10 parties** for **>260% of Planned Production¹** with a view to **secure 85% as binding offtake**

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).

Project Funding



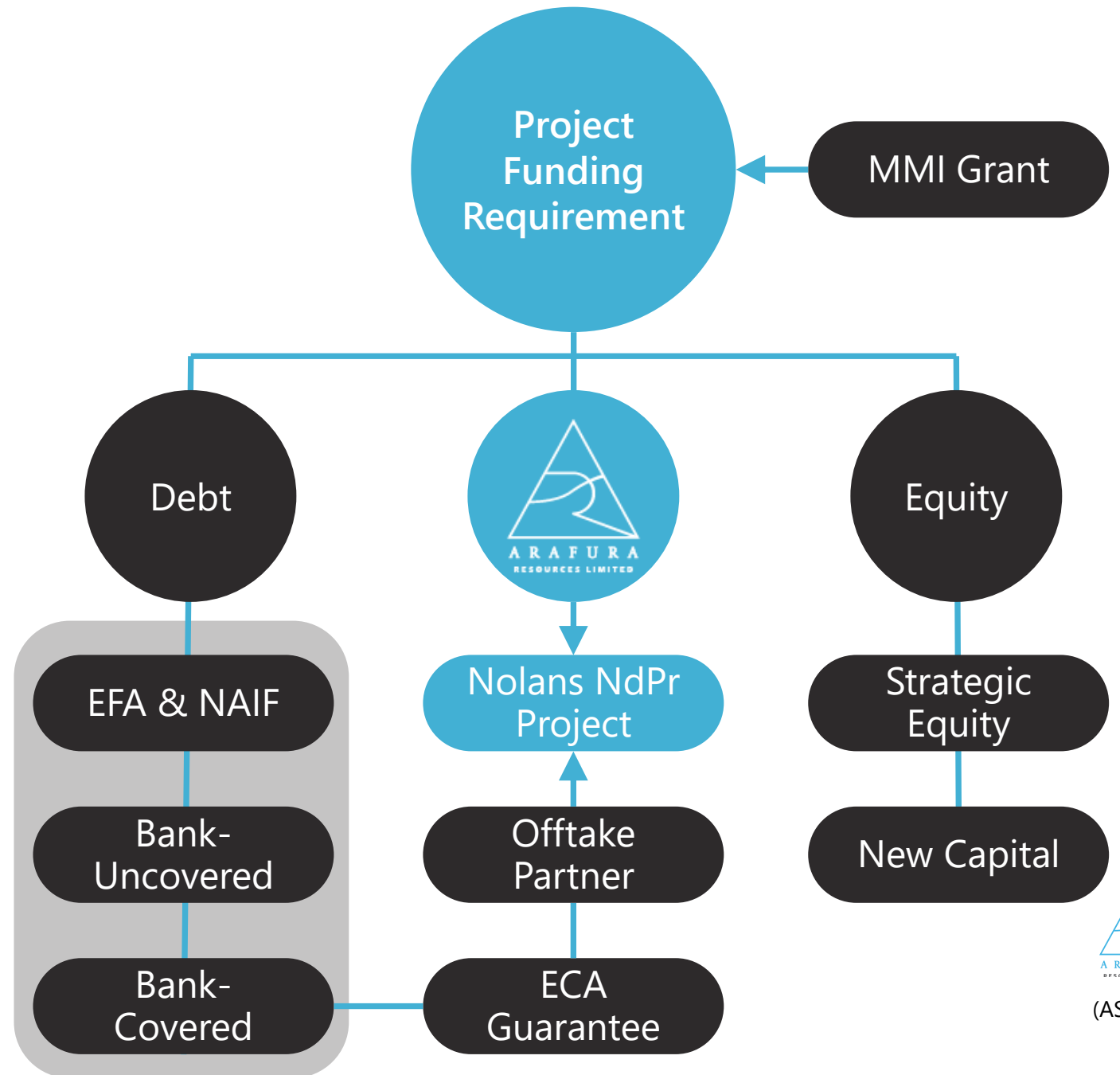
Funding Structure

Debt

- ✓ MLAs appointed, Societe Generale and NAB
- ✓ MLAs seeking to arrange US\$510m (inclusive of cost over run) debt financing
- ✓ Balance of the debt financing will be 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 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





Contact Information



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(ASX:ARU)

Further Information



Project Economics

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	
Financial	US\$	A\$
Capital Cost (\$m)	837	1,150
NdPr Oxide (US\$/kg)	US\$87/kg	120
Rare Earth Sales Revenue (\$m/pa)	388	534
Phosphoric Acid Sales Revenue (\$m/pa)	58	79
Mining Costs (\$m/pa)	(30)	(42)
Processing Costs (\$m/pa)	(105)	(145)
General and Administration Costs (\$m/pa)	(15)	(21)
EBITDA (\$m/pa)	257	354
KPI Analysis	US\$	A\$
Operating Cost \$/kg NdPr	33.91	46.60
Operating Cost \$/kg NdPr net of P ₂ O ₅ credit	24.76	34.06
NPV ₈ after tax (\$m)	1,011	1,402
IRR after tax (%)	18.1%	

Robust economics based on long term NdPr price of **US\$87/kg**

- ✓ **Post-tax NPV₈ of A\$1.4 billion and IRR of 18.1%**
- ✓ **Capital cost A\$1,150m when including full acid plant upfront**
- ✓ **Annual average EBITDA of A\$354m**
- ✓ **Low-cost producer at US\$24.76/kg NdPr**
- ✓ **Single site advantage**

The Project Economics table is based on the assumptions and estimates set out in the Nolans Project Update (refer Project Update ASX Announcement dated 11 May 2021), which also utilises a long-term NdPr oxide price assumption of US\$87/kg notwithstanding that the significant increases in NdPr pricing since the Project Update. Average production and costs are calculated as the arithmetic annual average following the anticipated two year ramp up and excluding the final years of production from low grade stockpiles. The Company has made preliminary observations in relation to a number of factors that may have an impact on the cost of the Nolans Project (refer March 2021 Quarterly Report ASX Announcement dated 29 April 2022). The extent of any potential impact will continue to be monitored as part of the FEED process. The Company will provide an update to ASX on any material changes once an overall assessment of the impact has been completed, prior to FID..

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.

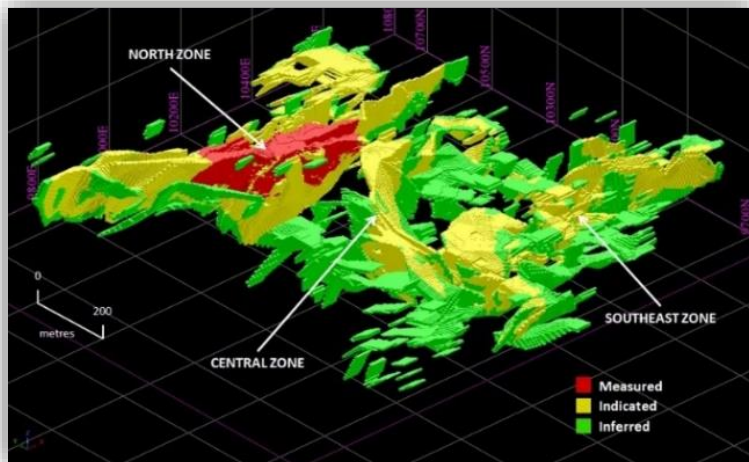
RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr ENRICHMENT %
Proved	5.0	3.0	13	26.2
Probable	24.6	2.8	13	26.5
TOTAL	29.5	2.9	13	26.4

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.

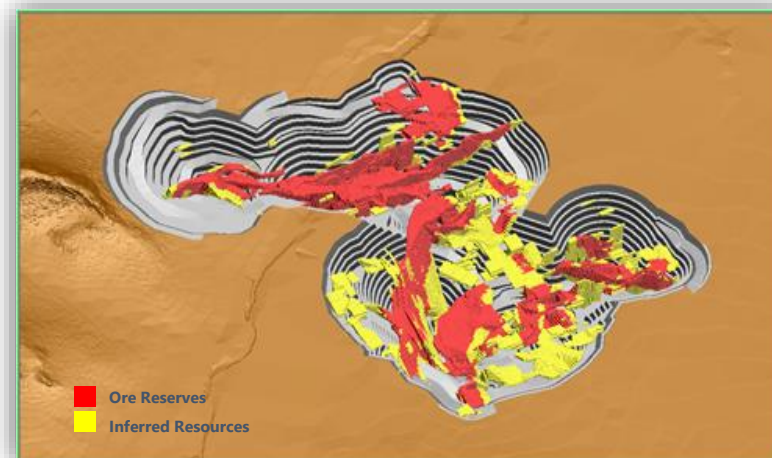
NdPr rich & open at depth

- ✓ Over 90km drilled to define and classify material types
- ✓ 29 year Ore Reserves
- ✓ 38 year Mining Inventory
- ✓ Single pit
- ✓ Expansion potential

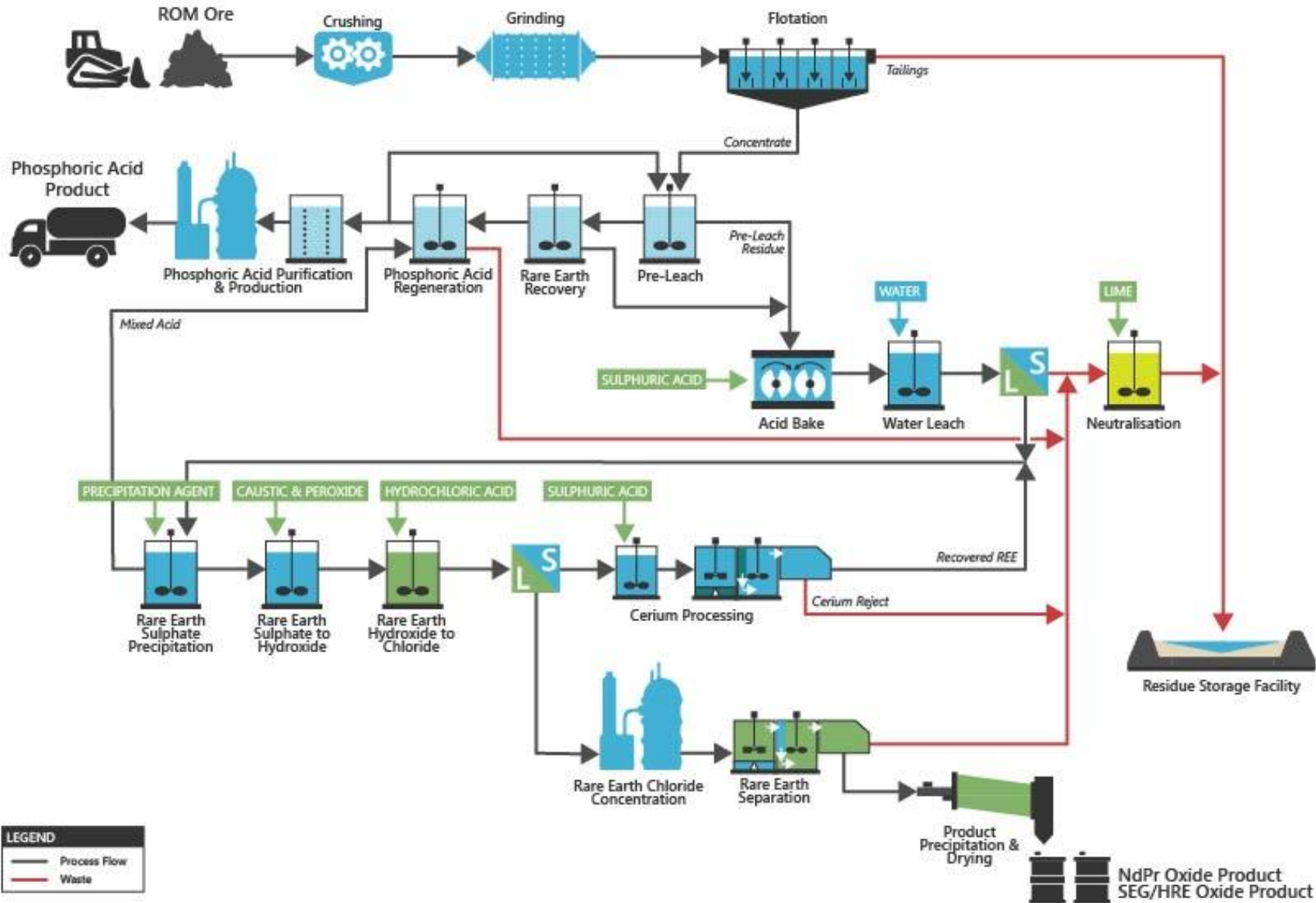
Mineral Resources



Ore Reserves



Process Flowsheet



LEGEND	
	Process Flow
	Waste



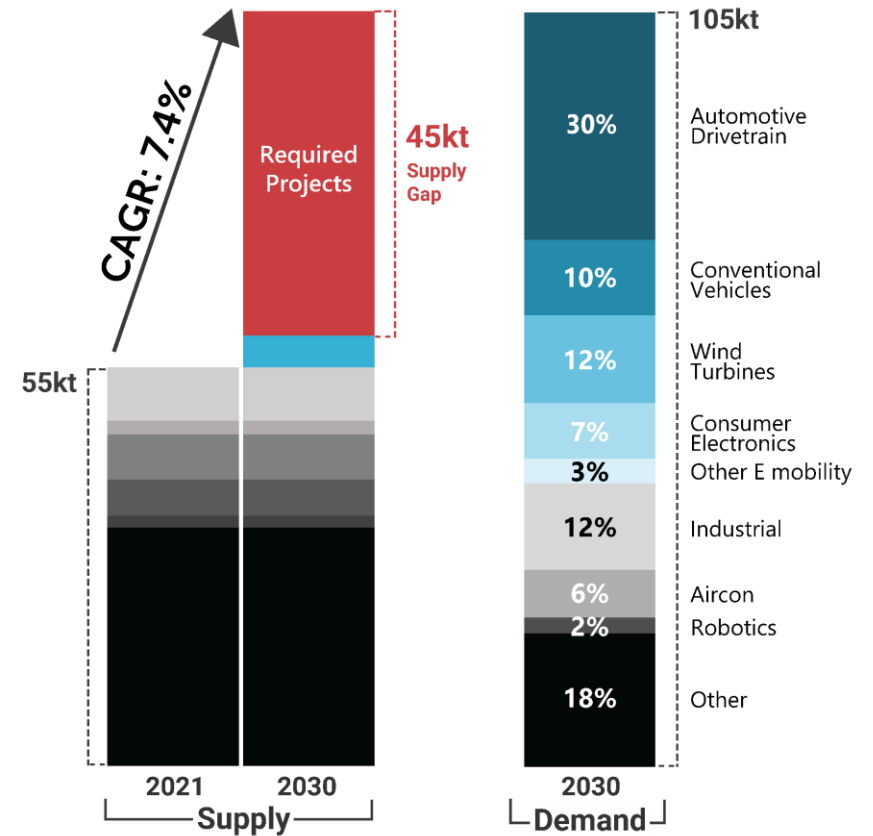
(ASX:ARU)

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
- ✓ A secure NdPr supply is the cornerstone of ex-China manufacturing during a decade of growing resource scarcity, bottle-necks and geopolitical tension

Investment in new projects is required to meet demand requirements

NdPr Supply & Demand



- Arafura Resources
- Recycling & By Products
- MP Materials
- China Undocumented
- Small Producers
- Lynas
- China Production

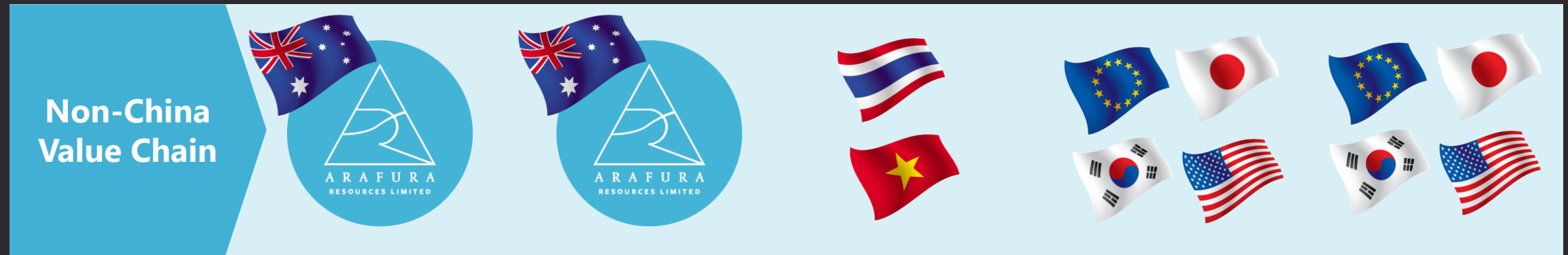
Cumulative Annual Growth Rate (CAGR)



(ASX:ARU)

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.

Strategic Importance of Producing an Oxide



1

China currently exerts control over most of the global rare earth supply chain. Projects not producing Oxide risk falling into the *Made in China 2025* supply chain.

2

Arafura plans to produce Oxide in Australia to provide **supply security that will meet sustainability objectives.**

3

Nolans offtake strategy focused on parties **not aligned with the *Made in China 2025* strategy.**

4

Governments around the world are seeking to partner in opportunities to **diversify the supply chain to prevent disruption.**

5

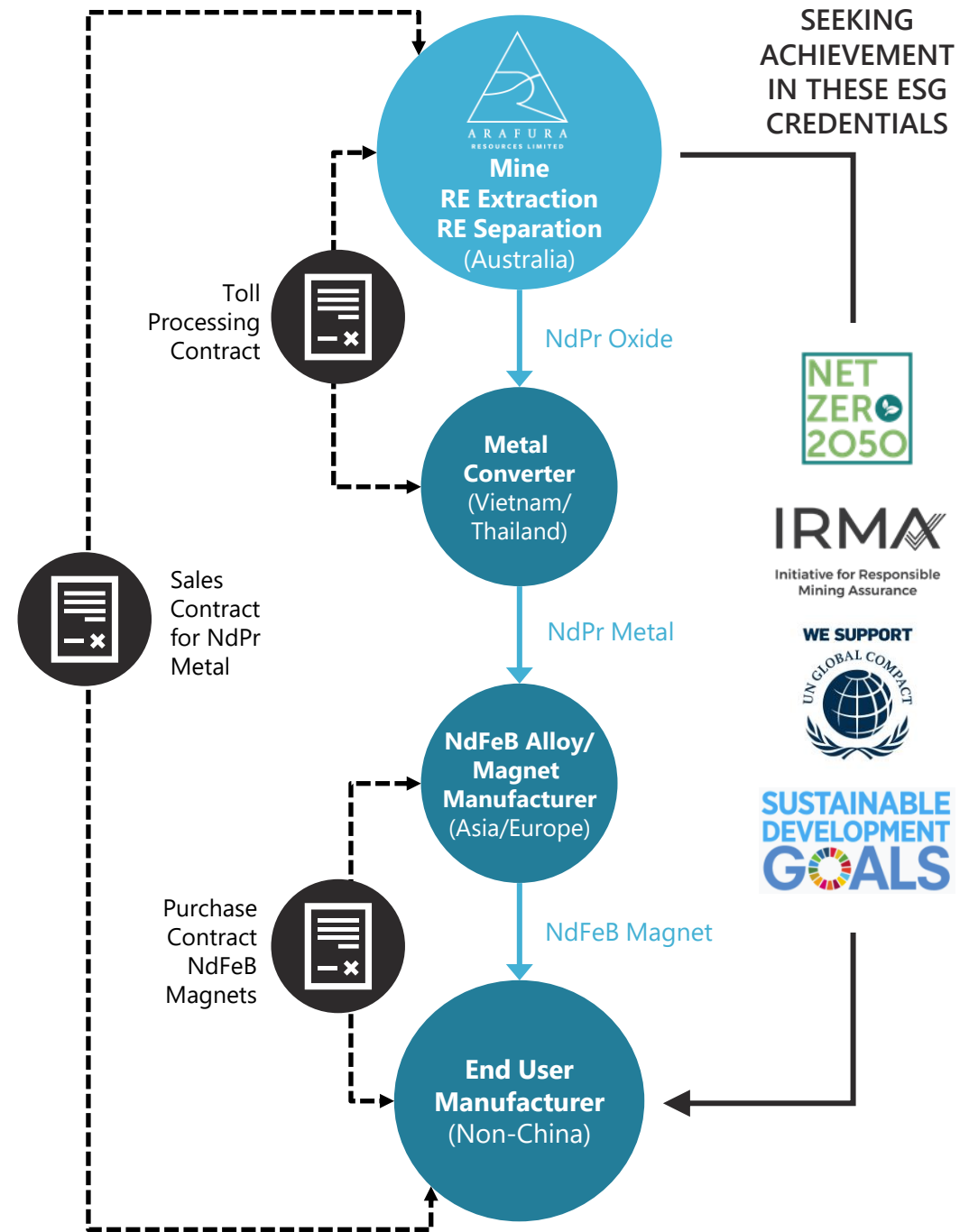
Nolans **ore to oxide business model** allows Critical Raw Materials (CRM) supply diversification

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.
- ✓ Offtake Model proposes Toll Processing Contract with metal converter with agreement well advanced
- ✓ Enables access to a sustainable NdPr feedstock where provenance is easily traceable.
- ✓ A high level of transparency throughout the supply chain can facilitate the use of blockchain technologies to capture and secure data as the product is refined to a final NdFeB magnet.

Arafura has an MoU with South East Asia based toll metal converter



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).



Indigenous Engagement

- ✓ **Native Title Agreement** executed
- ✓ **Local and Indigenous Procurement Plan** in place
- ✓ Comprehensive **long-term** consultation
- ✓ Extensive **Social Studies** conducted
- ✓ Community & stakeholder engagement includes **Indigenous people & Traditional Owners**

Committed to 20% Indigenous Employment Target



James Glenn (left) and Tony Scrutton (right) signing the Native Title Agreement.



Cultural Heritage Management Plan

Cultural and environmental practices to protect cultural sites



Indigenous Engagement Strategy

Local Indigenous employment and training opportunities



(ASX:ARU)