

Diversification of NdPr supply risk for Japan

NTG and Consulate-General of Japan Seminar
28 April 2021





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Mineral Resources and Ore Reserves

The information in this presentation that relates to Mineral Resources was released in an 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 was released in an 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 represented have not been materially modified from the original market announcement.

Production Targets and Forecast Financial Information

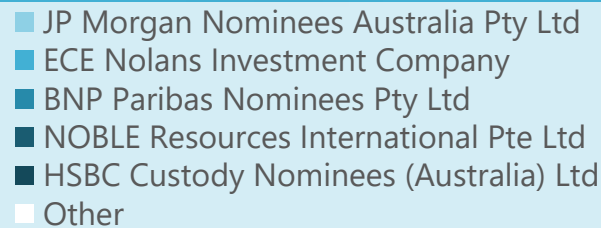
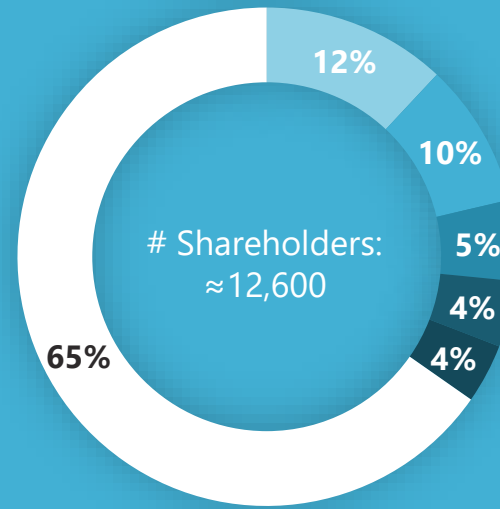
The information in this presentation that relates to production targets and financial information included in this presentation is extracted from ASX announcement dated 16 March 2020 (Major Increase in Mine Life for the Nolans Project). Arafura confirms that all material assumptions underpinning the production target and forecast financial information derived from production targets set out in the announcement released on 16 March 2020 (including the cost and pricing assumptions referred to in the Company's 16 March 2020 announcement that were used in the DFS and which are set out in the Company's ASX Announcement 7 February 2019 (Nolans Project Definitive Feasibility Study)), continue to apply and have not materially changed.

Arafura & the Nolans Project



Corporate Snapshot

- ✓ Nolans shovel ready world class NdPr project
- ✓ NdPr is the key input for high performance NdFeB permanent magnets
- ✓ NdPr central to many clean energy applications including EVs and wind turbines
- ✓ NdPr supply risk exposure for Japan goes beyond magnet making industry to downstream activities for auto component makers, EV manufacturers and consumer electronics
- ✓ Japan's export customers in Europe and the US, will have increased focus on the sustainability and provenance of critical raw materials
- ✓ ESG standards of China sourced NdPr oxide and NdFeB magnets being traced back to the mine site may create challenges for Japanese exporters

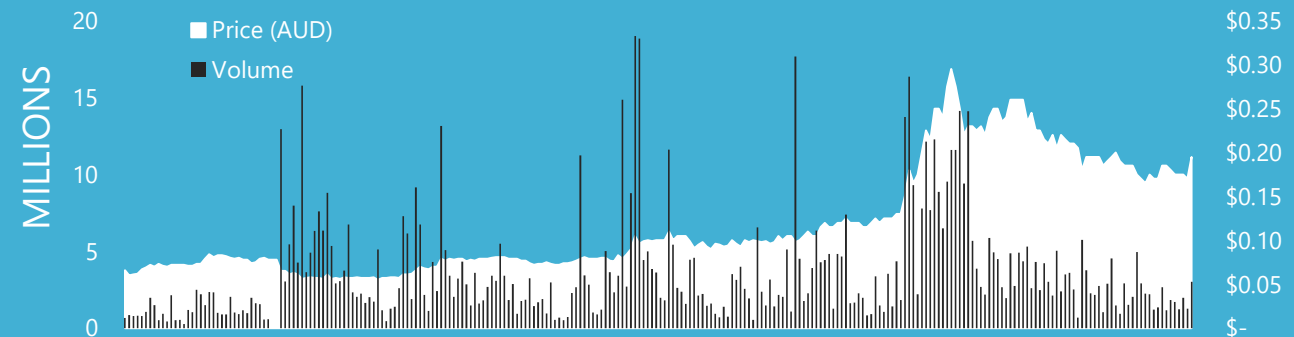


Capital Structure

ASX Code	ARU
ASX Share Price (19 April)	\$0.195
Shares on Issue	1,170M
Market Capitalisation	\$228.30M
12 Month Liquidity	\$121.75M
Cash*	\$12.91M
Debt	Nil
Enterprise Value*	\$215.39M

* Data based on 31 March 2021 Quarterly Report

12 Month Share Price Performance



APRIL 2020 – APRIL 2021

Nolans a Strategic Resource



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



Nolans is the only NdPr project in Australia that plans to produce **ore to oxide at a single site** including all waste management.



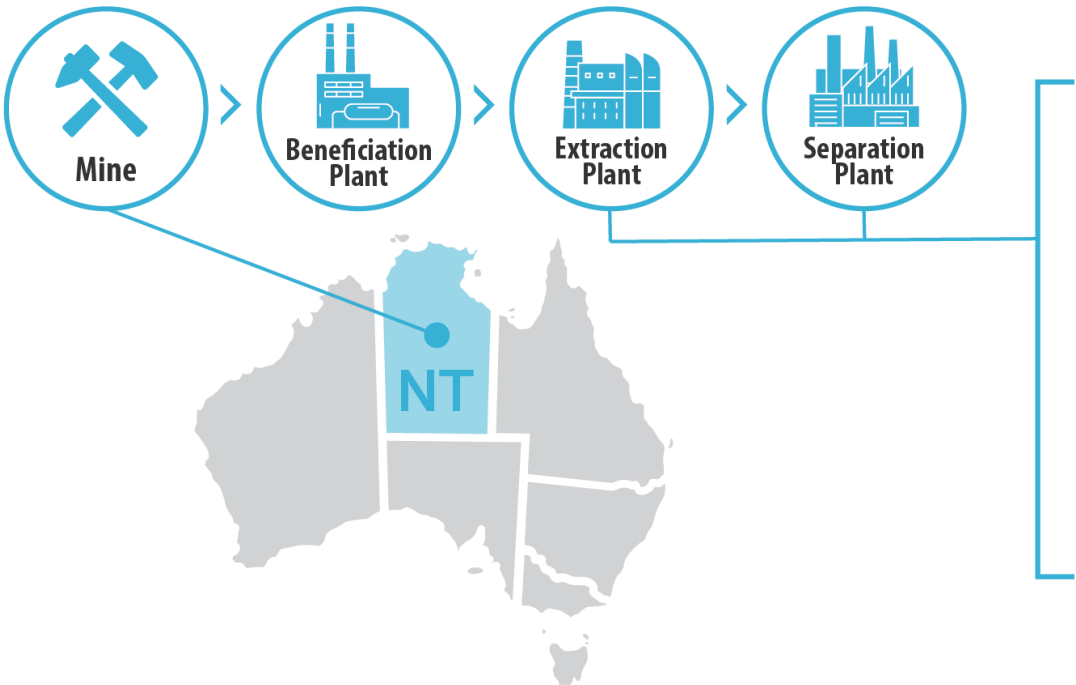
Nolans aims to be a **non-Chinese supplier of NdPr** by entering the global supply chain as an oxide.



All environmental approvals have been secured in Australia at a single site which provides customers traceability of product & rehabilitation.



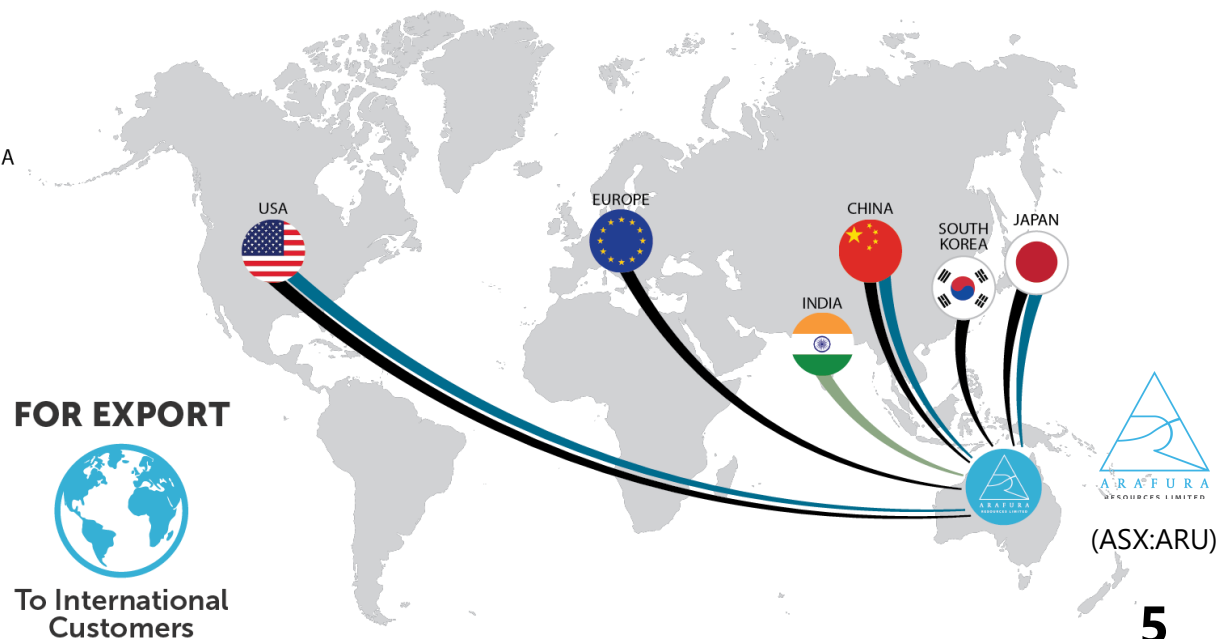
All the above has been **fully costed in the DFS**. Phosphoric acid product places Nolans in a **unique position to compete with China on cost**.



 NdPr Oxide
 EUROPE
 JAPAN
 SOUTH KOREA
 USA
 CHINA

 SEG-HRE Oxide
 JAPAN
 USA
 CHINA

 Phosphoric Acid
 INDIA



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.

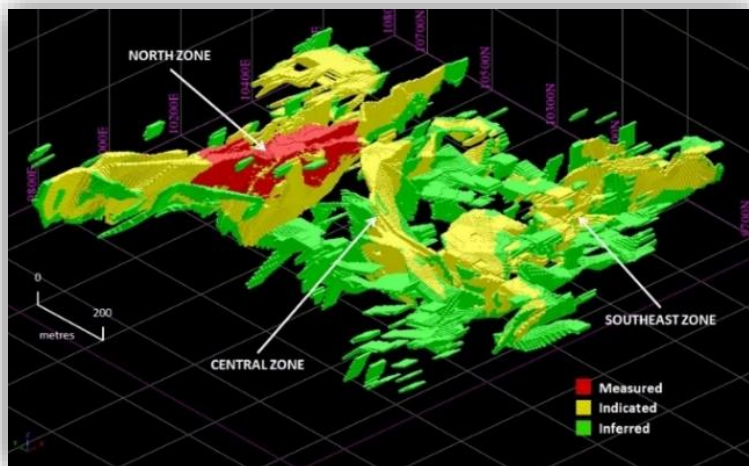
RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr ENRICHMENT %
Proved	5.0	3.0	13	26.2
Probable	24.6	2.8	13	26.5
TOTAL	29.5	2.9	13	26.4

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.

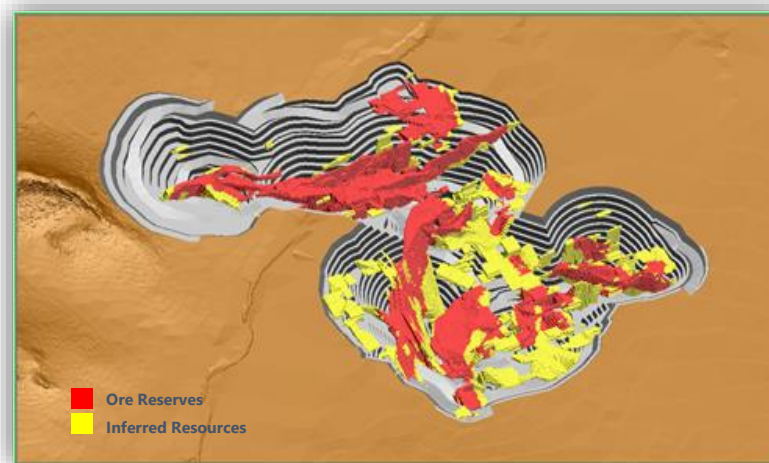
NdPr rich & open at depth

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

Mineral Resources



Ore Reserves



Robust Economics

	Ore Reserves	Mining Inventory
Mining & Processing		
Project Life (years)	33	39
Production		
NdPr Oxide (tpa)	3,923	4,325
Financial		
Capital Cost (A\$m)	1,003	1,026
KPI Analysis		
Operating Cost (US\$/kg NdPr with Phosphoric Acid credit)	\$27.02	\$23.71
NPV10 after tax (A\$m)	782	968
IRR after tax (%)	17.29%	17.97%
After tax payback	Year 5	Year 5

As announced on 16 March 2020. Average production and costs are calculated as the arithmetic annual average following the anticipated three year ramp up and excluding the partial final year of production.

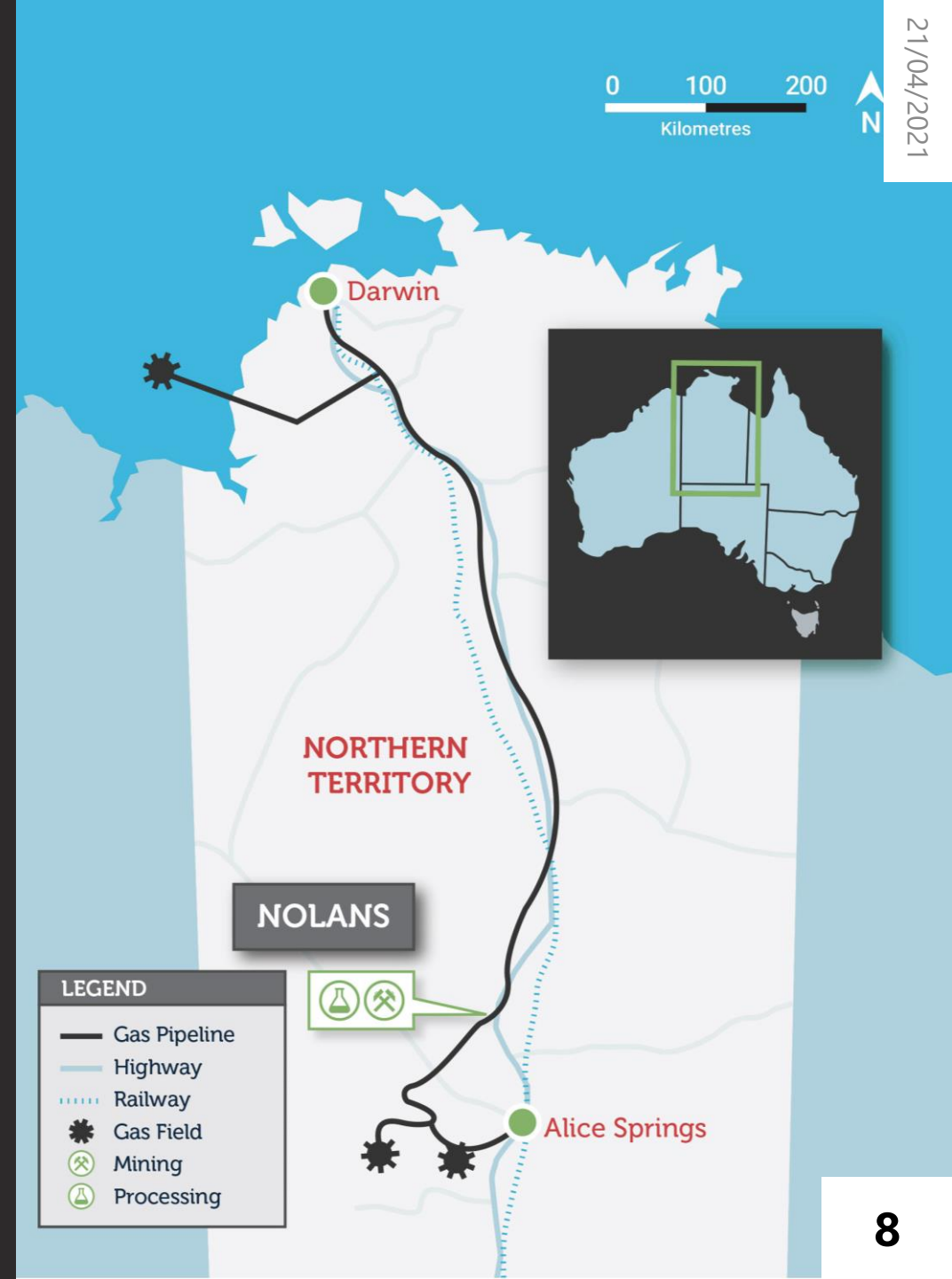
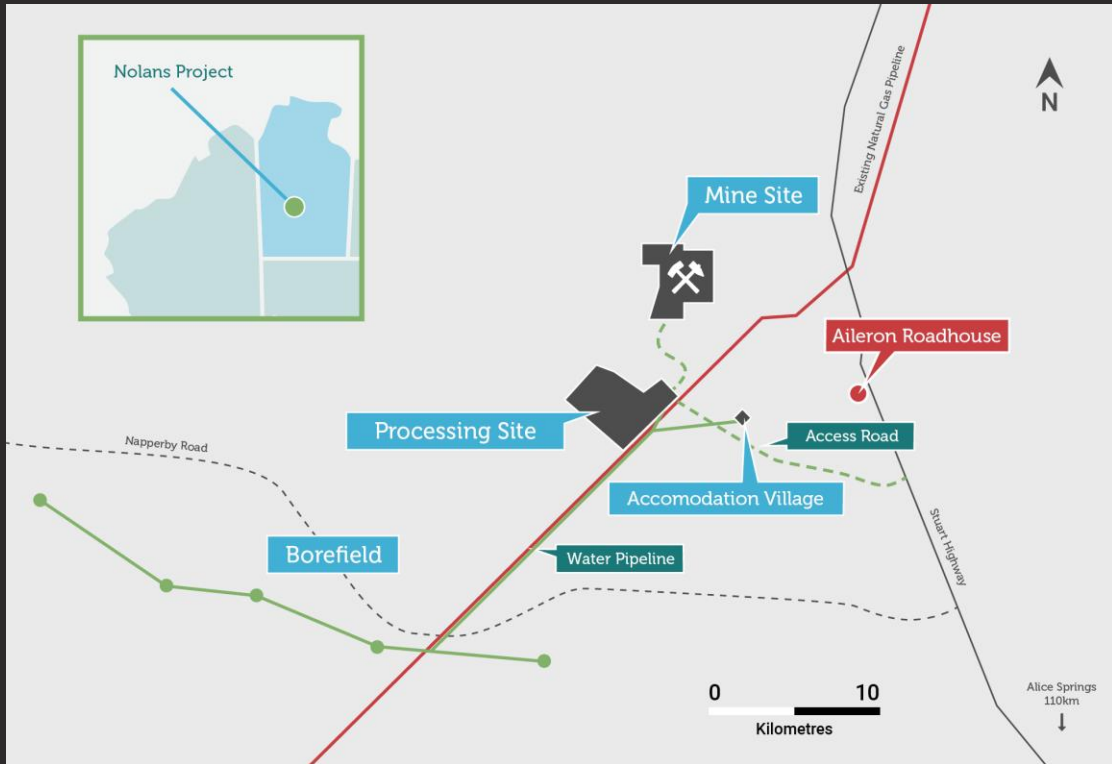
Please see the latest ASX announcement dated 21 April 2021 'Optimisation of project and execution strategy'. Updated project economics will be published in May 2021, the deferral of Cerium production will not have a material impact on the NPV or IRR.

- ✓ Definitive Feasibility Study (DFS) in 2019
- ✓ Ore reserves & mining inventory updated in 2020
- ✓ Capital cost **A\$1,026m**
- ✓ Low cost producer at **US\$23.71/kg NdPr** (current price US\$87.38/kg*)
- ✓ **Capex & Opex include:**
 - Ore to oxide process
 - Infrastructure
 - Waste Management & Rehabilitation

* Reference: Shanghai Metals Market 15 April 2021

Proximity to infrastructure enables single site processing

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



Rehabilitation & Waste Management



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

- ✓ 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) with two cells
- ✓ Progressive rehabilitation



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



(ASX:ARU)

Approach to ESG Priorities

- ✓ Completed a Sustainability policy and framework alignment with Global standards
- ✓ Sustainability action plan to map Arafura's ESG pathway forward
- ✓ Implementing an Integrated Management System (IMS) to further align and integrate sustainability goals and targets
- ✓ Sustainability communication strategy and mine certification of social and environmental performance on the way



All environmental approvals and permits secured



Extensive community and stakeholder consultation



Waste management plan tailings and residue facility



Assessing impact from mining, extraction and transport corridor



Surface water and groundwater management plans



Biodiversity studies on existing flora and fauna



Framework for decommissioning closure and rehabilitation



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Stakeholder support includes Federal & Territory Government



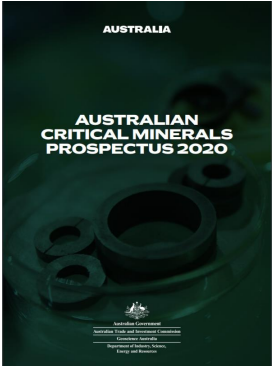
Australian Government



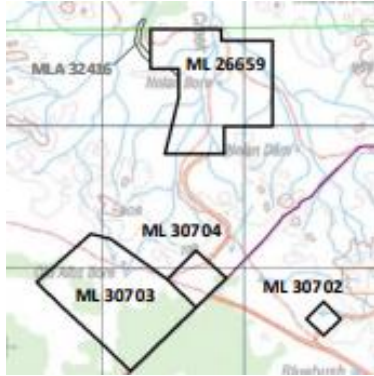
**NORTHERN
TERRITORY
GOVERNMENT**



In July 2020, The Australian Government renewed Major Project Status for the Nolans Project



In October 2020, the Australian Government released its Critical Minerals Prospectus to attract more investment in Australian projects.



In July 2020, The Northern Territory Government granted Mineral Leases (MLs) for the Nolans Project.



In November 2020, the Territory Economic Reconstruction Commission (TERC) provided its final report to the Chief Minister identifying Nolans as one project that can accelerate the Territory's economic growth.



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Nolans NdPr Shovel Ready



Critical Minerals Supply – a Global Issue



NdPr Market Opportunity

DEMAND



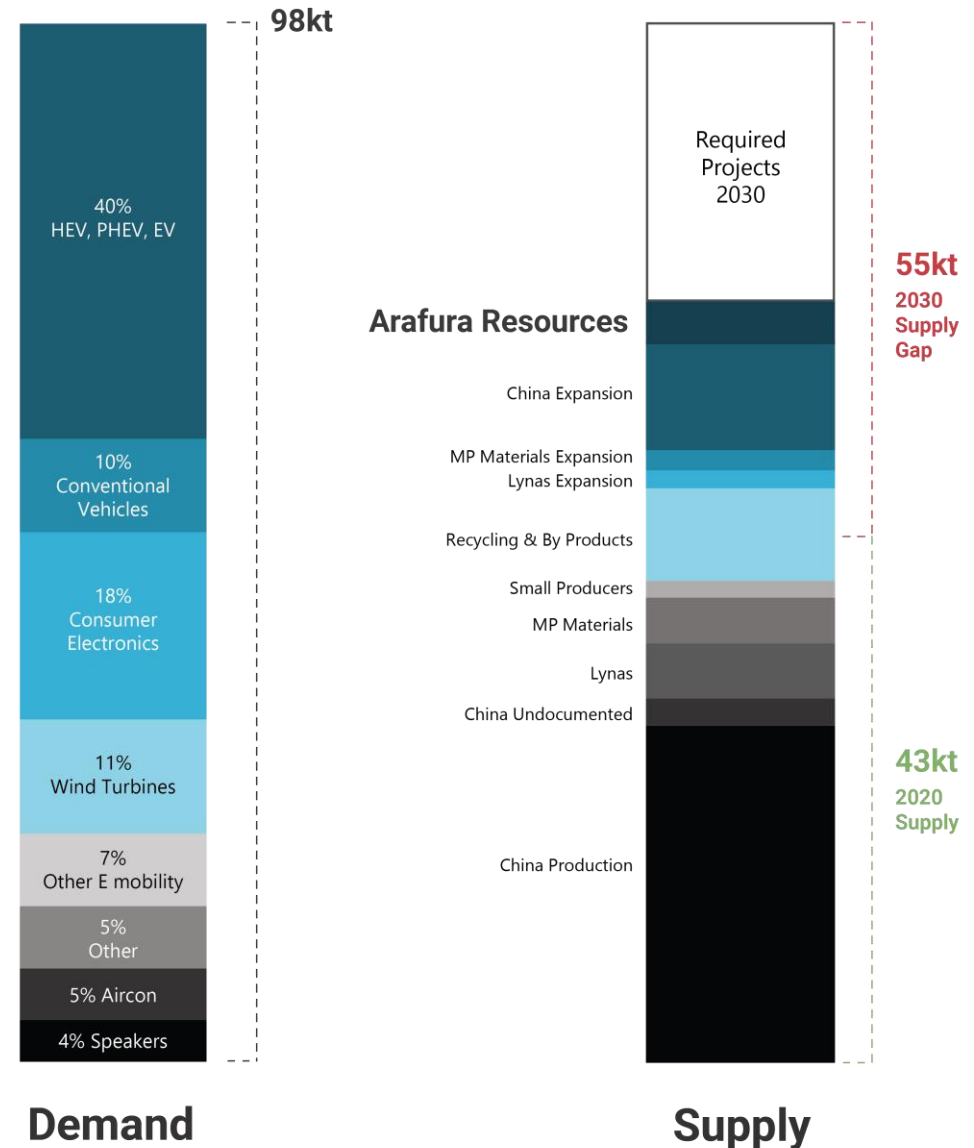
- ✓ Accelerated demand driven by government policy for renewables and e-mobility
- ✓ Automotive sector is forecast to consume nearly 50% of NdFeB supply
- ✓ Offshore wind energy sector will accelerate with strong growth from new projects

SUPPLY



- ✓ China forecast to be net importer and new supply required to meet rest of world demand as early as 2025
- ✓ Investment in new projects necessary to meet demand
- ✓ NdFeB magnets will move to the best value in use
- ✓ The emerging supply gap has extra significance for companies not aligned with the China 2025 strategy

2030 NdPr Supply & Demand



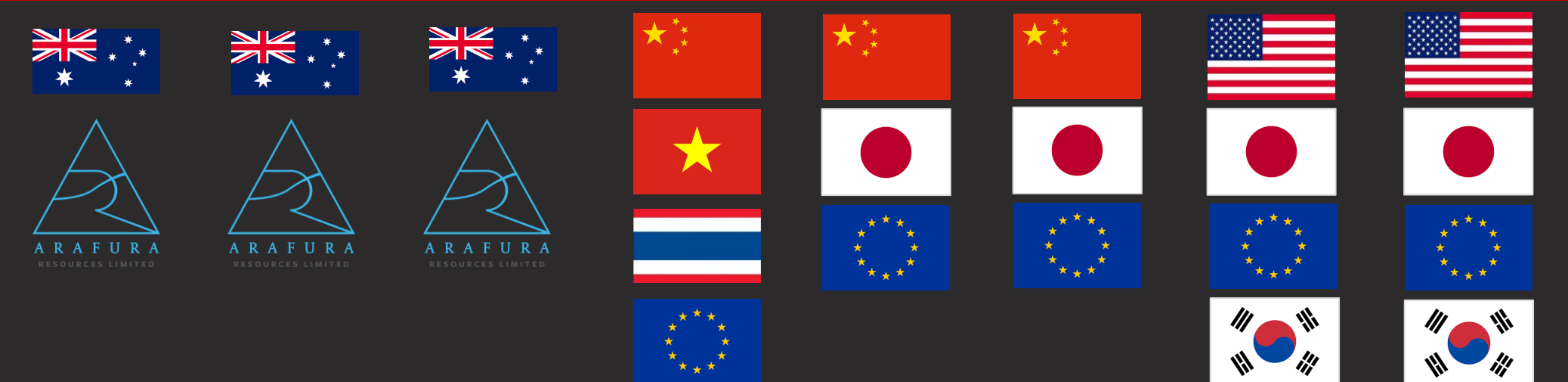
Reference: Arafura internal Supply Demand forecast referencing CRU, Rare Earth Market Study 2020; Roskill, Rare Earth Market Analysis 2018, Adamas Intelligence 'Rare Earth Market Outlook to 2030'.

Global Supply Chain



MADE IN CHINA 中国制造 2025 CHINA

Arafura's Alternative Supply Chain



1

2

3

4

5

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.

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

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

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

Nolans ore to oxide business model allows CRM supply diversification

Offtake & Project Financing



The Offtake Strategy

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

- ✓ **Offtake model aligned with Export Credit Agency (ECA)** requirement to tie offtake to home jurisdiction. Project offtake closely linked to project funding
- ✓ **Toll metal conversion to align with customer requirements.**
- ✓ Targeting **85% of NdPr production under contract** with offtake partners
- ✓ **Customer qualification of final rare earth oxide products completed** and well within total rare earth oxide (TREO) specifications



Sales Distribution Targets



Japan Automotive component makers & Magnet makers



Europe & Korea Automotive component makers & OEMs, & wind turbine makers

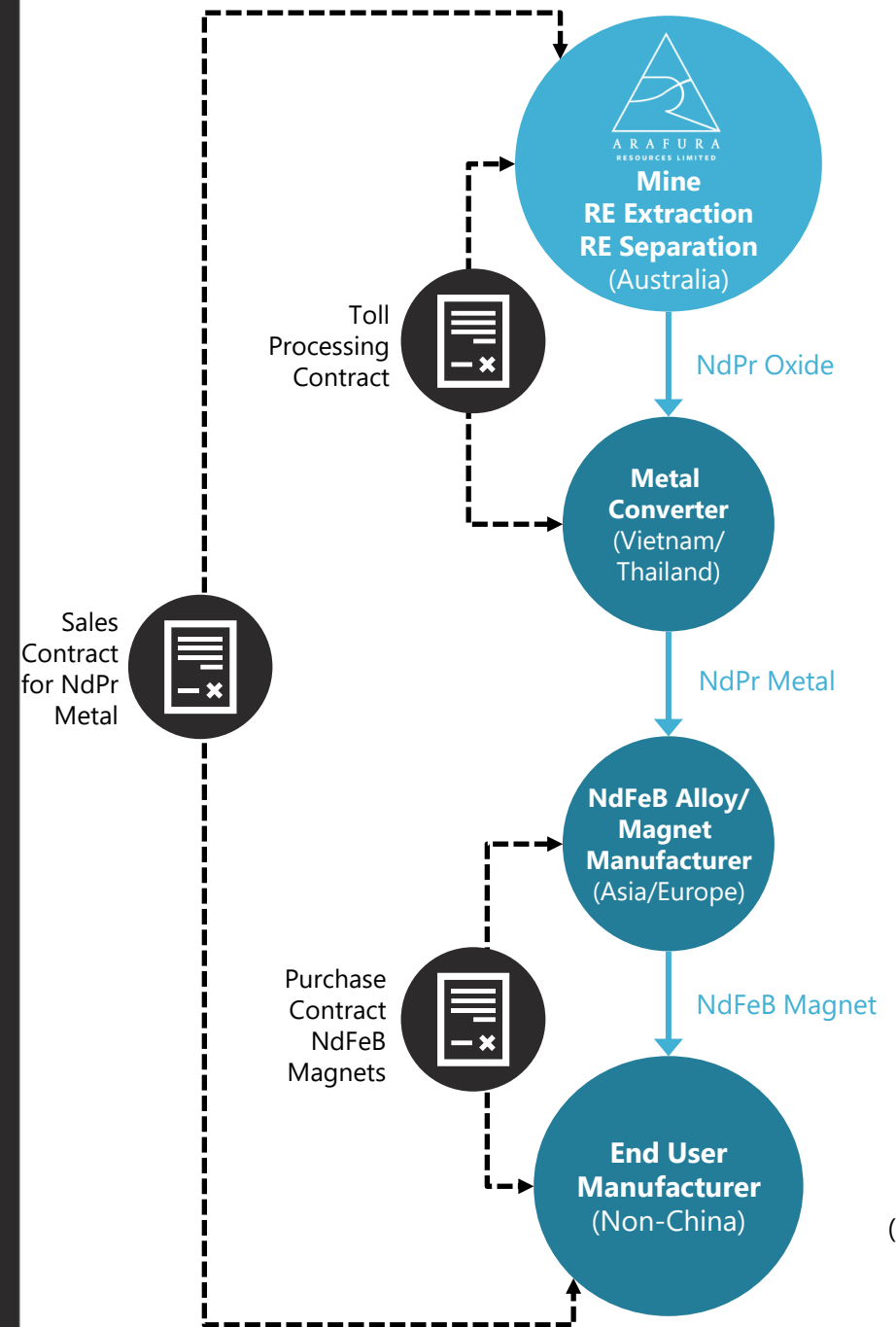
- ✓ Japan's export customers in Europe and the US, will have increased focus on the sustainability and provenance of critical raw materials.
- ✓ The risk for Japan goes beyond magnet making into downstream activities for auto component makers, EV manufacturers and consumer electronics.

Arafura's Supply Chain Solution

Sustainable producer of NdPr to align to "green procurement" strategy

- ✓ **Customer engagement** targeted at NdPr users **not aligned** with *Made in China 2025* strategy
- ✓ Offtake advanced with various Japanese, European and Korean end users – Supply Chain solution for automotive component, OEMs and Wind Turbine customers
- ✓ Offtake Model proposes 'Toll Processing' of metal providing a traceable and verified supply chain solution to satisfy end users sustainability requirements
- ✓ **Offtake model aligned with Export Credit Agency (ECA)** requirement to tie offtake to home jurisdiction. Project offtake closely linked to project funding

ARU has an MoU with SE Asia based toll metal converter



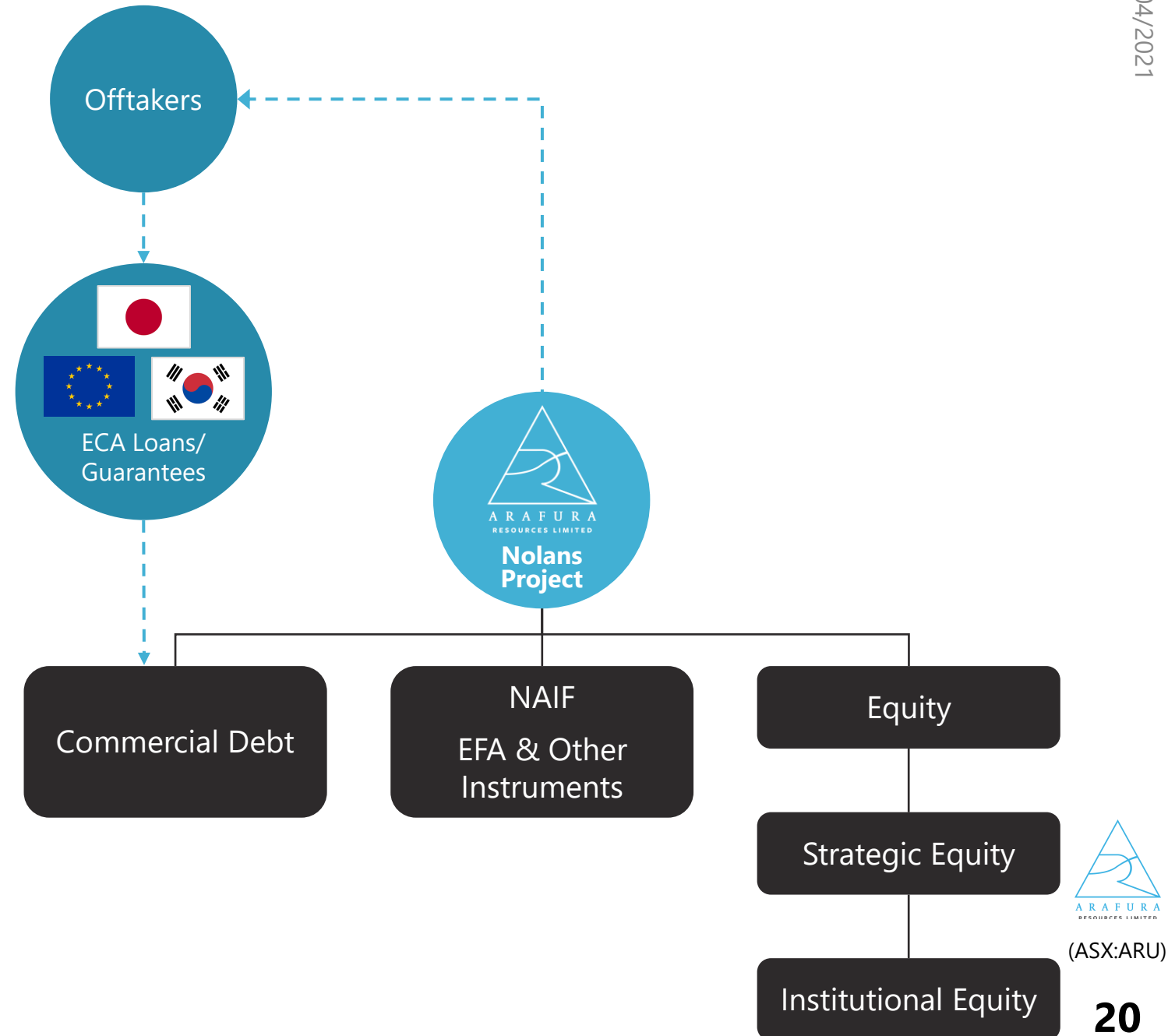
The ECA-led Funding Strategy



- ✓ Nolans is a strategic **Australia** based **NdPr** project
 - ✓ Production aligned with forecast supply shortages in mid 2020s
 - ✓ Product wholly aligned with key ECA mandates of e-mobility and renewables
- ✓ Debt led funding structure, targeting ECA funding
 - ✓ ECAs in Japan, Europe & Korea are seeking well structured projects, critical raw materials (CRM) production and best-practice ESG standards
- ✓ **Debt process now “live” with advisory appointments**

Targeted Funding Structure

- ✓ ECA debt will be critical but not the entire funding solution
- ✓ Portfolio of funding sources
- ✓ Offtake, debt and strategic equity all interlinked and driving schedule



Next Steps



Current Focus

**1**

Advancing terms sheets with end users for offtake.

2

Escalating engagement with financiers & financial advisors for project financing.

3

Continued dialogue with Australian & other governments seeking to establish non-Chinese critical minerals supply chains.

4

Ongoing technology development for Tb and Dy separation and low carbon footprint NdPr metallisation

5

Prioritising project work streams against cash balance to maintain project momentum.

Indicative Timeline

- ✓ Timeline subject to change and is contingent on funding and offtake activities
- ✓ Targeting Front-End Engineering & Design (FEED) to be fully funded prior to commencement

Works Activity	Execution Readiness					Early Contractor Involvement						Enabling Works Construction						Construction															Production											
	Months Duration from Project Commitment Date																																											
	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
Project Commitment					█																																							
Production Commitment												█																																
First Production																																										█		
EXECUTION & OPERATIONAL READINESS		█	█	█	█																																							
FEED & ENGINEERING DEVELOPMENT	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█		
PROCUREMENT & CONSTRUCTION									█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
COMMISSIONING & RAMP-UP																																												

The Value Proposition



**Long life asset
enriched in
NdPr**



**Extensive &
successful
large-scale pilot
completed**



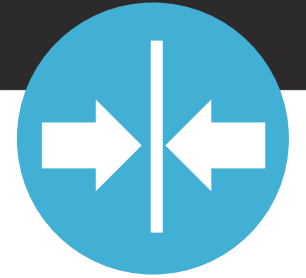
**Definitive
Feasibility
Study
completed,
fully costed
from Ore-
Oxide-
Rehabilitation**



**Only single site
Australian NdPr
focused project
with all
approvals**



**Low-cost
operation**



**Production of
NdPr oxide
aligned with
Government &
customers'
critical raw
material
diversification
plans.**



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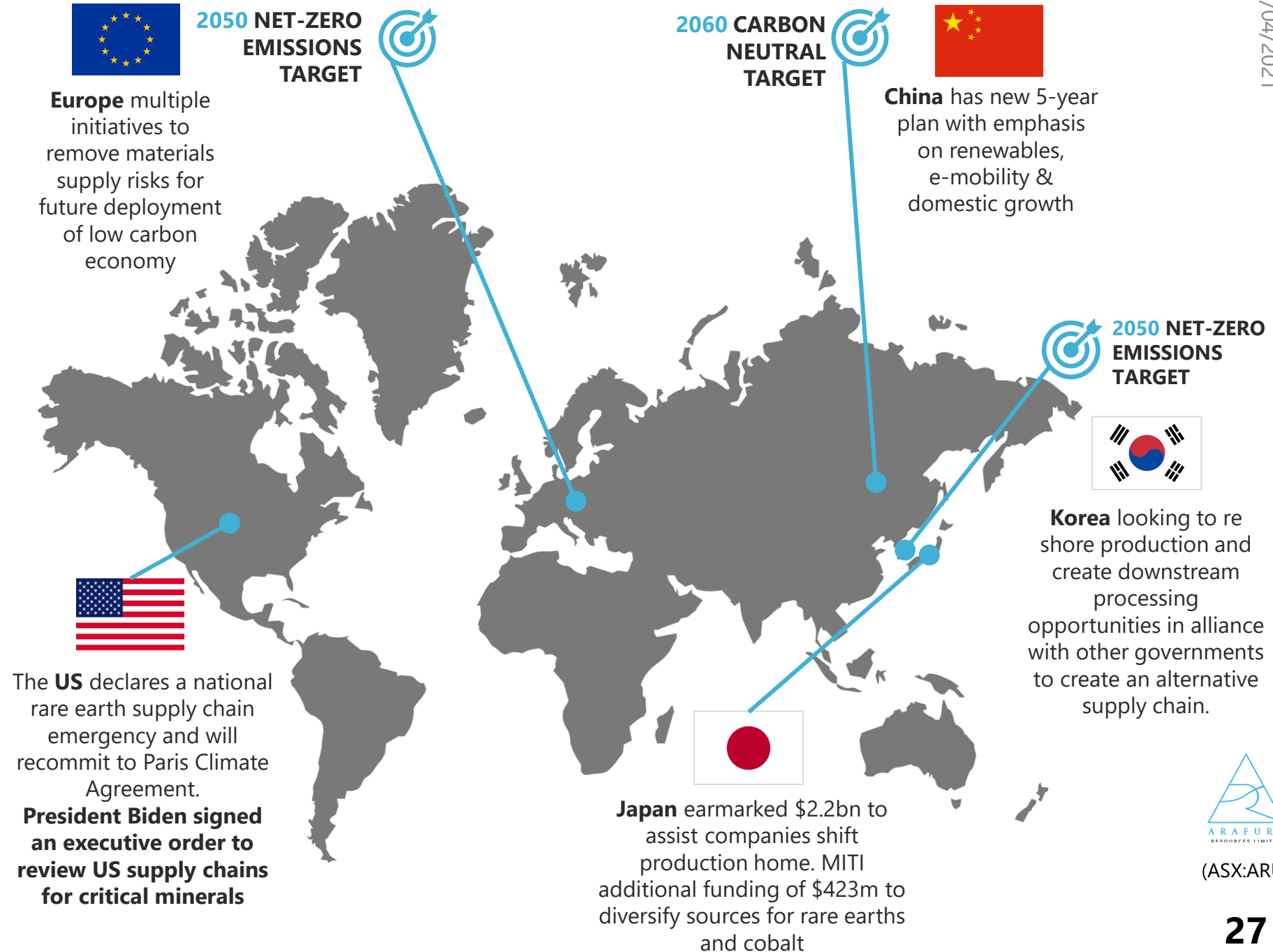
Appendices



Rest of World's Critical Minerals Initiatives

Global supply chains planning to increase resilience

- ✓ Dual sourcing of materials
- ✓ Expanding supplier base
- ✓ Regionalizing supply chains
- ✓ Building stronger, reliable and transparent supply chains
- ✓ Widen scope of existing re-shoring plans
- ✓ Re-structuring of Government Policies



Australia's Critical Minerals Initiatives



1

MARCH 2019

- Austrade Australian Critical Minerals Prospectus and Australia's Critical Minerals Strategy

2

NOVEMBER 2019

- NAIF-EFA co-investment barriers lifted
- EFA mandate via \$4.4 bn Defence Export Facility available to critical minerals projects

3

JANUARY 2020

- Critical Minerals Facilitation Office established

4

APRIL 2020

- Australia Government's Critical Minerals Work Plan endorsed

5

JULY 2020

- Australia Government classes Nolans as a Critical Major Project

6

AUGUST 2020

- NT Investment Delivery Task Force established

7

OCTOBER 2020

- National Manufacturing Priorities include critical minerals processing

8

JANUARY 2021

- PM Scott Morrison launched the Resources Technology and Critical Minerals Processing road map.
- Applications opened for funds under \$1.3 billion Modern Manufacturing Initiative, which would see federal money available to help manufacturers scale-up production, commercialise products and tap into global supply chains.

Experienced Management



Peter Sherrington

CHIEF FINANCIAL OFFICER & COMPANY SECRETARY

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.



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.



Brian Fowler

GENERAL MANAGER NT & SUSTAINABILITY

Brian has worked for over 40 years in private sector mineral companies developing a range of commodities, including rare earths, base metals, and gold. Brian is a member of the Northern Territory Mining Board, Management Board of the Northern Territory Minerals Council of Australia, and a member of Work Health & Safety Advisory Council of the Northern Territory.



Stewart Watkins

GENERAL MANAGER PROJECTS

Stewart has 25 years' experience in many facets of the mining industry including operations, engineering consulting, project development and management. Stewart is a Fellow of the AusIMM. 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.

Experienced Board



Mark Southey

NON-EXECUTIVE DIRECTOR

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 Audit and Risk 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 a member of Arafura Resources' Remuneration and Nomination and is the Chair of the Audit and Risk Committee.



Quansheng Zhang

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.



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.



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.