

Arafura Resources

*High-Value Magnet Feed (NdPr)
Rare Earths &
A new opportunity for Korea*

Korean Investor Update
May 2017



ABN 22 080 933 455



Disclaimer



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The information in this presentation that relates to Exploration Results or Mineral Resources is based on information compiled by Mr Kelvin Hussey BSc (Hons). Mr Hussey is a Member of the Australian Institute of Geoscientists and he has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code)". Mr Hussey consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Mr Hussey is a full-time employee of Arafura Resources.

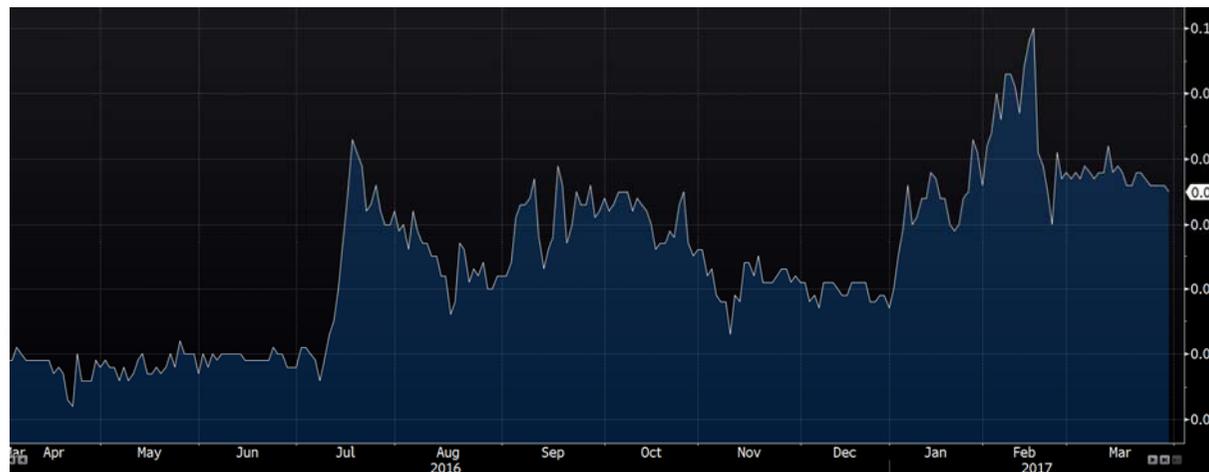
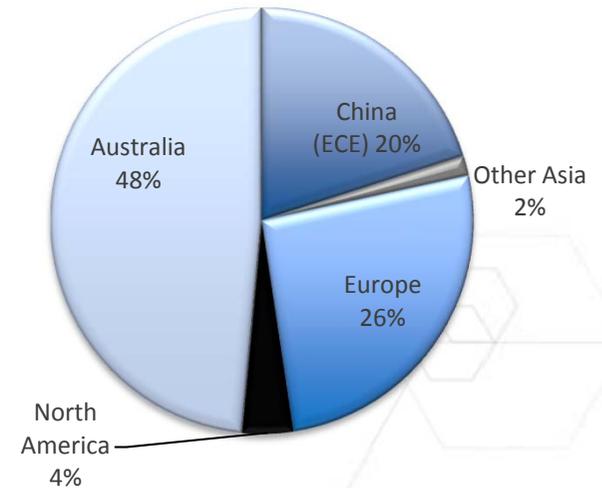


Corporate Overview



ASX Code	ARU
Share Price (30-Apr-17)	A\$0.065
Market Cap 546.9m Shares	A\$35.5m
Cash (31 March 2017 +SPP Funds)	A\$14.9m
Debt	Nil
Enterprise Value	A\$20.6m

Shareholder Spread



- ▲ East China Mineral Exploration & Development Bureau – a Nanjing SOE
- ▲ Europe – JP Morgan Nominees 23% mainly German private investors
- ▲ Approximately 7,000 retail investors
- ▲ Board & Management < 1%



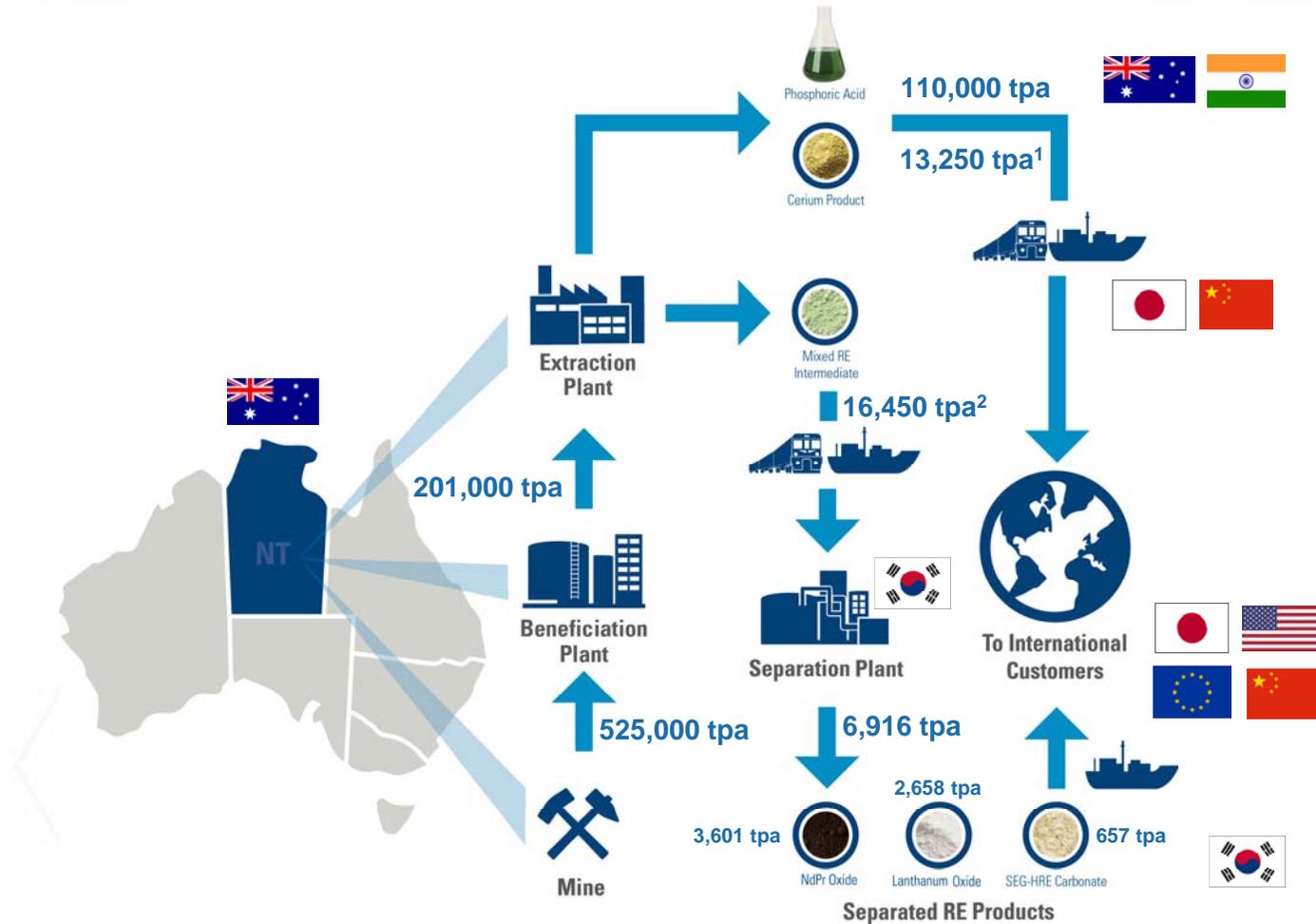
Company Snapshot



- ▲ ASX listed company developing the **Nolans Rare Earths Project** in Australia
- ▲ Afforded **major project status** by Northern Territory and Australian governments
- ▲ Nolans one of the **world's largest Neodymium-Praseodymium (NdPr)** deposits
- ▲ Arafura to be a key supplier in the **growing high-value rare earth permanent magnet market**
- ▲ NdPr is the critical raw material used in the production of high-strength permanent magnets used extensively in the **automotive, clean energy, electronics and healthcare sectors**
- ▲ **Electric vehicle market** will significantly drive demand



Nolans – A Clear Path To Market



CAPEX: US\$680m³
OPEX: US\$6.23/kg TREO³

20+ year resource
Low cost operation
Close to vital infrastructure: energy, water and transport

1. Containing 7,096 tpa TREO
 2. Containing 6,978 tpa TREO
 3. Based on 14,000 tpa TREO production from 23 years of mining and processing Measured and Indicated Resources as per slide 31. CAPEX includes US\$85m Separation Plant. OPEX includes credits for phosphoric acid.



Project Metrics



- ▲ **Ultra competitive operating costs**
US\$6.23/kg TREO – lowest amongst peers
- ▲ **Phosphoric acid recovered to reduce commodity risk**
- ▲ **High rare earths recovery**
- ▲ **Current NdPr oxide price US\$39.5/kg FOB China**

¹ Refer ASX release 28 June 2016 for additional and qualifying information on the Mineral Resource that underpins the production target and provides the material assumptions on which the production target is based.

² The Company confirms that all material assumptions underpinning the forecast financial information derived from its 14,000t production target and the production target itself, continue to apply and have not materially changed since the 28 June 2016 release.

³ Based on 14,000 tpa TREO production from 23 years of mining and processing Measured and Indicated Mineral Resources as per slide 29

MINING & PROCESSING ^(1,2 & 3)

ROM feed (tpa)		525,000
Recovery (ROM to final product)	Total rare earths	76%
	NdPr	75%
	La	75%
	SEG-HRE	68%

PRODUCTION

TREO equivalent (tpa)	14,000
NdPr oxide (tpa)	3,601
La oxide (tpa)	2,658
SEG-HRE carbonate (tpa TREO equivalent)	657
Phosphoric acid (tpa merchant grade)	110,000

FINANCIAL

Capital cost (US\$m)	\$680
Operating cost (US\$m pa)	\$125
Operating cost (US\$/kg TREO)	\$8.89
Operating cost (US\$/kg TREO; less credit for phosphoric acid)	\$6.23

Based on 14,000 tpa TREO production from 23 years of mining and processing Measured and Indicated Mineral Resources as per slide 31



The NdPr Opportunity



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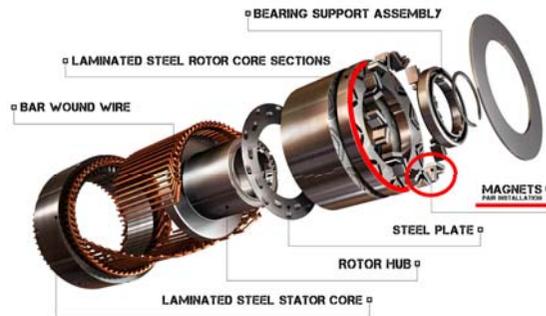


How Much NdPr Are We Talking About?



Permanent Magnets

1kg of NdPr



Electric Vehicles

41 million by 2040 each containing 1.7kg of NdPr



Wind Turbines

Up to 150kg of NdPr per MW



Electric Bicycles

30 million in 2017 each containing 0.1kg of NdPr

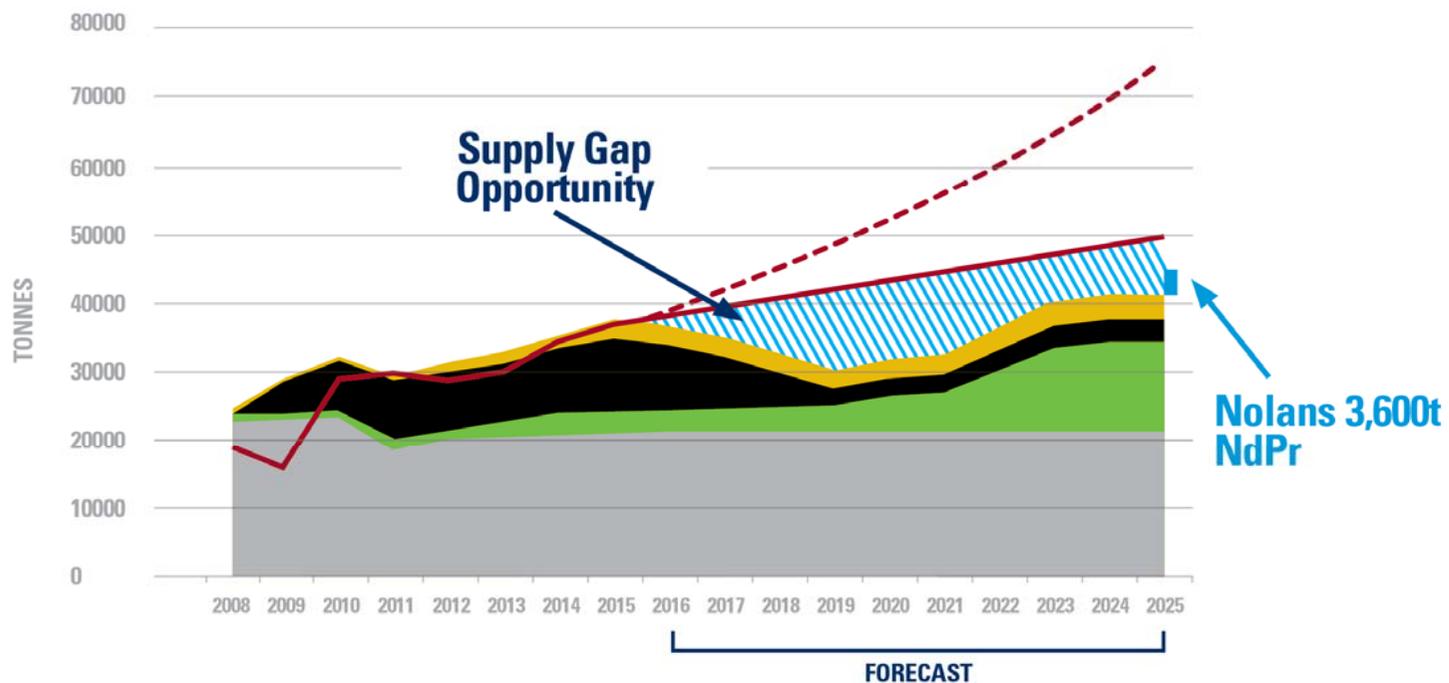


The NdPr Market Opportunity



NdPr Oxide Supply & Demand

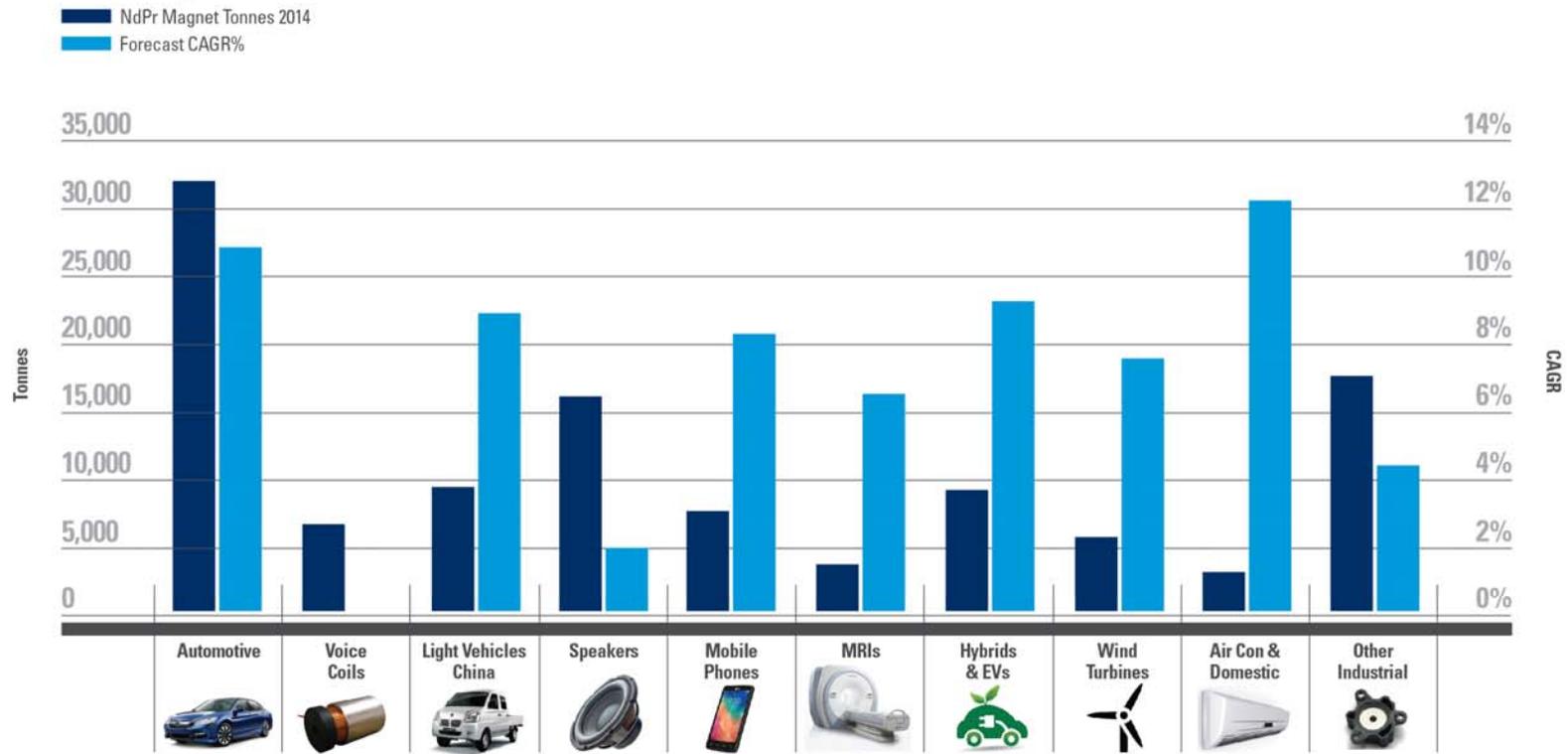
- Recycling
- Rest of World Supply (includes Nolans)
- Global Demand (CAGR 3% from 2015)
- Illegal Trade
- China Supply
- Forecast Global Demand (CAGR 7.5%)



Established Markets & Growing New Applications



NdPr Magnet Volume & Forecast Growth

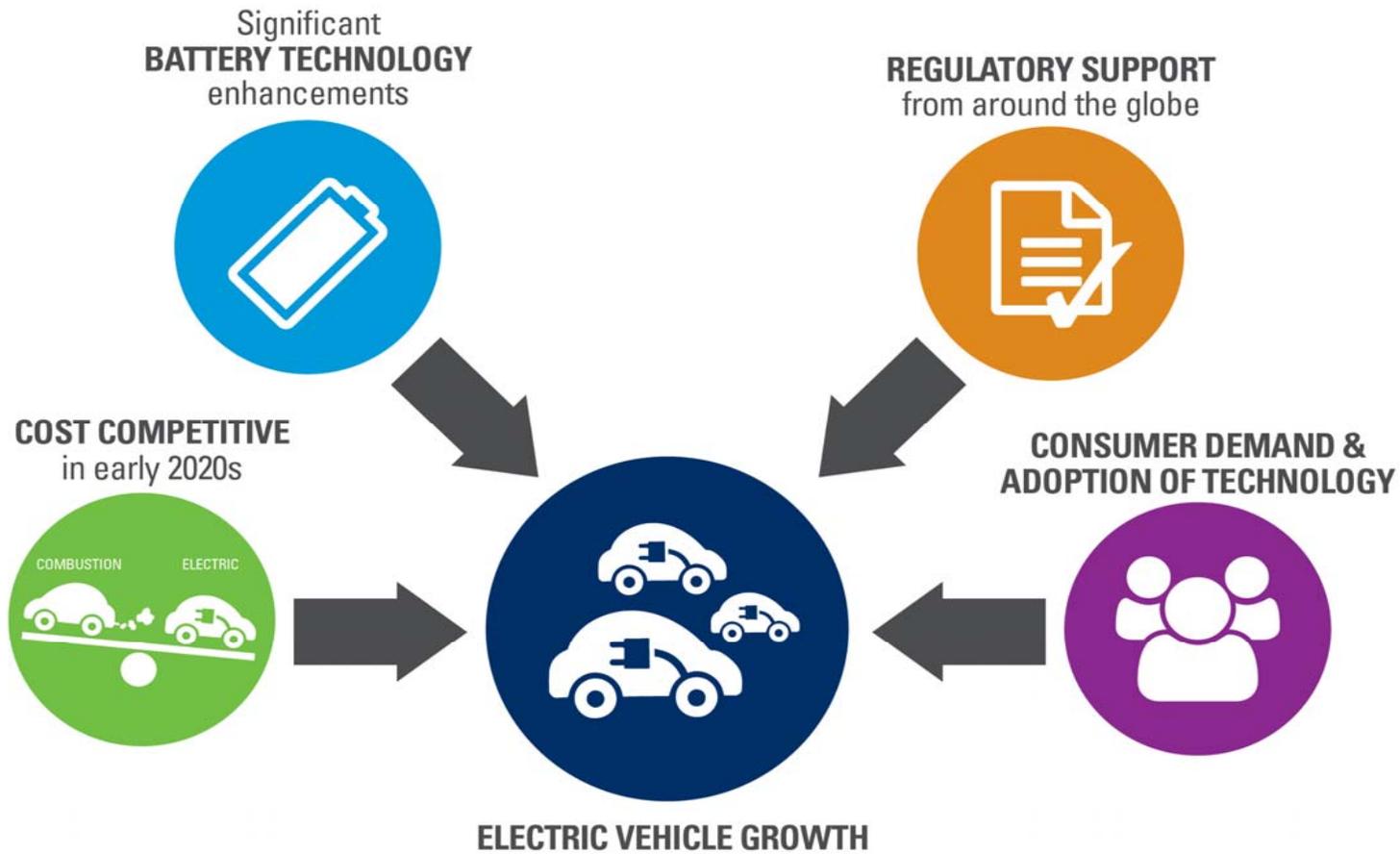


▲ Established magnet market demand steady ▲ Magnet growth being driven by clean technologies

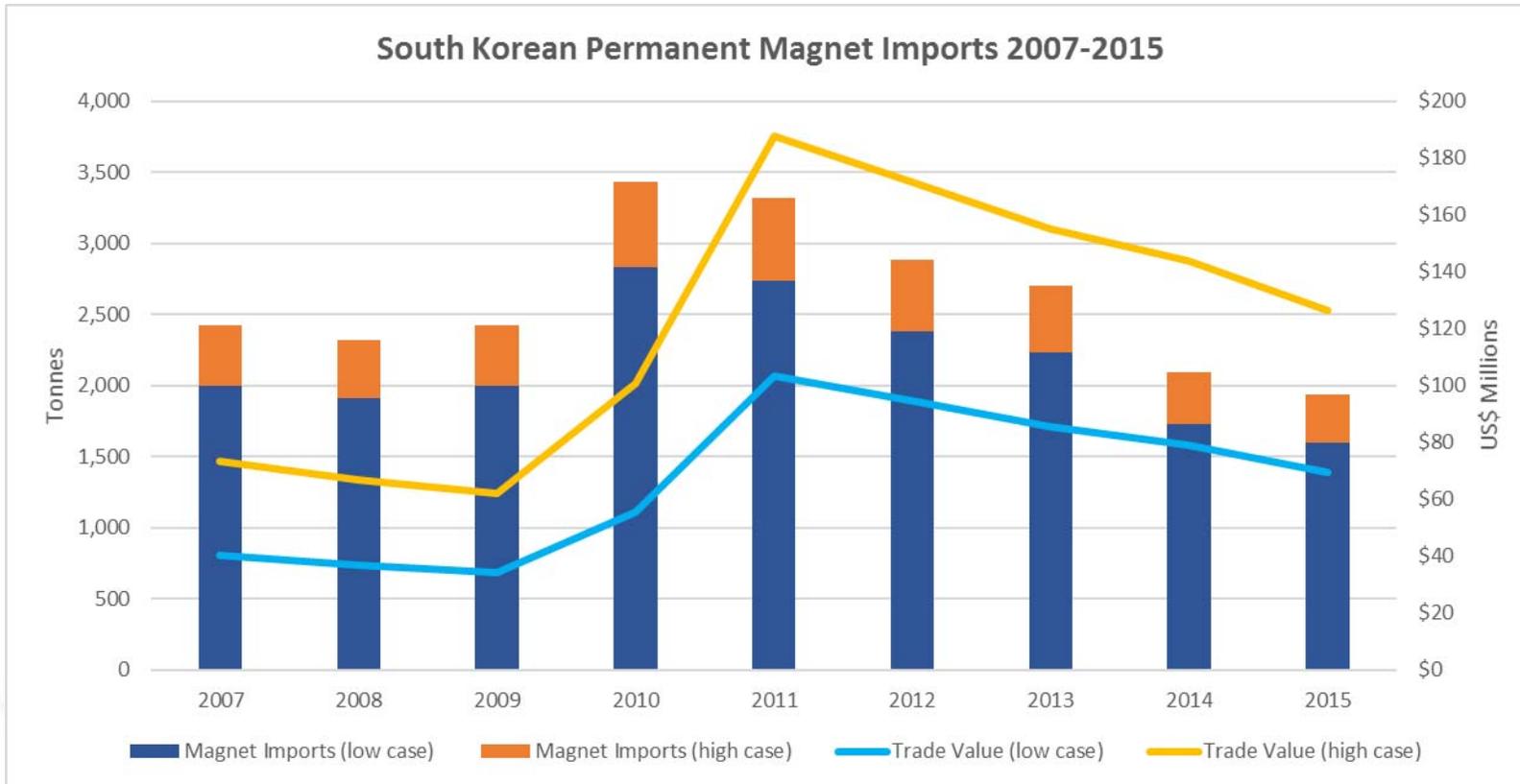
Source: Adamus Intelligence, Arnold Magnetic Technologies, Japanese industry participants, Roskill



EV Growth Enablers



Korea Reliant On China For Supply



- ▲ China accounts for 97% of South Korea's rare earth permanent magnet imports by volume
- ▲ South Korea is the world's 4th largest consumer of rare earth permanent magnets

Source: United Nations Comtrade Database <https://comtrade.un.org/>; InvestorIntel 11/02/15



Opportunities For Korea



- ▲ Korea imports **10% of China's rare earth magnet production**
- ▲ Declining magnet imports from China after 2011 **reflects replacement of magnets by magnet-containing finished products**
- ▲ Arafura will become a secure, long-term supplier producing **~10% of global demand NdPr magnet feed**
- ▲ Arafura is pursuing a **South Korea-based location (Saemangeum)** for its Rare Earth Separation Plant
- ▲ Potential Arafura IP & Korean alignment can capture value from innovation through a project that goes beyond traditional mining



Korea and Arafura



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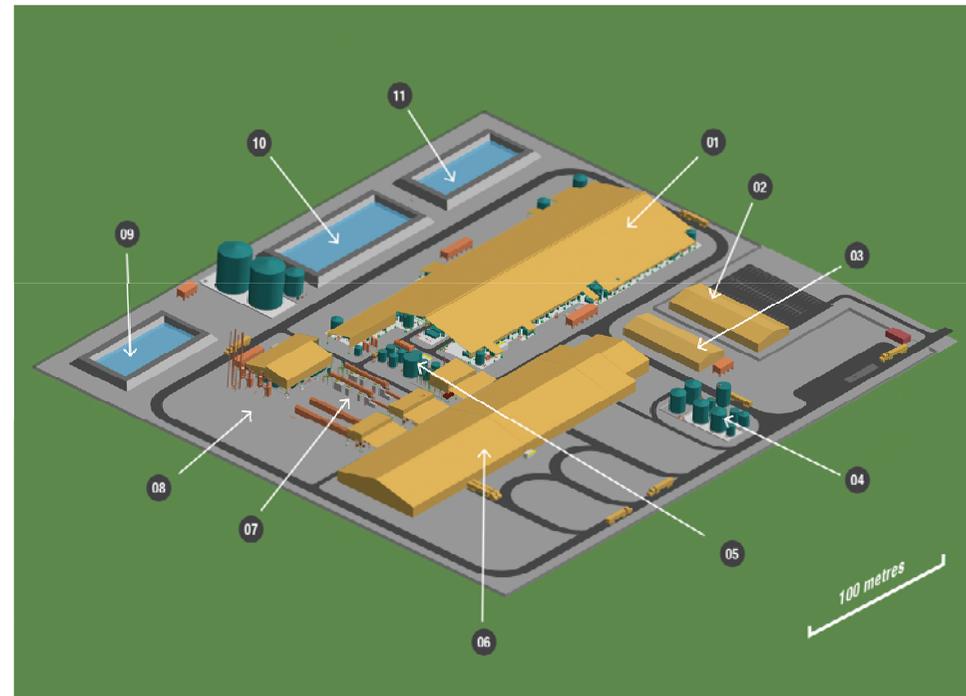
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Proposed Korean Refining



- ▲ Estimated CAPEX US\$85m
- ▲ 16,450 tpa rare earth intermediate product from Australia to be refined to produce:
 - ▲ 3,601 tpa NdPr oxide
 - ▲ 3,315 tpa other rare earth products
- ▲ **MOU with OCI to develop a JV Toll Processing Plant in South Korea**
 - ▲ Includes long-term supply of raw materials
 - ▲ Proposed location in “Free Economic Zone”
 - ▲ Material to be processed under a tolling agreement
 - ▲ Employing around 70 people
 - ▲ Land requirement around 4-5 hectares



LEGEND

- | | | | | | |
|-------------------|----------------------|----------------|--------------------|------------------|----------------|
| 01 SX | 03 Operations Centre | 05 Dissolution | 07 Calcination | 09 Storm Water | 11 Waste Water |
| 02 Administration | 04 Reagents | 06 Warehouse | 08 Laydown Storage | 10 SX Event Pond | |



Summary



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Korean Cooperation



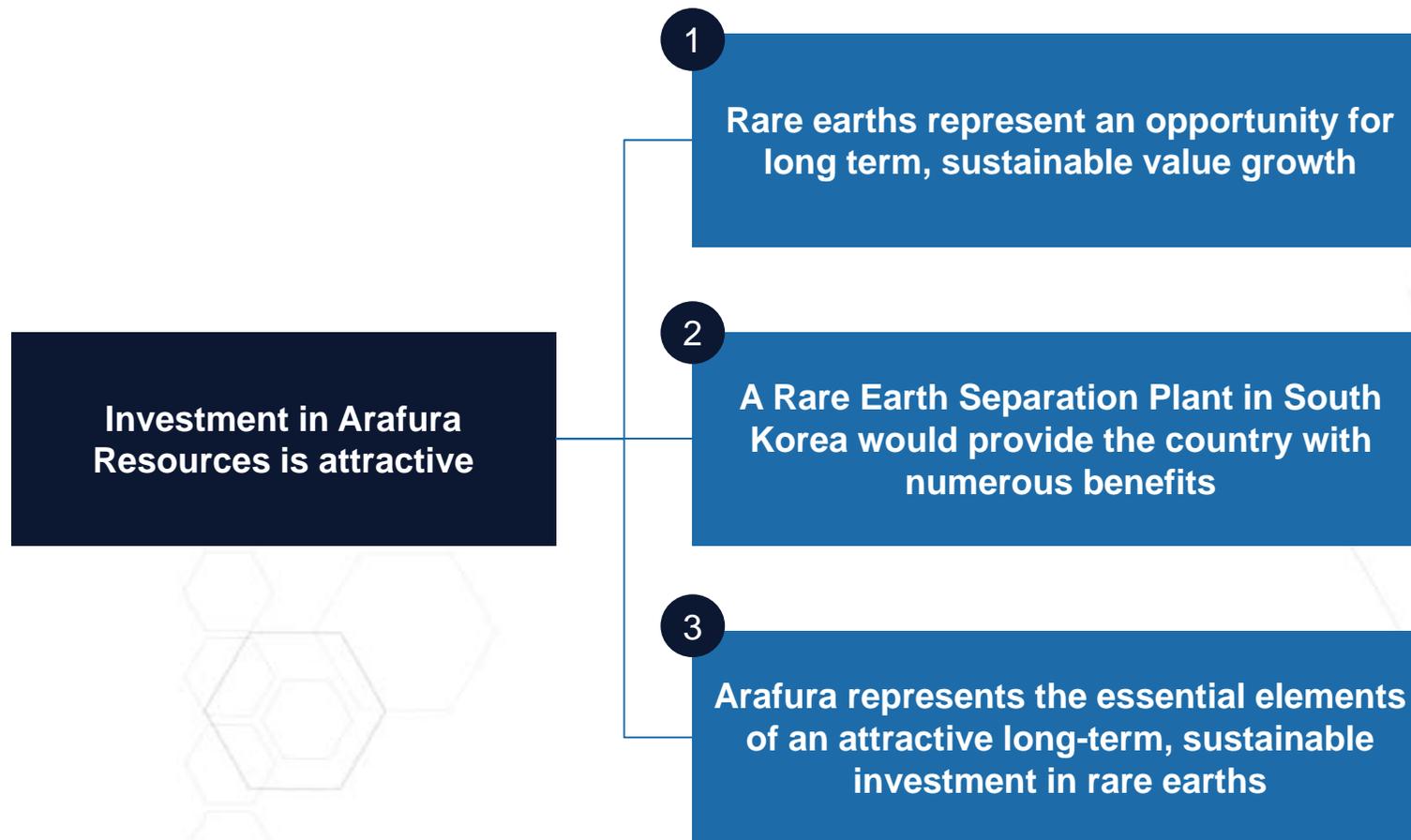
- ▲ Arafura is looking for **strategic partner(s)**
- ▲ Seeking to co-locate Korean plant with respect to reagents present an opportunity for more cooperation
- ▲ Investment at all levels (**corporate / project**) – ensures a joined focus on the **entire project**
- ▲ The new Korea-Australia Free Trade Agreement allows significant investment without Australian Government (FIRB) approval
- ▲ Opportunities to leverage respective in-country engineering, technical and marketing networks
- ▲ Opportunities to evaluate Korea becoming new magnet supplier to the world



Compelling Investment Opportunity



There are three compelling reasons why an investment in Arafura Resources is attractive



Long Term Value Proposition



Rare earths represent an opportunity for long term, sustainable value growth for investors as demand is driven by advanced technology and clean energy

1

Rare earths represent an opportunity for long-term, sustainable value growth

Rare earths supply, demand and pricing provide a strong base for attractive investment

Rare earths demand growth is a function of increasing use of advanced technology and clean energy

Arafura's rare earths have been classified as "critically important" for clean energy by the US Department of Energy

There are few, if any, new producers to add to global supply within the next decade, so a shortfall is expected



Wider Benefits For Korea



The development of a Rare Earth Oxide processing industry would provide numerous benefits to Korea

2

Processing Rare Earth Oxides in Korea would provide the region with numerous benefits

Development of an REO processing facility would provide economic benefits for the region including direct employment of ~70 personnel and a similar number for indirect and support services providers

By-products of Arafura's REO processing (including phosphate) would be beneficial to the region's agricultural sector

REO processing would provide new industry opportunities for the region (including manufacturing and chemical reagent production)



The Value Proposition



Arafura Resources represents the essential elements of an attractive long term, sustainable investment in rare earths

3

Arafura represents the essential elements of an attractive long term, sustainable investment in Rare Earth Oxides

Fully exploited, Arafura (Nolans) has >20 year mine life, producing high grade, strategically important, rare earths at relatively low cost

Australia is an established mining economy with very low sovereign risk and geographically well positioned

Arafura has a strong, experienced Board and management team to develop and deliver a successful operation

Arafura will become a global business with an international outlook via its structural relationships with German, Korean & Chinese multinationals



Arafura Resources Limited (ASX: ARU)

Thank You

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Additional slides



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Arafura Plans 2017-18



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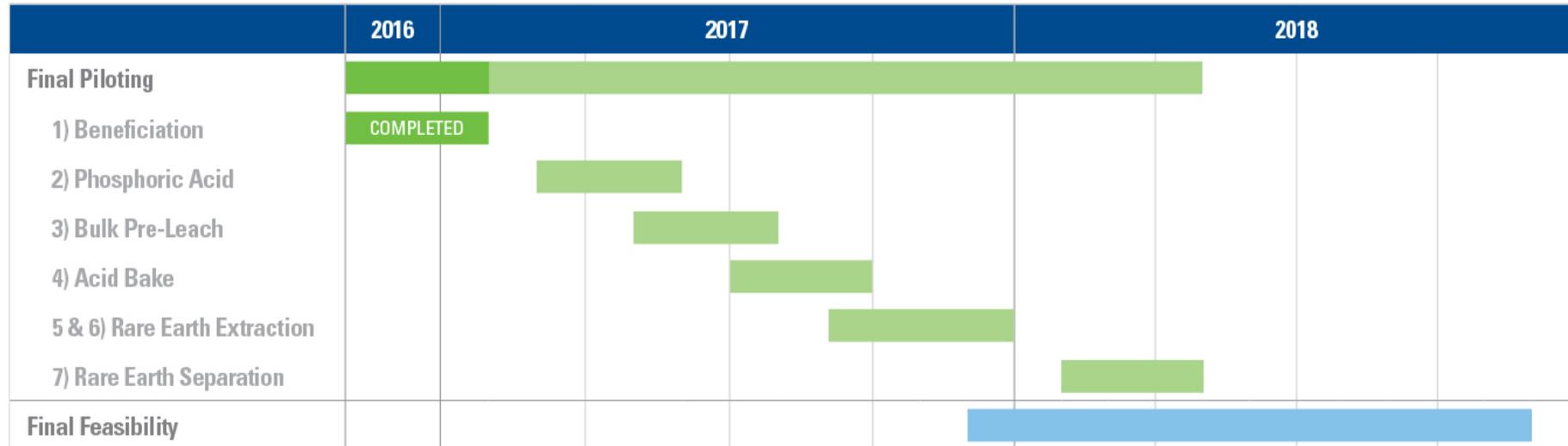


Targets for 2017-18



To take advantage of the pending NdPr supply shortfall **we will complete the following:**

- ▲ **Final piloting** – results to be reported throughout 2017
- ▲ Fast track where possible **detailed design to Bankable Feasibility status**
- ▲ Secure **environmental approval (Nolans)** – 2017
- ▲ Formalise **offtake arrangements** – 2017
- ▲ Ongoing engagement with strategic partner(s) – debt and equity
- ▲ Fund current operations through to Project Finance avoiding complex debt/equity or bond structures



Final Piloting In Progress



PHASE 1

Beneficiation



PHASE 2

Phosphate Extraction (PLR and RE Recovery Precipitate)



Beneficiation Pilot Plant



Phosphoric Acid Regeneration Circuit



High-Phosphate Concentrate

TREO Grade	7.0%
TREO Recovery	>80%
NdPr Oxide Grade	1.8%
NdPr Oxide Recovery	>82%
P ₂ O ₅ Grade	29%
P ₂ O ₅ Recovery	>90%
Al ₂ O ₃ Grade	<3.2%
Fe ₂ O ₃ Grade	<1.9%
Mass Pull	55%

PHASE 3

Bulk Pre-Leach (PLR)

PHASE 4

Acid Bake of PLR and RE Recovery Precipitate

PHASE 5

Water Leach, RE Sulfation and Purification

PHASE 6

RE Dissolution and Crystallisation

PHASE 7

RE Separation

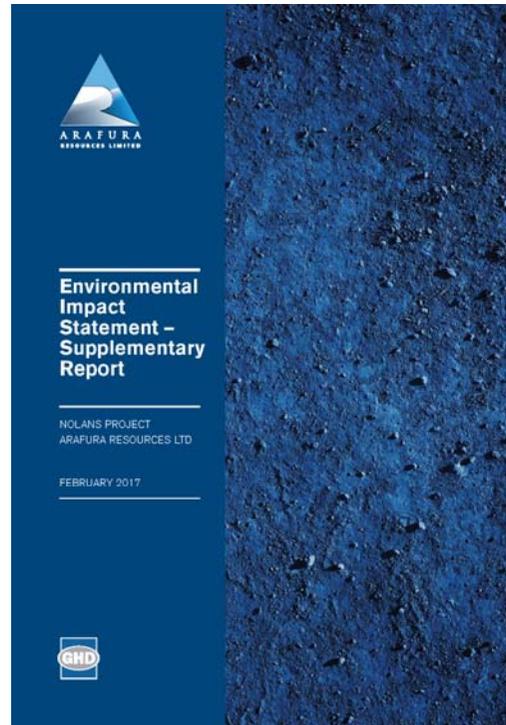
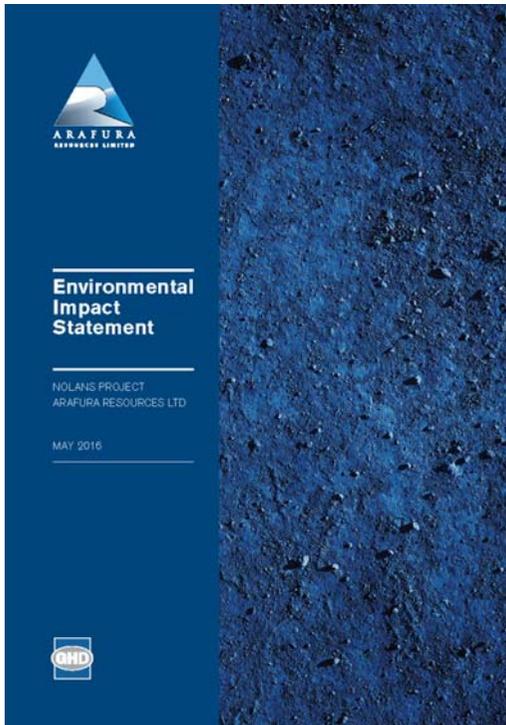


Rare Earth & Phosphoric Acid products



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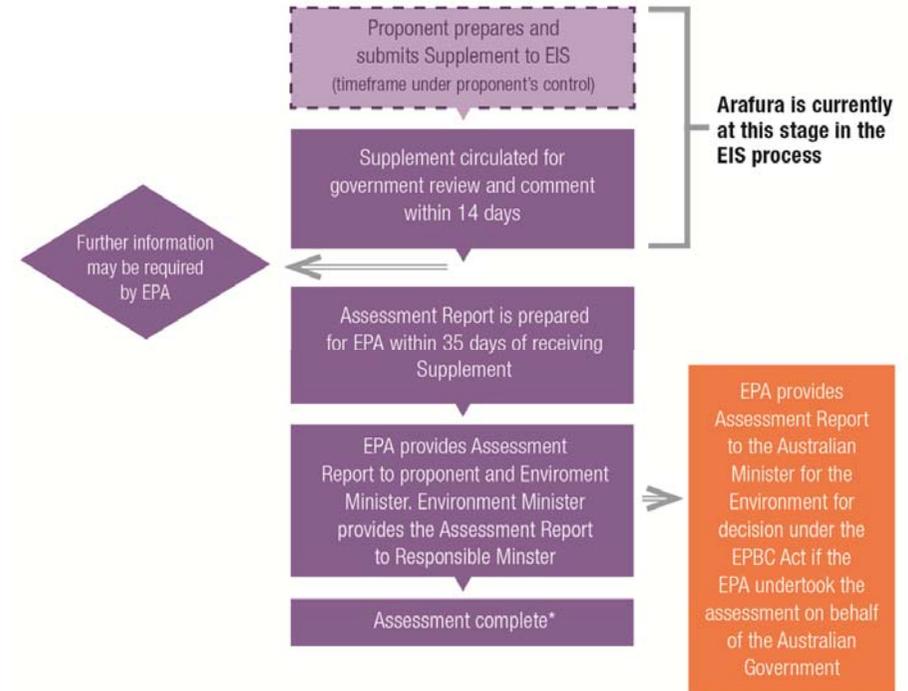
Environmental Assessment In Progress



Draft EIS submitted May 2016
512 pages, 24 appendices

EIS Supplement submitted February 2017
290 pages, 16 appendices

Public and government review May-August 2016
609 comments from 20 stakeholder groups



Remaining steps in Northern Territory Environmental Impact Assessment process

No major risks identified



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Resource & Infrastructure & Funding



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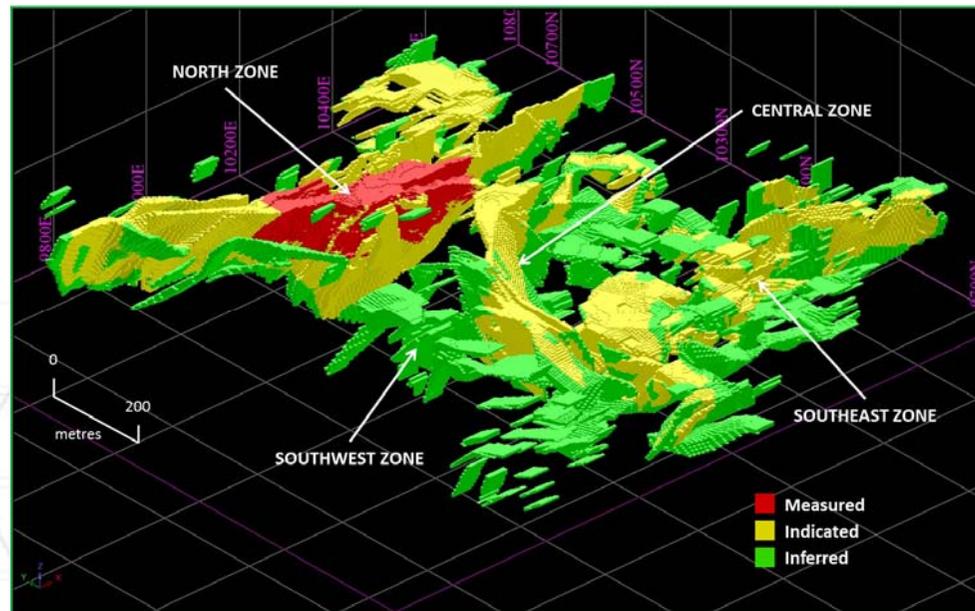


Nolans Mineral Resources

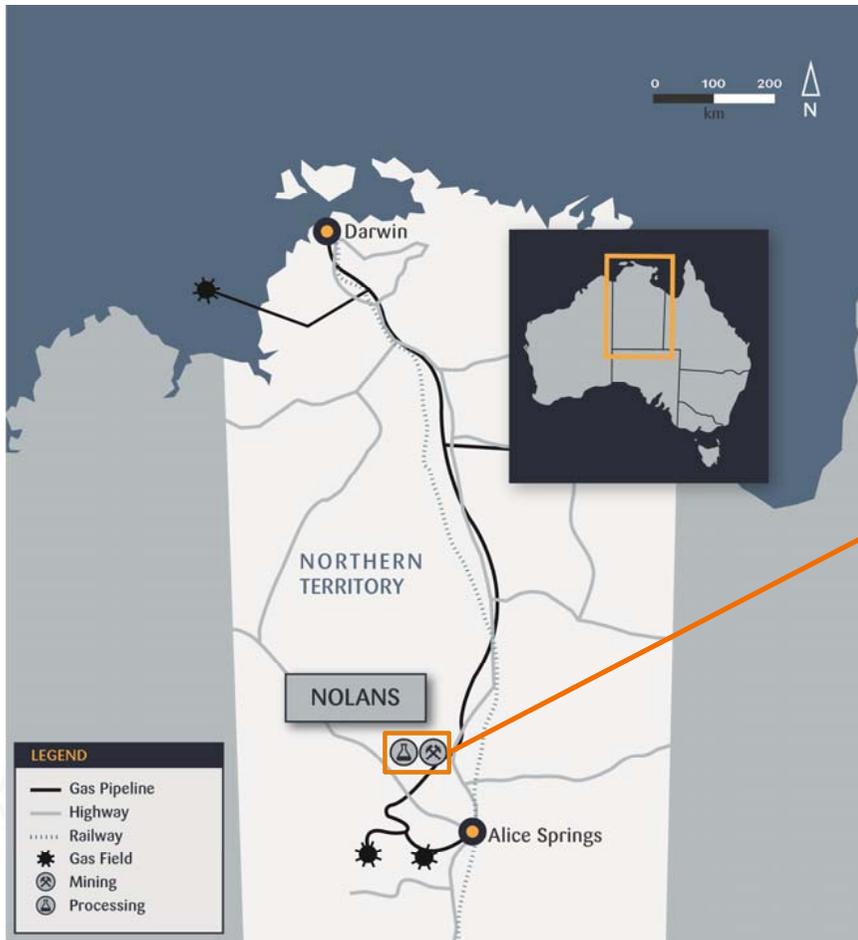


Resources	Tonnes (million)	Rare Earths TREO %	Tonnes TREO	Phosphate P ₂ O ₅ %	Uranium U ₃ O ₈ lb/t
Measured	4.9	3.2	158,000	13	0.54
Indicated	30	2.7	816,000	12	0.44
Inferred	21	2.3	489,000	10	0.36
TOTAL	56	2.6	1,462,000	12	0.42

1% TREO cut-off grade. Numbers may not compute exactly due to rounding. 1 lb/t U₃O₈ = 0.0454% U₃O₈.



Close To Key Infrastructure



Nolans Mine Site area



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Arafura's Project Funding Strategy



- ▲ Debt finance will be a significant part of project funding and an enabler to attract project equity
- ▲ **ECAs, MLAs and banks to be targeted, linked to offtake arrangements with customers in key markets and procurement opportunities for construction**
- ▲ Tripartite approach leveraging the link to NdPr magnet production to secure appropriate finance

ECA

- JOGMEC / JBIC , Hermes / KFW, KORES / EXIM and others

Offtake

- Trading houses, NdPr magnet alloy manufactures and strategic end users

Funding

- Banks aligned with targeted ECAs

