

Arafura Resources

Nolans: A Source of High-Value Magnet Feed (NdPr) Rare Earths

Hong Kong Investor Update
April 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.



Company Snapshot



- ▲ ASX listed company developing the **Nolans Rare Earths Project** in Australia
- ▲ Nolans 100% owned, no debt, uncomplicated ownership and capital structure
- ▲ Finalising project feasibility study – ore to oxides
- ▲ 20+ year resource – exploration complete
- ▲ Focus on **strong growth, high-value** magnet-feed rare earths (REs)
- ▲ Afforded **major project status** by Northern Territory and Australian governments
- ▲ Demand for high value RE magnets is poised for significant growth
- ▲ Nolans will be one of the world's largest suppliers into this market
- ▲ Very low cost operation



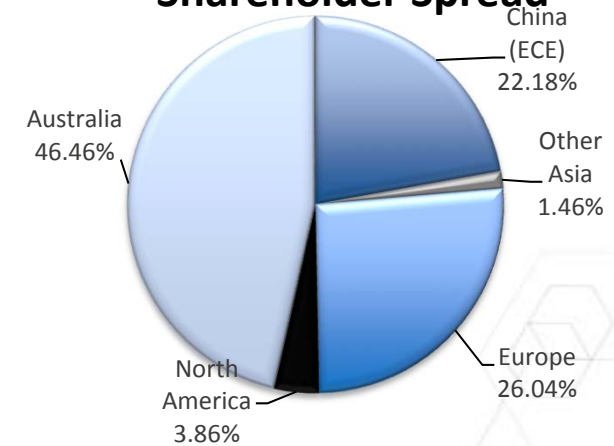
Capital Structure



ASX Code	ARU
1-year range	4.1 – 10.5 cents
Market Cap 494.7m shares @ 7.6c	A\$37.6 million*
Cash at 28/02/17	A\$12.2 million
Debt	Nil

*Excludes 6.3m employee options @ 10.5c expiry September 2018

Shareholder Spread



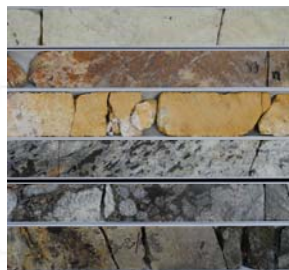
- ▲ East China Exploration & Development Bureau – a SOE based in Nanjing
- ▲ Europe – JPM Nominees 23% mainly German private investors
- ▲ Approximately 7,000 retail investors
- ▲ Board & Management < 1%



Secure Supplier of Magnet-Feed Rare Earths



- ▲ **One of the world's largest Neodymium (Nd) Praseodymium (Pr) deposits**
- ▲ **Critical for production of RE magnets. 88% of revenue derived from NdPr**
- ▲ **Secure supply** from long-life resource in low sovereign risk location
- ▲ **Project approvals well advanced** with no major risks identified
- ▲ **Clear chain of custody of product from mine to market**
- ▲ Technology metals critical to lower carbon emissions – NdPr, Lithium, Cobalt, etc.
- ▲ Well defined, existing regulatory process for rehabilitation and hazardous waste management



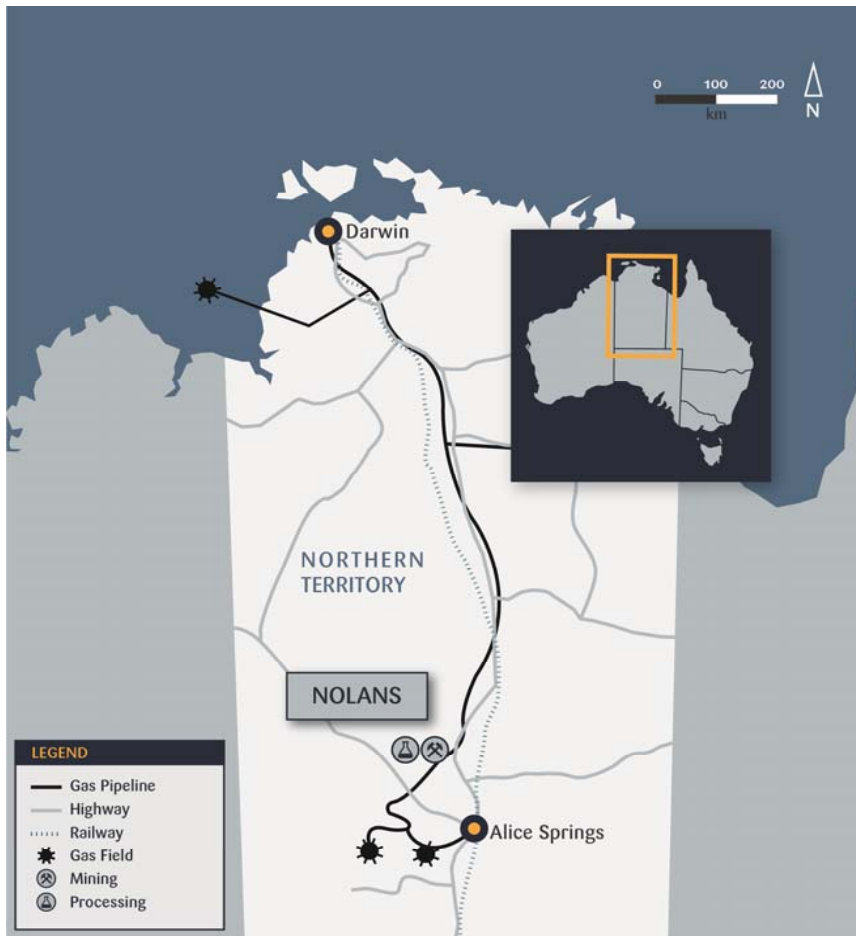
Ore types



Rare earths have many applications but
Arafura's focus is on NdPr



Nolans Project – Australia



- ▲ Underpinned by **world-scale, low risk resource** in Australia's Northern Territory
- ▲ Resource sits **at surface** and remains **open at depth**
- ▲ Amenable to **low-cost open cut mining** and standard beneficiation techniques
- ▲ Mining and processing at site to produce RE Intermediate, merchant-grade Phosphoric Acid, and Cerium Carbonate
- ▲ Tailings and process wastes remain at site
- ▲ **Close to vital infrastructure – energy, water, transport**

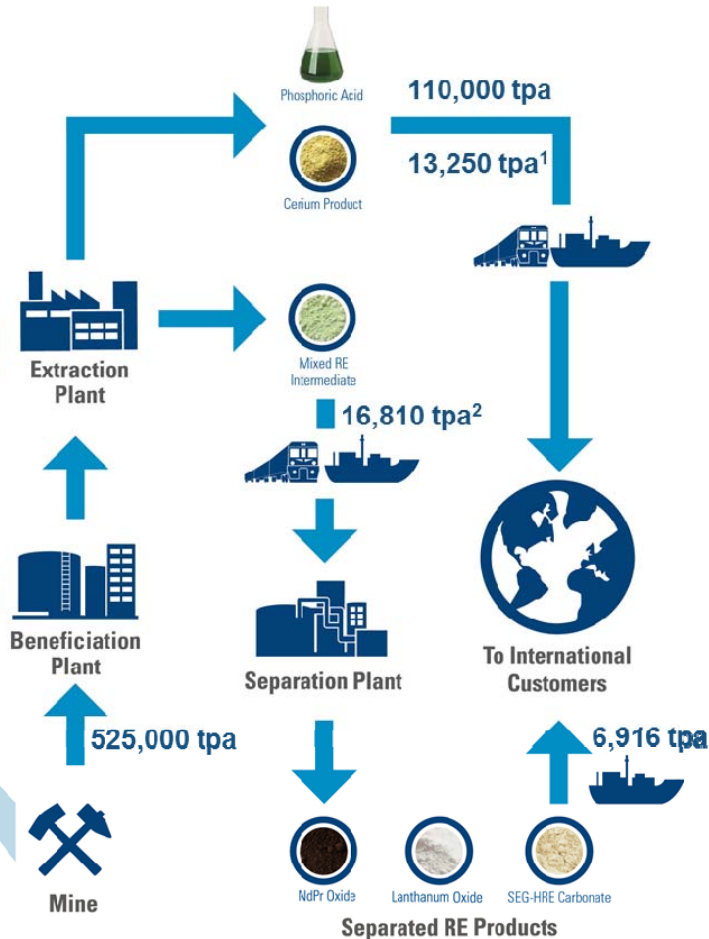


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Nolans – A Clear Path to Market



- ▲ 20yr+ resource
- ▲ Low cost operation
- ▲ Close to vital infrastructure: energy, water & transport



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

- ▲ Targeting RE offtake customers in:
 - ▲ Japan
 - ▲ Germany
 - ▲ Korea
 - ▲ USA
- ▲ Phosphoric acid sales targeted for Asian region

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 Mineral Resources as per slide 30. CAPEX includes offshore Separation Plant. OPEX includes credits for phosphoric acid.



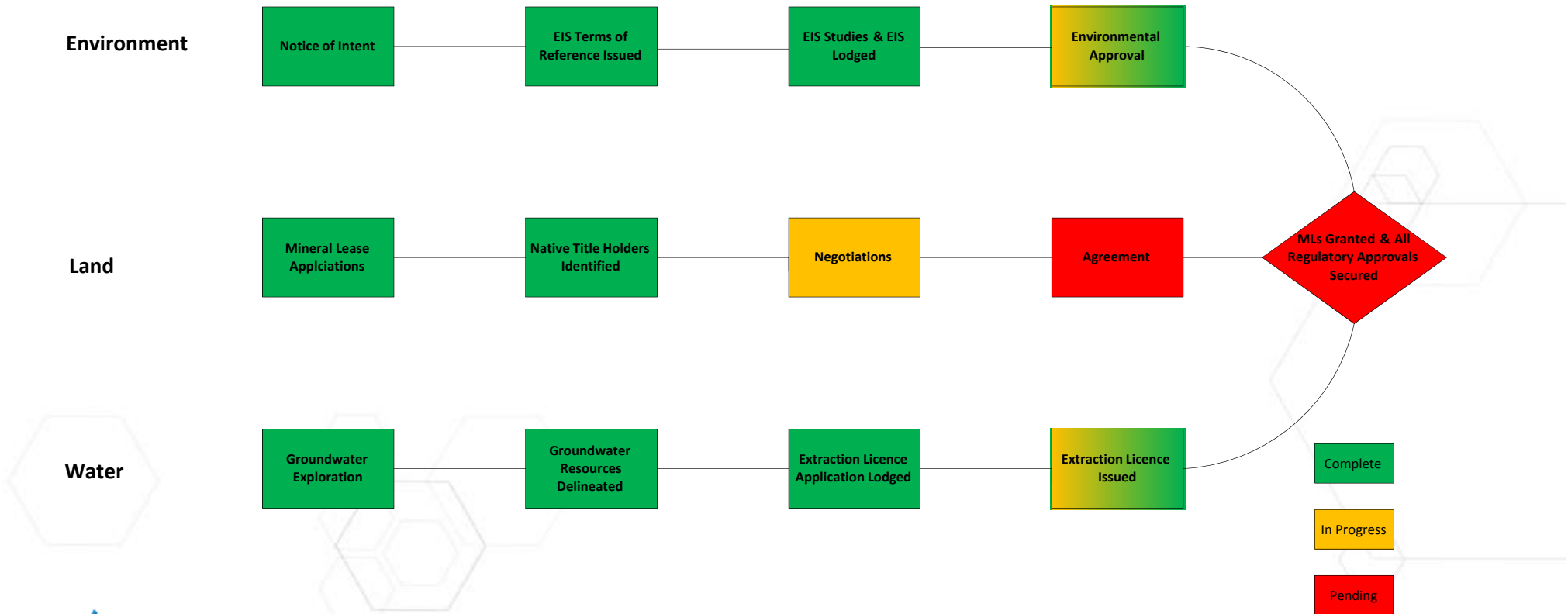
Infrastructure and Project Approvals



- ▲ 10km west of all-weather Stuart Highway
- ▲ 135km north of major service town (Alice Springs), railyard and airport
- ▲ Amadeus natural gas pipeline dissects project area
- ▲ New bore field identified 30km south
- ▲ Site layouts well defined and Mineral Leases lodged
- ▲ Environmental and Social Impact Statement submitted – no major risks identified
- ▲ High value RE Intermediate product transported to offshore facility for toll refining



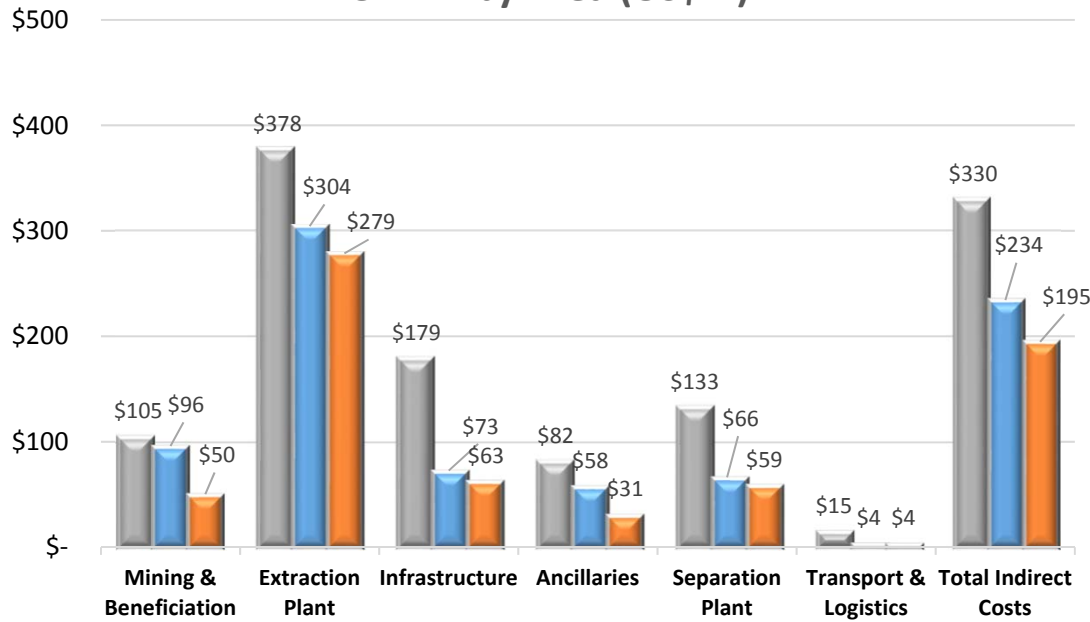
Project Approval Status



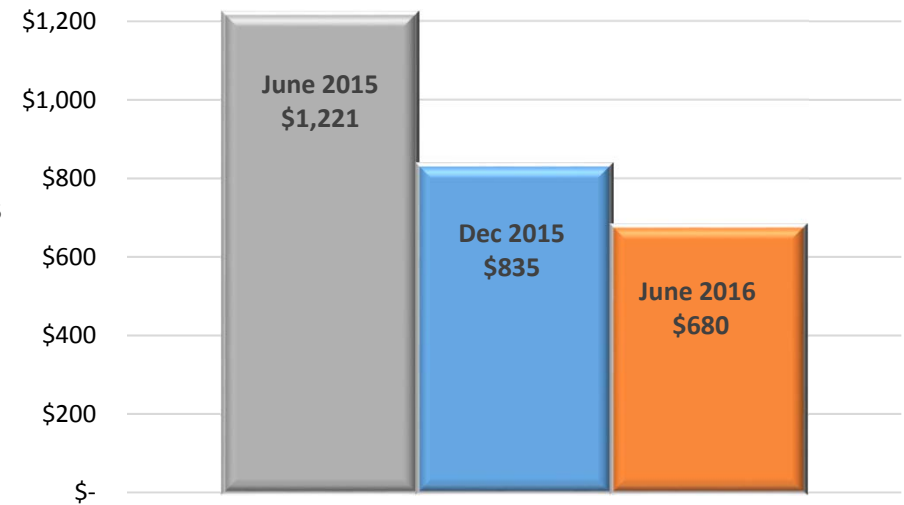
CAPEX Nearly Halved



CAPEX by Area (US\$m)



Total Project CAPEX (US\$m)



Other Project Enhancements



- ▲ Reduced throughput defers plant upgrade to Year 10+
- ▲ **Phosphoric acid recovered to reduce commodity risk**
- ▲ Capital cost reduced to US\$680m
- ▲ **Operating costs reduced to US\$6.23/kg TREO**
- ▲ Reduction in waste streams
- ▲ Reduction in reagent usage
- ▲ **Higher rare earths recovery**
- ▲ **Current NdPr oxide price US\$39.5/kg FOB China**

MINING & PROCESSING		Previous	Current	Change
ROM feed (ktpa)		922	525	-43%
Mine life (years)		20+	20+	0%
Recovery (ROM to final product)	Total RE	63%	76%	21%
	NdPr	64%	75%	17%
	La	63%	75%	19%
	SEG-HRE	48%	68%	42%
PRODUCTION				
TREO equivalent (tpa)		20,000	14,000	-30%
NdPr oxide (tpa)		5,260	3,601	-32%
La oxide (tpa)		3,827	2,658	-31%
SEG-HRE carbonate (tpa TREO equivalent)		746	657	-12%
Phosphoric acid (ktpa merchant grade)		-	110	-
FINANCIAL				
Capital cost (US\$m)		\$835	\$680	-19%
Operating cost (US\$m pa)		\$173	\$125	-28%
Operating cost (US\$/kg TREO)		\$8.65	\$8.89	2.7%
Operating cost (US\$/kg TREO; less credit for phosphoric acid)		\$8.65	\$6.23	-28%

Based on 14,000 tpa TREO production from 23 years of mining and processing Measured and Indicated Mineral Resources as per slide 30



Market Update



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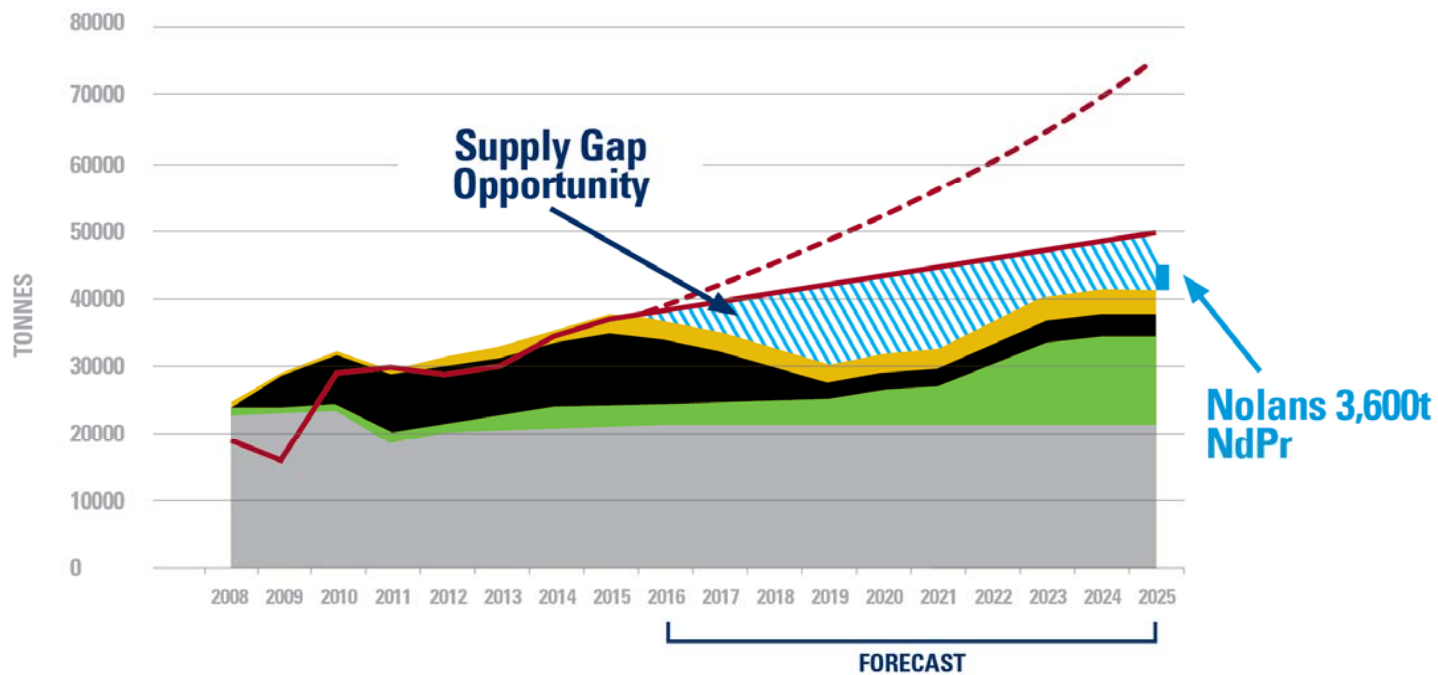


The NdPr Opportunity



NdPr Oxide Supply & Demand

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



NdPr Supply Dynamics



- ▲ China's consolidation to the "big 6" producers in 2015 is starting to positively impact price
- ▲ Enforcement of illegal and polluting mines and smelting
- ▲ Chinese rehabilitation costs yet to be realized
- ▲ Introduction of a raw material tracing system (chain of custody)



Source: MetalPages (An Argus Media company)



Recent Changes in Market Sentiment?



- ▲ In 2016 Chinese exports increased by 34% but decreased in value by 2.7%
- ▲ China Northern, the world's largest producer, announces significant losses at current prices for 2016¹ (SHH:600111)
- ▲ Chinese Government taking hard line to regulate supply to maintain price and transparency, and protect "big 6"
- ▲ 14 illegal mines closed, licensed smelting companies reduced from 99 to 59
- ▲ Current five-year plan targets further crack down on smuggling and illegal mining
- ▲ Introduction of a raw material tracing system
- ▲ Industry consultants forecasting China to become a net importer of NdPr²
- ▲ Rare earth prices sensitive to geopolitical issues e.g. Trade Wars³
- ▲ Strategic Japanese investment in only significant non-Chinese producer (ASX:LYC)
- ▲ U.K. PE group investment in African project (ASX:PEK)
- ▲ Chinese investment in foreign rare earth projects (ASX:GGG; ASX:NTU)
- ▲ Noble Resources International assisting African exploration (CVE:MKA)
- ▲ Proposed float in London – Rainbow Rare Earths

1. ShanghaiDaily.com Xinhua | January 16, 2017
2. Mining.com Frik Els | January 2, 2017
3. Bloomberg Intelligence – Rare Earths would be likely Flashpoint in any Trump Trade War 2016-11-22 07:03:11.269 GMT

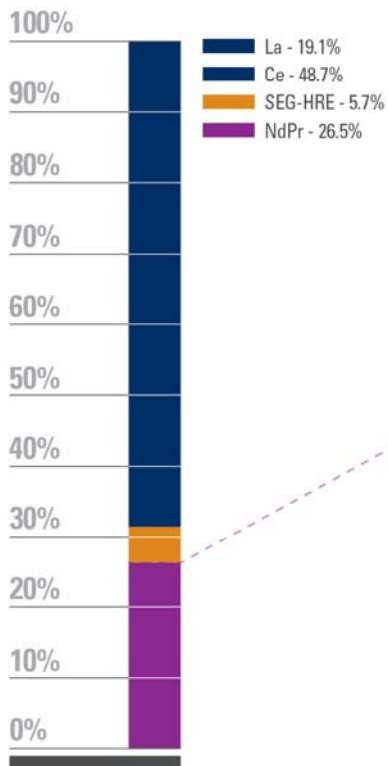


Market Focus – It's All About The Magnets

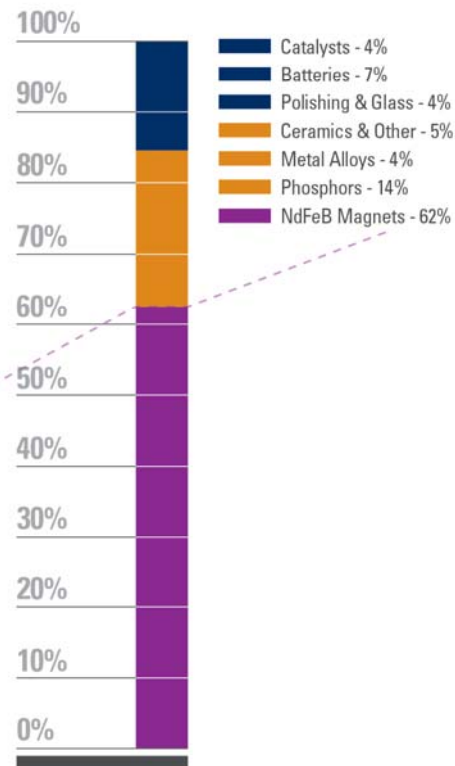


NdPr accounts for 26.5% of Nolans rare earths composition by volume but 88% by value

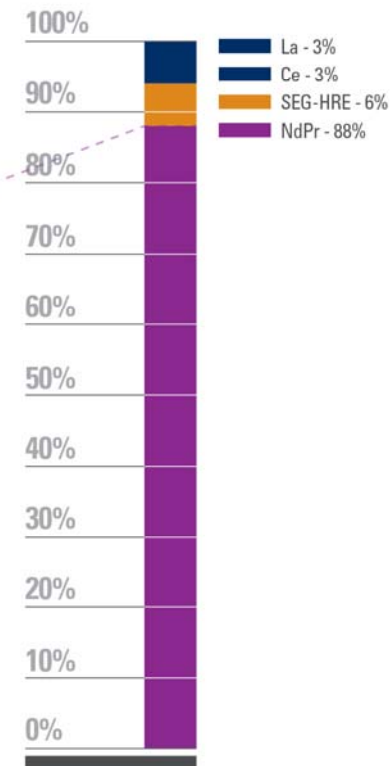
Nolans Rare Earths Mix



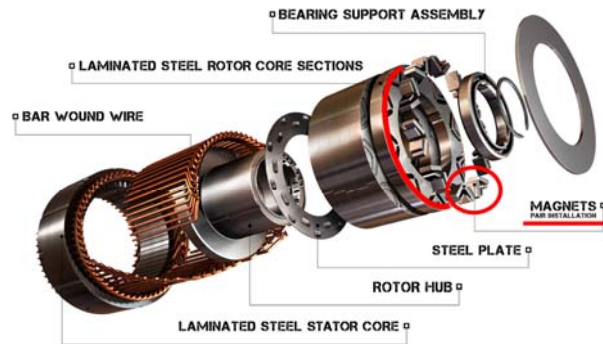
Value by Market Segment (2015)



Revenue Contribution



How Much NdPr Are We Talking About?

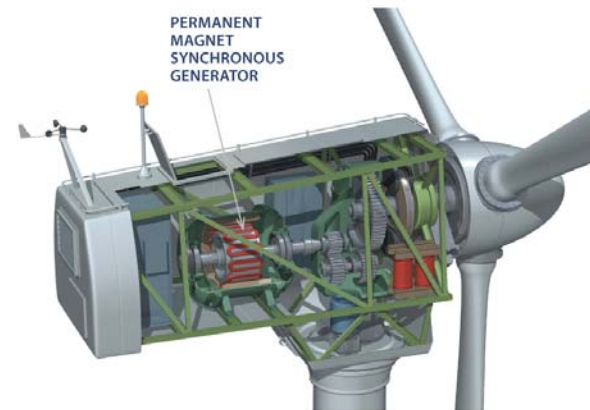


1kg of NdPr

41 million by 2040
each containing **1.7kg of NdPr**



30 million in 2017
each containing **0.1kg of NdPr**



Up to 150kg of NdPr per MW

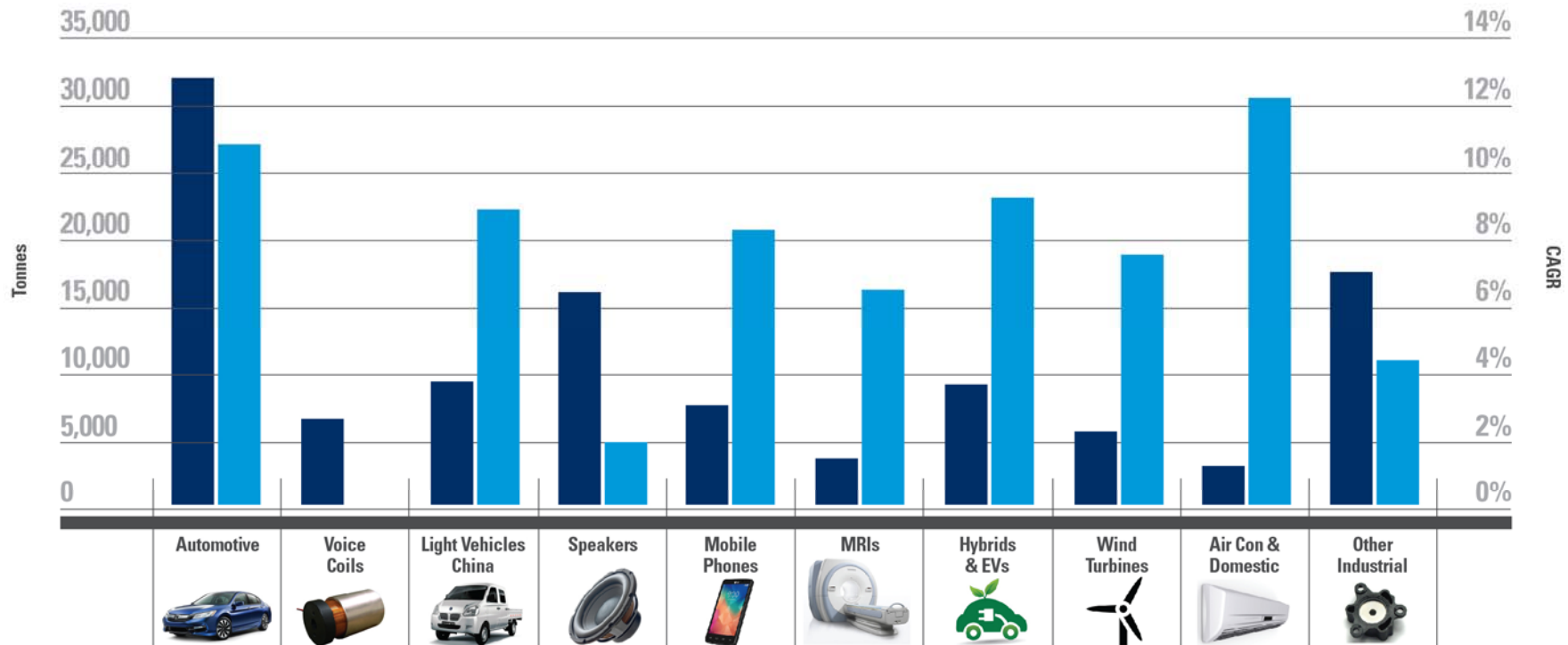


Market Focus – Growth Is In New Applications



NdPr Magnet Volume & Forecast Growth

■ NdPr Magnet Tonnes 2014
 ■ Forecast CAGR%



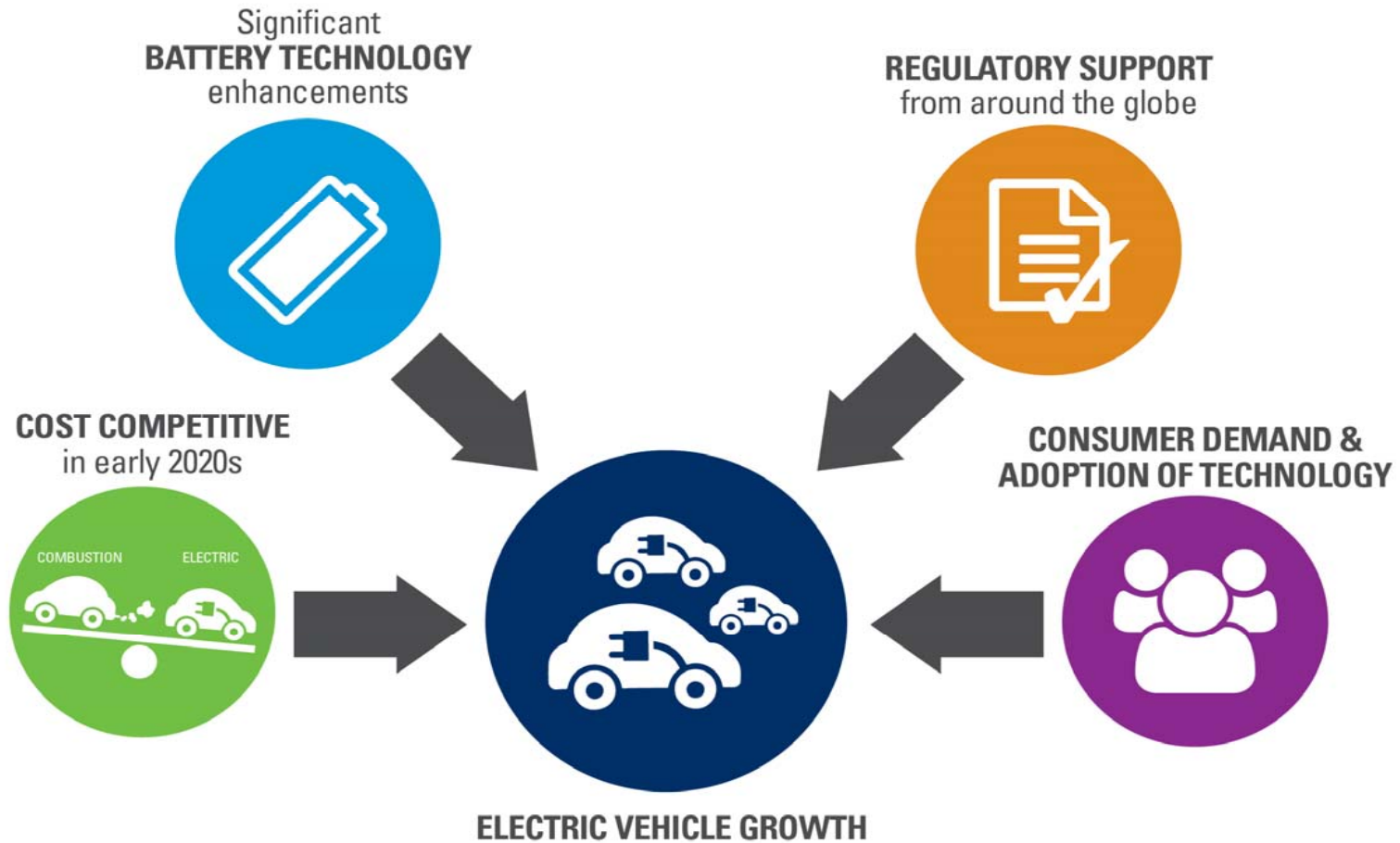
▲ Established magnet market demand steady ▲ Magnet growth being driven by clean technologies



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

EV Growth Enablers



EV Automakers Focus PMSM = NdPr Magnets



MANUFACTURER	PMSM	AACIM	NOTES
AUDI	✓		25% of US sales from EVs by 2025
BMW	✓		EV range to extend to Series 3 and X4 for next generation of models
BYD	✓		World's largest manufacturer of EVs
FORD	✓		40% EVs by 2020
GENERAL MOTORS	✓	✓	Alliance with Lyft to create an integrated network of on-demand autonomous vehicles. China accounts for one-third of GM's total production
HONDA	✓		Targeted two-thirds of sales by 2020. Honda Daido Steel heavy Dy free magnets
HYUNDAI	✓		26 hybrid, plug-in, fuel cell and EV models by 2020
MITSUBISHI	✓		Electric powered SUVs
NISSAN/RENAULT	✓		10% EVs by 2020
TESLA		✓	Independent manufacturer – disruptive technology?
TOYOTA	✓		Gasoline to hydrogen fuel by 2050
VOLKSWAGON	✓		25% EVs by 2025

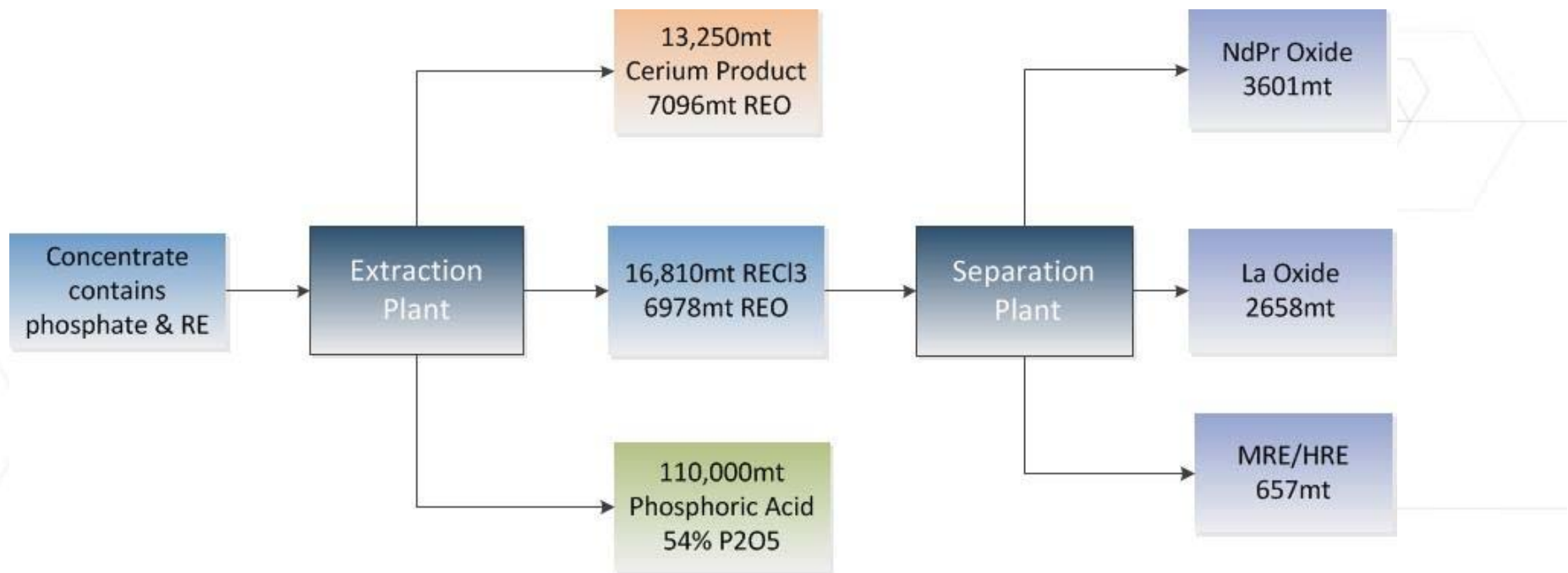
PMSM = Permanent Magnet Synchronous Motor
 AACIM = Asynchronous AC Induction Motor



Arafura's Marketing Strategy and Products



- ▲ **2015-16** was focussed on cost reduction and process refinement
- ▲ **2017** focus will be on cementing offtake alliances with strategic partners
- ▲ **95% of revenue** to be derived from customers in Japan, Germany, Korea and the USA



mt on this slide refers to metric tonnes



Project Funding



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Project Funding Strategy



- ▲ Reduced domestic institutional investor interest
- ▲ Underperformance (or failure) of non-Chinese producers and volatility in rare earth prices has resulted in reduced institutional equity investor interest in the rare earth sector
- ▲ **Equity will remain primary source of funds in short term**
- ▲ Debt finance will be a significant enabler to attract project funding
- ▲ **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



Targets for 2017-18



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Targets for 2017-18



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

- ▲ Final piloting – results to be reported throughout 2017
- ▲ Fast track where possible detailed design to Bankable Feasibility status
- ▲ Obtain environmental approval – 2017
- ▲ Formalise offtake arrangements – 2017
- ▲ Engage strategic partner(s) – ongoing
- ▲ Fund all operations through to Project Finance avoiding complex debt/equity or bond structures



Value Proposition



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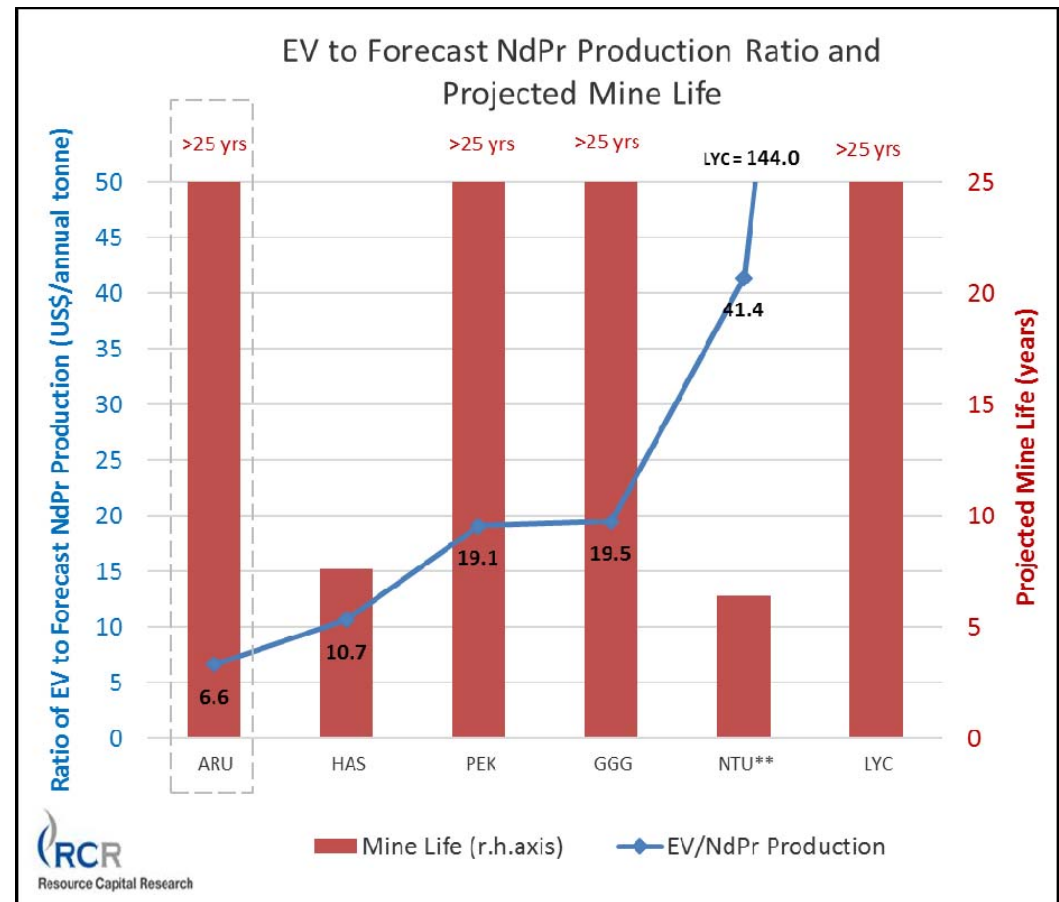
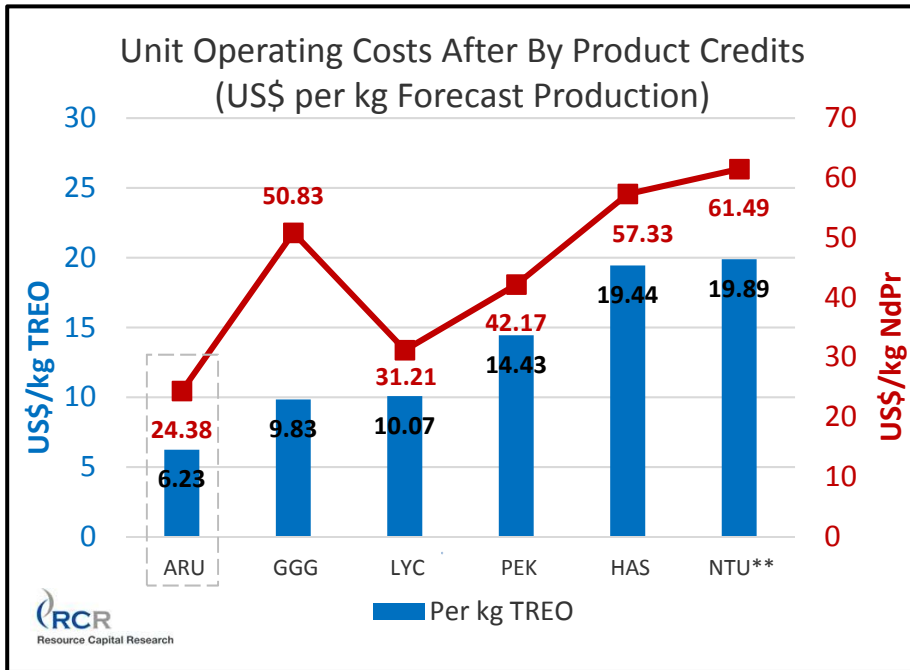
Nolans Value Proposition



- ▲ One of the world's largest NdPr deposits in a low sovereign risk location
- ▲ Established and responsible regulatory environment
- ▲ Environmental approvals expected 2017
- ▲ 20+ year resource can provide a stable, secure, clearly defined supply of critical raw materials for a low emissions economy



Value Proposition



Source: Resource Capital Research Pty Ltd (AFSL licence number 325340)
Please refer to Appendix B for further information.



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The logo for Arafura Resources Limited is a white triangle containing a stylized blue and white wave graphic. Below the triangle, the company name is written in a sans-serif font.

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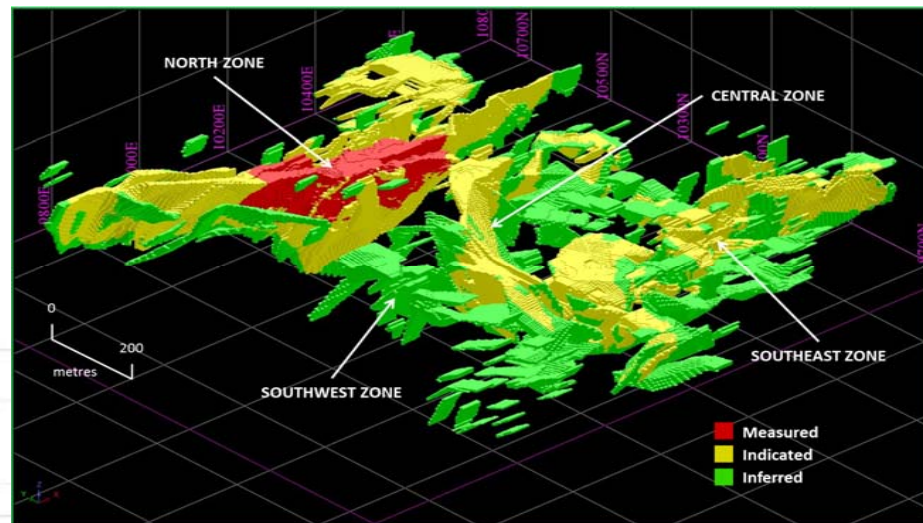


Appendix A: Nolans Mineral Resources



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.



Appendix B: Information on RCR Graphs



Key Assumptions

- Enterprise Value (“EV”) is based on market capitalisation as at February 3 2017 less reported cash on hand, plus reported debt, as at December 31 2016.
- Exchange rate of AUD1 = USD 0.76.
- Forecast operating data for development projects based on published company reports and project updates.
- NTU is a heavy rare earth deposit with dysprosium (“Dy”) being the dominant projected revenue stream. NTU** analysis is calculated using a Neodymium and Praseodymium Oxide (“NdPr”) grade equivalent, calculated based on the NTU Dy grade, adjusted for a Dy/ NdPr price ratio of 4.77.
- Mine life is based on Measured and Indicated mineral resource
- PEK NdPr production adjusted to 75% of project production and HAS 91%, to reflect the relevant underlying project interest.
- LYC: NdPr production based on annualised “ready for sale production volumes” and operating costs based on annualised operating, staff and administration costs reported in Q2, Q3 and Q4 of CY2016. LYC reported in these quarters that NdPr production is at 90 to 100% of “full design rates”.
- “TREO” = Total rare earth oxide

ASX-Listed Peer Group Companies

Code	Company Name	Project	Location	Project Interest (%)
ARU	Arafura Resources Ltd	Nolans	NT	100
HAS	Hastings Technology Metals Ltd	Yangibana	WA	91%
PEK	Peak Resources Ltd	Ngualla	Tanzania	75%
GGG	Greenland Minerals and Energy Ltd	Kvanefjeld	Greenland	100%
NTU	Northern Minerals Limited	Browns Range	WA	100%
LYC	Lynas Corporation Limited	Mt Weld	WA & Malaysia	100%

