

Dysprosium > Permanent Magnets > Electric Motors > Electric Cars

EUROPEAN ROADSHOW 2018



MAY 29 - JUNE 1 2018

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Compliance Statement

The information in this presentation that relates to the Mineral Resource Estimates of the Wolverine deposit is extracted from the report entitled "Increased Mineral Resource delivers more good news" dated 23 February 2015 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to the Mineral Resource Estimates of the Cyclops and Banshee deposits is extracted from the report entitled "Further Increase in Brown Range Mineral Resource" dated 15 October 2014 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to the Mineral Resource Estimates of the Gambit, Gambit West and Area 5 deposits is extracted from the report entitled "Wolverine Total Resource Doubled in a Major Upgrade of Browns Range HRE Mineral Resource Estimate" dated 26 February 2014 and is available to view on the Company's website (www.northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in the announcement that relates to Ore Reserves is extracted from the report entitled Increased Ore Reserve for Browns Range created on 2 March 2015 and is available to view on the Company's website (northernminerals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to Exploration Results or Exploration Targets is based on information compiled by Mr Robin Wilson, a full-time employee of Northern Minerals, a Competent Person, who is a member of the Australasian Institute of Mining and Metallurgy. Robin Wilson 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". Mr Wilson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed in the areas of the Exploration Target and it is uncertain if further exploration of a Mineral Resource.

The information in the announcement that relates to production targets is extracted from the report entitled "DFS positions Browns Range Project as next dysprosium supplier" dated 2 March 2015 and is available to view on the Company's website (<u>northernminerals.com.au</u>). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the production targets in the relevant market announcement continue to apply and have not materially changed.

TREO = Total Rare Earth Oxides – La₂O₃, CeO₂, Pr₆O₁₁, Nd₂O₃, Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₄O₇, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃, Y₂O₃

HREO = Heavy Rare Earth Oxides – Total of Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₄O₇, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Tb₂O₃, Lu₂O₃, Y₂O₃

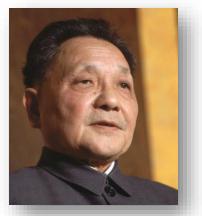




Powering Technology

Rare Earths 2.0 – Strategically and Politically Critical

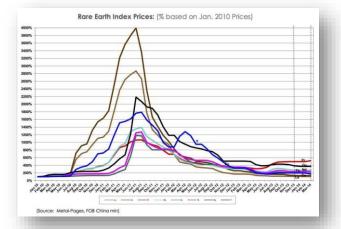
1992



"Saudi Arabia has oil, but China has rare earths"

Chinese Premier, Deng Xiaoping

2011



China cuts rare earths exports on South China Sea issues, prices skyrocket 2018



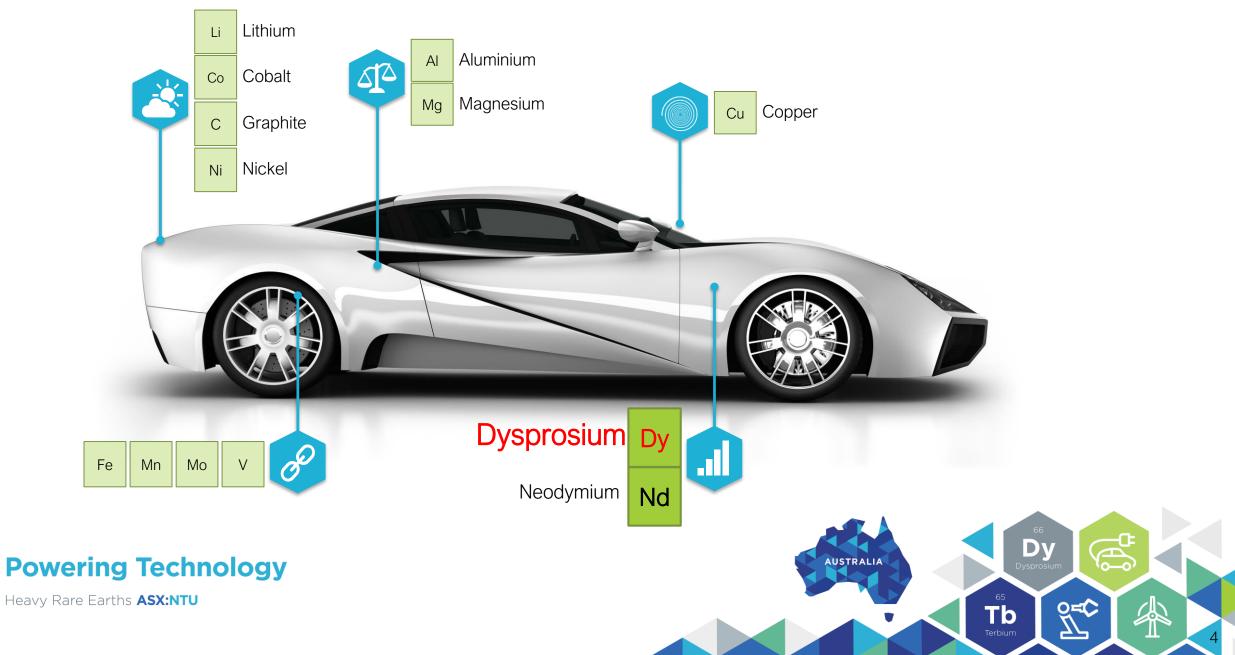
"This executive order will prioritize reducing the nation's vulnerability to disruptions in our supply of critical minerals safely and responsibility for the benefit of the American people," US President Donald Trump

Tb

Demand from EVs is the difference

Powering Technology Heavy Rare Earths ASX:NTU

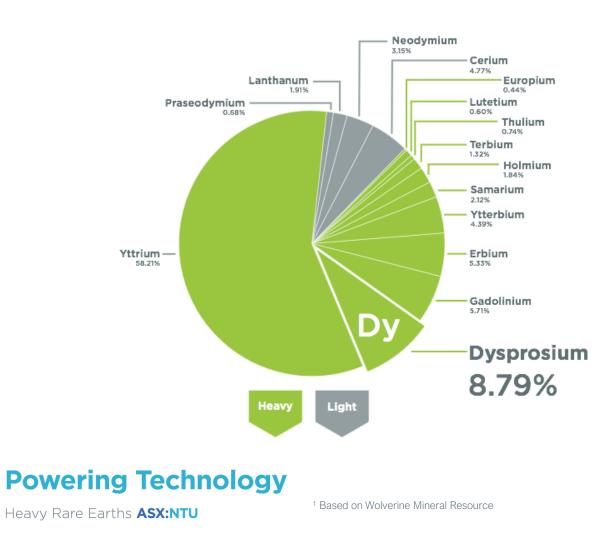
Rare Earths 2.0 - EVs not just a lithium story!





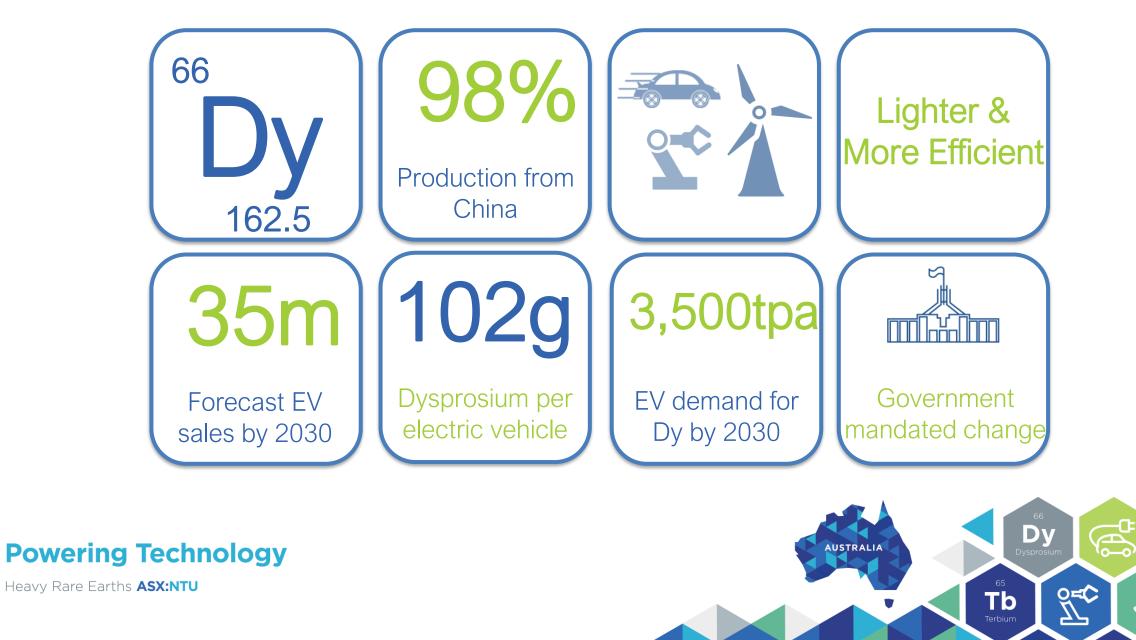
Northern Minerals Browns Range

Rare earth distribution ¹





Dysprosium



Browns Range - Filling the Dysprosium supply gap

NORTHERN

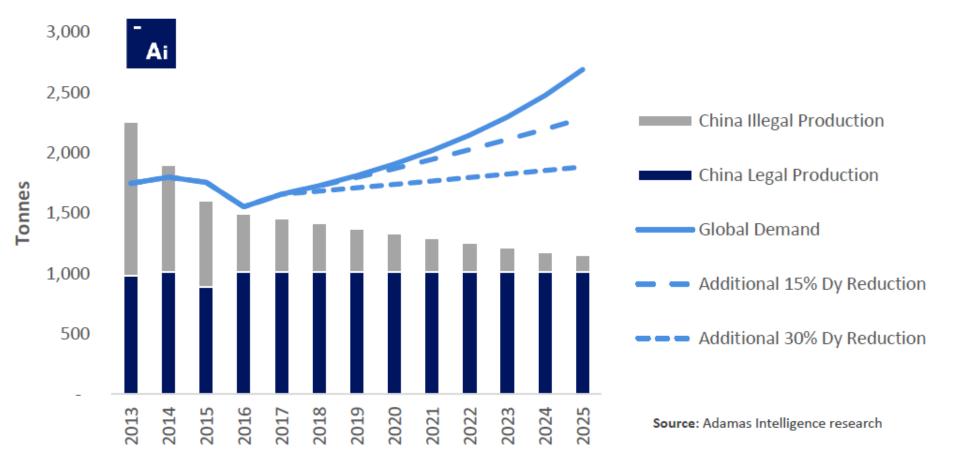
MINERALS

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AUSTRALIA

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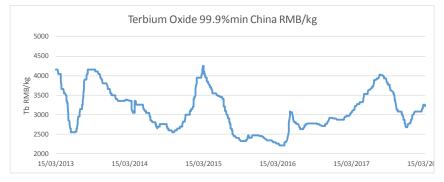
Even with motor efficiencies, the supply gap is growing and will require more Browns Range scale projects

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Heavy Rare Earths ASX:NTU

Source: Adamus Intelligence, Northern Minerals





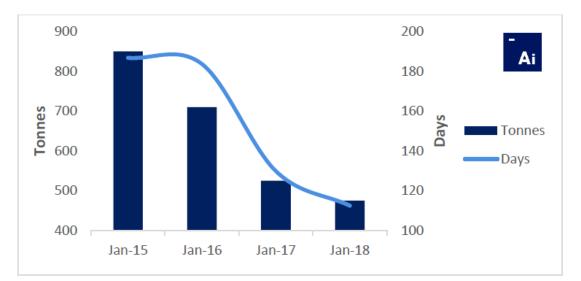


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Heavy Rare Earths **ASX:NTU**

HRE – sustainable pricing

Increased demand from new EV sales coupled with lower stockpiles and crackdown on illegal mining in China will positively impact prices

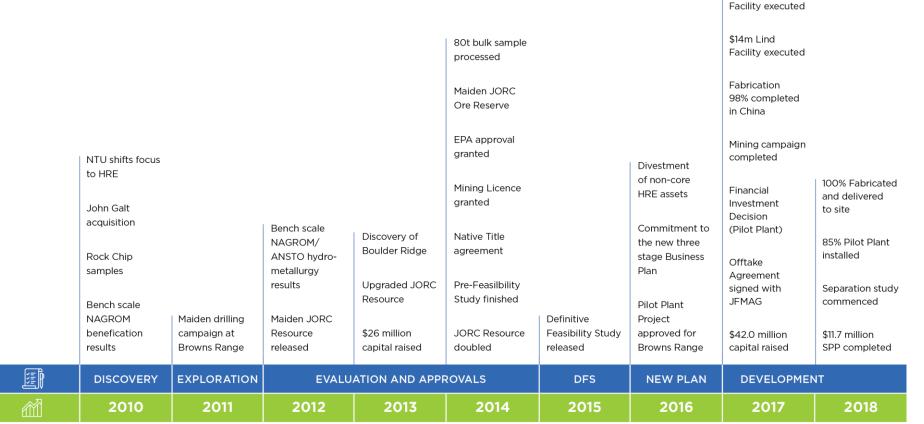


Source: Adamas Intelligence research, Asian Metal





Browns Range – An Eight Year \$170m Journey



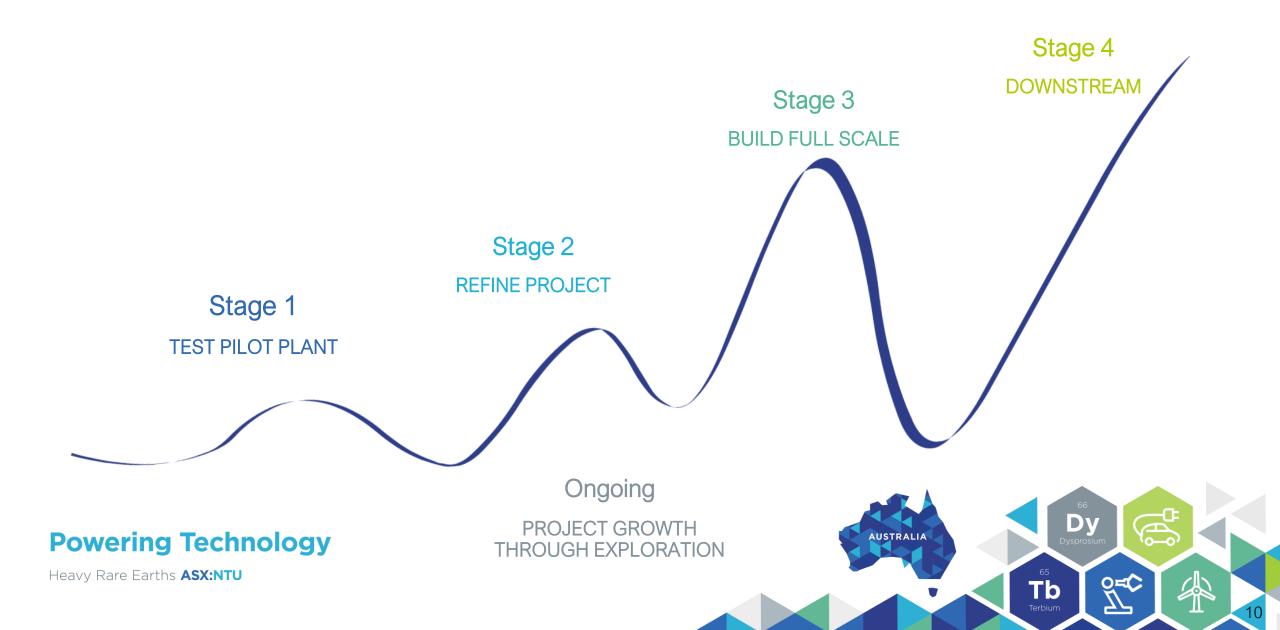
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Heavy Rare Earths **ASX:NTU**



\$38m R&D Financing

Our Strategy – Building waves of momentum

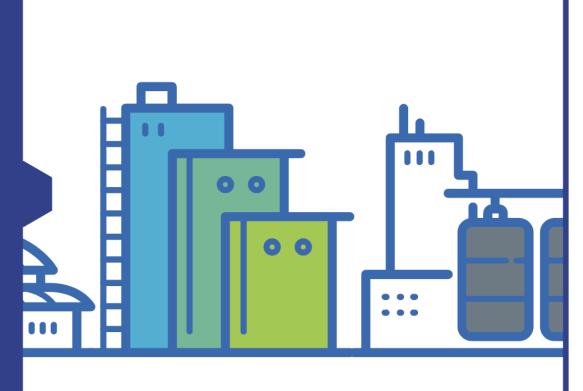




Three year pilot plant project



- 10% of full scale capacity
- Production from June 2018
- Develop, mining, processing & offtake experience
- 573tpa contained TREO
- 72ktpa capacity beneficiation plant
- 3,840tpa capacity hydrometallurgical plant









Three year pilot plant project



Pilot

Plant

Site



In May 2018, Northern Minerals commenced commissioning of crushing circuit

12:32



Darwin Charter Charter Darwin Charter Charter Darwin Charter Darwin Charter Ch

In September 2018, we will commence a new supply of heavy rare earths to the global market

Stor Park

Stage 1: Test

Pilot Plant Flowsheet





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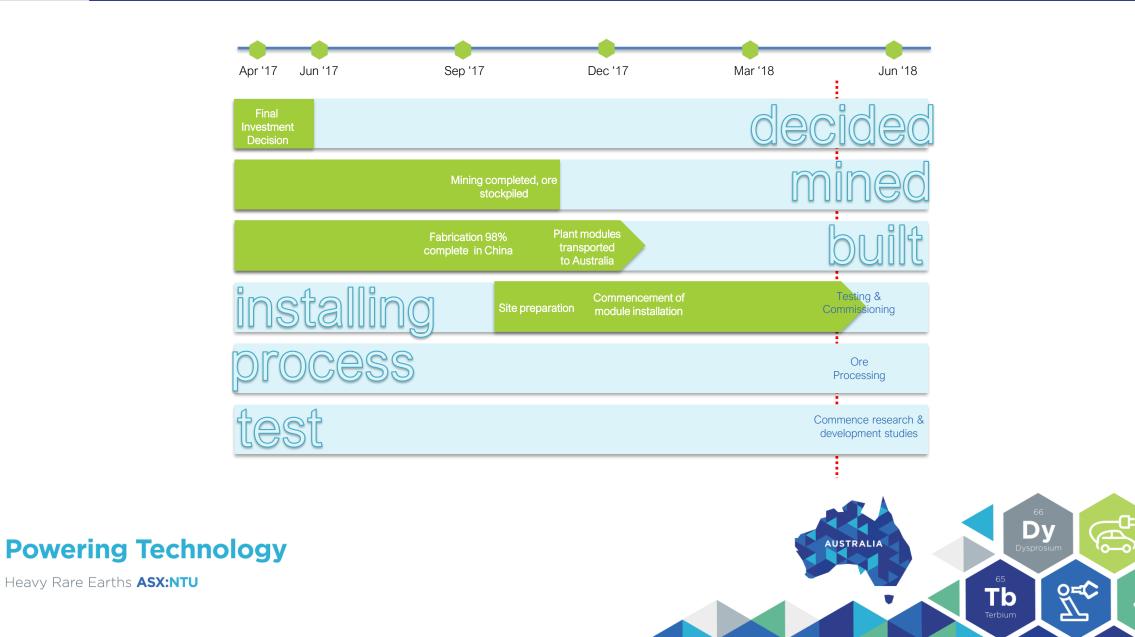
Operational readiness





Project Development Schedule





Stage 1: Test



- Mixed RE carbonate (REC) produced
- Product specification available for REC
- REC samples validated by several downstream separators
- REC suitable for solvent extraction separation
- Low thorium and uranium levels
- First shipment planned for September quarter



REO contained in mixed RE carbonate	Annual production (000s kg)
Lanthanum	5.8
Cerium	15.2
Praseodymium	2.8
Neodymium	10.6
Samarium	11.4
Europium	2.4
Gadolinium	34.8
Terbium	6.7
Dysprosium	49.4
Holmium	13.5
Erbium	39.3
Thulium	5.6
Ytterbium	33.1
Lutetium	4.5
Yttrium	337.6
Total TREO produced	573
Total carbonate produced	1,100
Figures may not add due to rounding	



TREO = Total Rare Earth Oxides- Total of Dy₂O₃,La₂O₃, CeO₂, Pr₆O₁₁, Nd₂O₃, Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₄O₇, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃, Y₂O₃

Production table from NTU announcements dated 4 February 2016 in relation to new business plan for Browns Range and presentation of the business plan



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northernminerals.com.au

Stage 1: Test

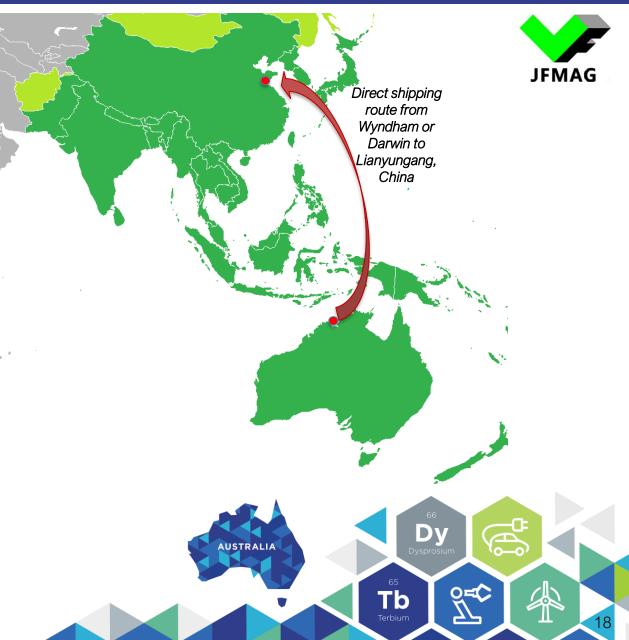
Secure Sales Agreement



100% of Browns Range Pilot Plant production to be purchased by Lianyugang Zeyu New Materials Sales Co Ltd (JFMAG), a 51% owned subsidiary of Guangdong Rare Earths Group.

- Terms based off CIF Incoterms 2010 with pricing referenced from a 2-month average of quoted prices on Asian Metals and Beijing Ruidow Information Technology.
- Includes A\$10 million pre-payment, receivable in 2018 and 40 million unlisted options at \$0.25 exercise price.
- Representative to join Northern Minerals' Board upon receipt of funds.

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Stage 1: Test

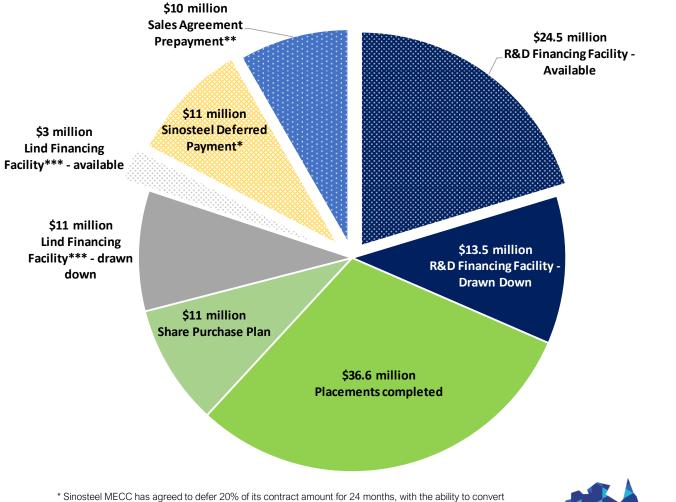
Financing



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AUSTRALIA



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Heavy Rare Earths **ASX:NTU**

* Sinosteel MECC has agreed to defer 20% of its contract amount for 24 months, with the ability to convert into Northern Minerals' shares at a conversion price of the lessor of \$0.15 per share or 20 day VWAP prior to conversion notice

** JFMAG has agreed to prepay \$10m. JFMAG will be issued 40m unlisted options upon receipt of the loan advance with a \$0.25 exercise price.

*** Northern Minerals has drawn down \$11m of a \$14m financing facility.



Training-to-Work Facility







- Northern Minerals has partnered with The Wunan Foundation for the establishment of an \$8.1 million indigenous training-to-work facility at Browns Range.
- The Federal Government, under the Building Better Regions Fund (BBRF) has provided funding of \$4.8 million towards the programme.
- Construction of the facility will commence soon, \$1.3 million received.

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Refine the project



- Reduce mining cost modify mining method
- Boost production increase head grade
- Develop premium product yttrium rejection
- Funding plan for progressing initiatives

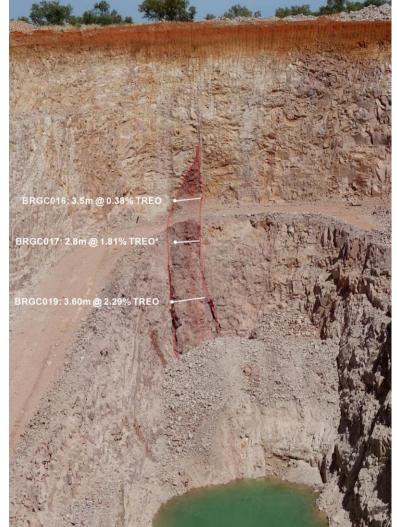
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Stage 2: Refine

Enhancement projects underway





Powering Technology Heavy Rare Earths ASX:NTU

205,000t ore mined at Wolverine and Gambit West;

Steeper walls employed, resulting in more ore and less waste;

Funding secured to investigate this and other project enhancement initiatives for potential larger scale project.

Opportunity to increase grade

Ore sorting assessment





Full scale operation





300,000kg Dysprosium production per annum
3,000,000kg TREO per annum
Significant dysprosium supplier
Initial 11 year life with significant upside through exploration

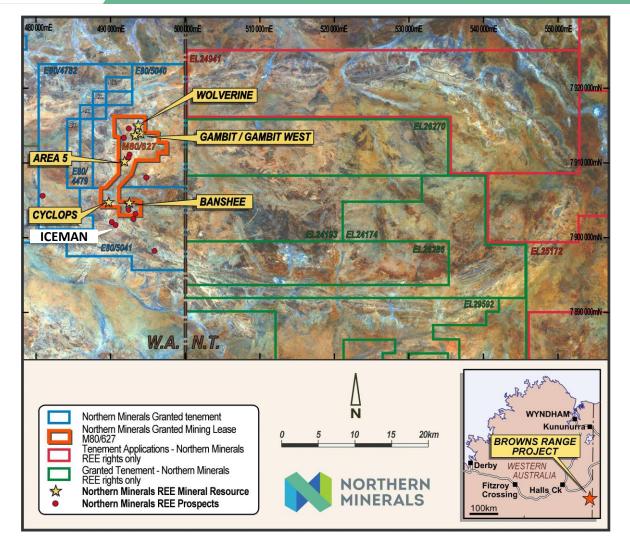
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Stage 3: Full Scale

Blue sky potential





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Heavy Rare Earths **ASX:NTU**

The Browns Range dome is a massive geological feature covering 1,500km² and stretching 60km x 30km most of which hasn't been effectively explored

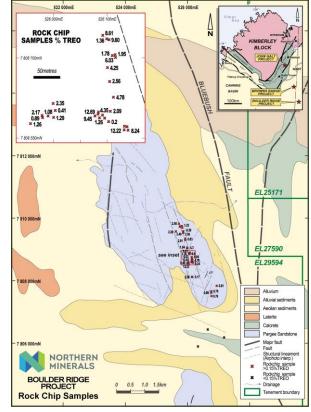
- JORC Resource supporting an 11 year full scale operation
- Exploration target to add additional 9 years of JORC Resources (under review)
- 170 defined targets yet to be drilled
- High priority target at Iceman
- John Galt and Boulder Ridge Additional HRE projects with upside potential
- Funding in place exploration ramp up in June quarter



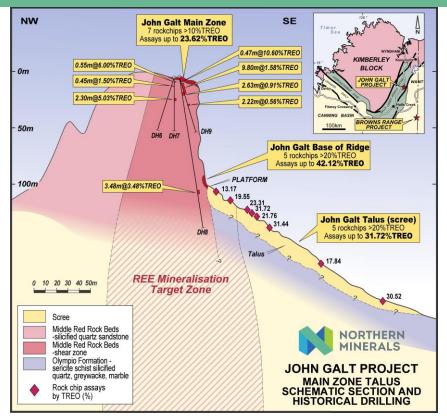
Stage 3: Full Scale

Beyond Browns Range





- Rock chip samples from the Boulder Ridge project confirm highgrade Heavy Rare Earths (HRE)
- Best results exceed 12% TREO, including up to 1.15% Dysprosium, with a dominance of HRE – up to 99%.
- Reinforces significant growth potential in Browns Range and Tanami regions.



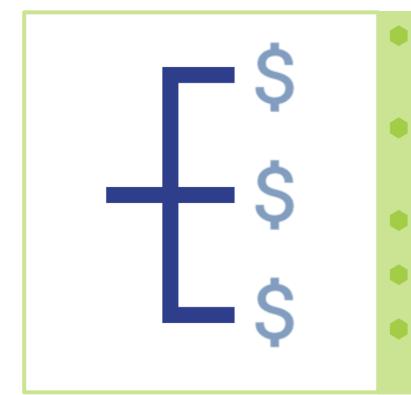
- Rock chip samples up to 42% TREO with approximately 95% Heavy REO
- Preliminary metallurgical tests indicate excellent recovery rates (>90%)
- Potential for concentrate grades >40%
- High grade mineralisation in talus (scree) material
- Hard-rock source of scree is the primary target





Downstream Opportunities





- Downstream separation of heavy rare earth elements
- Production of dysprosium oxide and terbium oxide
- Wider potential customer base
 - Additional value capture
- Funded plan to investigate downstream opportunities

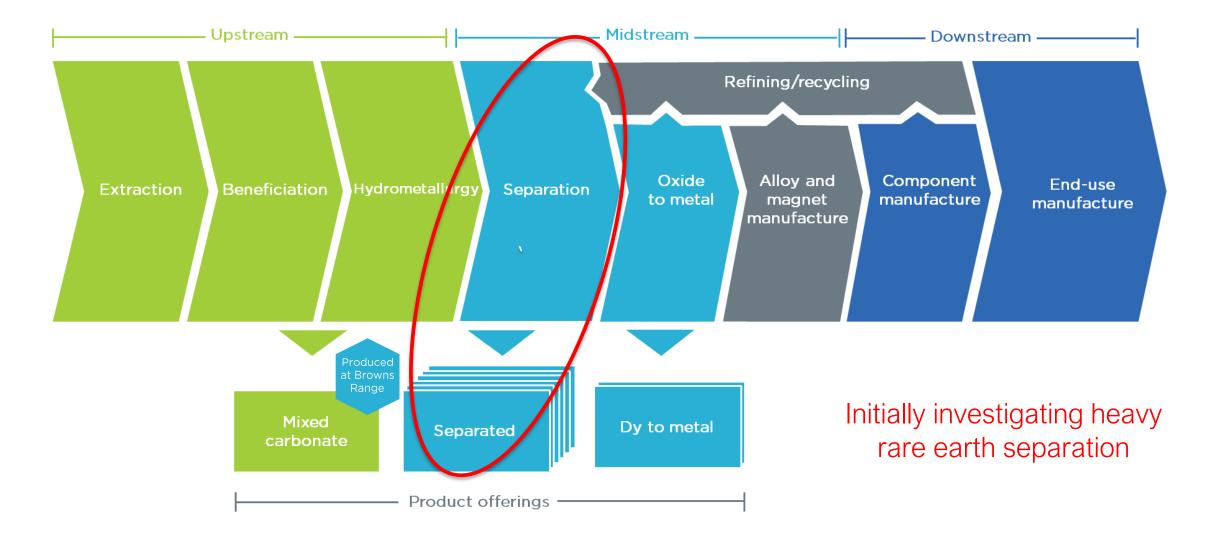
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Stage 4:

Downstream





Key personnel and partners





Corporate Overview





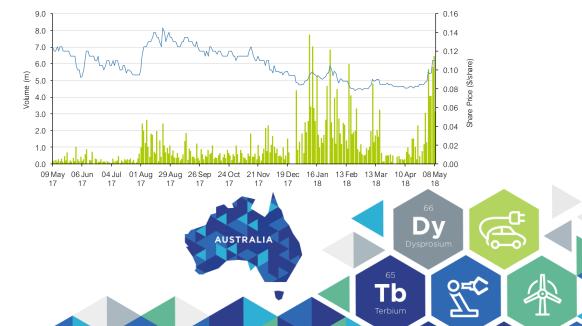
Major shareholders	30 April 2018
ACIIG	18.1%
Huatai Mining	15.9%
Citicorp Nominees	3.6%
Board & Management	2.3%
Remaining Top 20	18.5%
Other	41.6%

Market capitalisation \$121M

(at 9 May 2018 @ \$0.11)

Ordinary Shares	1,100M
Options and Performance Rights	103M
Cash (31 March 2018)	\$14.9M
12 month low - high	\$0.078 -\$0.145
Average daily volume (12 month avg)	1,466,145
Average daily volume (3 month avg)	2,239,802

Northern Minerals Limited Share Price Performance

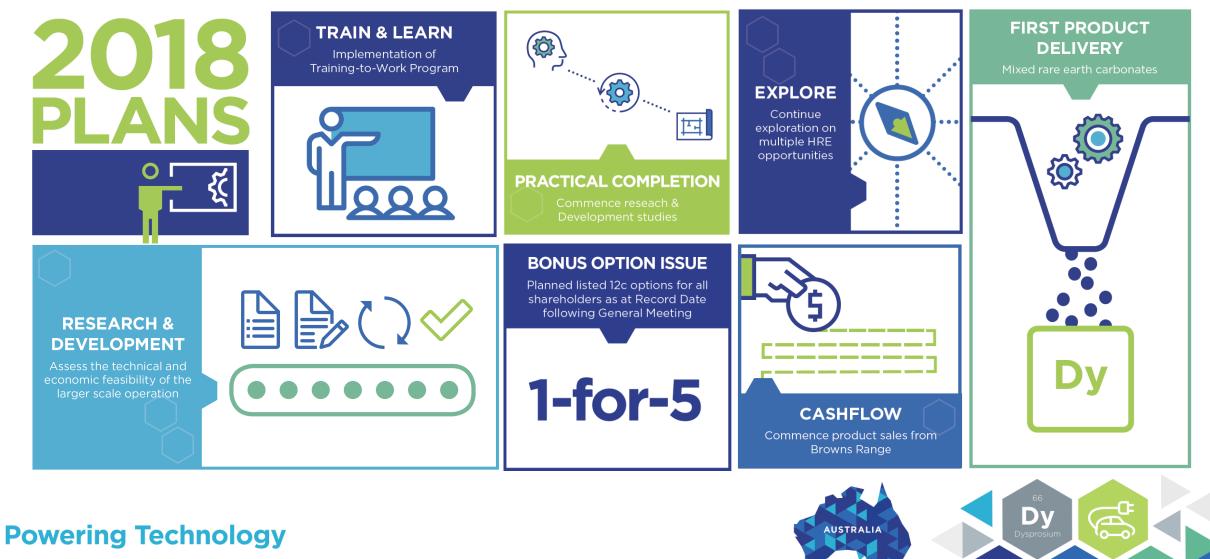


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2018 – Delivering on potential



Tb



In conclusion





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- Pilot plant production to commence in June 2018
- Three year project to demonstrate and assess economic and technical feasibility of full scale operation
- Process commenced on separation
- Browns Range on track to be a globally significant supplier of dysprosium
- Quality management and operations team focussed on delivery
- An essential part of the EV evolution





Delivering critical technology metals to the EV evolution



ASX:NTU

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APPENDICES





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northernminerals.com.au

NTU Board





NanAdrianBinYangColinGriffinGeorgeCaiMcCavanaBauk

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Heavy Rare Earths **ASX:NTU**

Colin McCavana - Non-executive Chairman (appointed 2006)

Mr McCavana has more than 35 years of management experience worldwide in the earthworks, construction and mining industries.

George Bauk - Managing Director / CEO (appointed 2010)

George is an experienced executive, with over 25 years' experience in the resources industry. Prior to Northern Minerals, George held global operational and corporate roles with WMC Resources, Arafura Resources and Indago Resources. Mr Bauk is Vice President of the Chamber of Minerals and Energy, WA and Chairman of Lithium Australia.

Adrian Griffin - Non-executive Director (appointed 2006)

An Australian trained mining professional with exposure to metal mining and processing throughout the world, Mr Griffin has been involved in the development of extraction technology for platinum group metals and agricultural commodities.

Nan Yang - Non-executive Director (appointed 2017)

Mr Yang is an Australian mining engineer with more than 10 years' experience in mine planning, design, and mergers and acquisitions.

Yanchung Wang - Non-executive Director (not in photo) (appointed 2013)

Ms Wang acts as a strategic investor for a number of Chinese based companies. Ms Wang is Vice Chairman of Conglin Baoyuan International Investment Group and also a Director of Huachen.

Bin Cai - Non-executive Director (alternate) (appointed 2013)

Bin is the MD of Conglin International Investment Group Pty Ltd based in Brisbane. He has a record of successful strategic investments in emerging Australian resources companies.



Mineral Resources



Dy

⁶⁵ Tb

AUSTRALIA

Deposit	Category	Mt	TREO	Dy ₂ O ₃	Y ₂ O ₃	Tb₄O ₇	HREO	TREO	
			%	Kg/t	Kg/t	Kg/t	%	Kg	
Wolverine	Indicated	2.99	0.83	0.73	4.86	O.11	89	24,952,000	
	Inferred	1.97	0.89	0.76	5.13	O.11	88	17,609,000	
	Total	4.97	0.86	0.74	4.97	O.11	89	42,560,000	
Gambit West	Indicated	0.27	1.26	1.07	7.06	0.14	90	3,424,000	
	Inferred	0.12	0.64	0.54	3.67	0.07	85	753,000	
	Total ¹	0.39	1.07			89	4,177,000		
Gambit	Indicated	0.05	1.06	0.92	6.62	0.12	97	533,000	
	Inferred	0.06	1.2	1.01	6.8	0.15	95	671,000	
	Total ¹	O.11	1.13	0.97	6.72	0.13	96	1,204,000	
Area 5	Indicated	1.38	0.29	0.18	1.27	0.03	69	3,953,000	
	Inferred	0.14	0.27	O.17	1.17	0.03	70	394,000	
	Total ¹	1.52	0.29	0.18	1.26	0.03	69	4,347,000	
Cyclops	Indicated	-	-	-	-	(2 2)	-		
	Inferred	0.33	0.27	0.18	1.24	0.03	70	891,000	
	Total ¹	0.33	0.27	0.18	1.24	0.03	70	891,000	
Banshee	Indicated	-	-		1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 -	-		-	
	Inferred	1.66	0.21	0.16	1.17	0.02	87	3,484,000	
	Total ¹	1.66	0.21	0.16	1.17	0.02	87	3,484,000	
Total ¹	Indicated	4.69	0.70	0.59	3.95	0.09	87	32,862,000	
	Inferred	4.28	0.56	0.46	3.15	0.07	87	23,802,000	
	Total ¹	8.98	0.63	0.53	3.56	0.08	87	56,663,000	

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Heavy Rare Earths **ASX:NTU**

 ¹ – Rounding may cause some computational discrepancies (TREO (metal) tonnes estimated from Mt x TREO%)
 Mineral resources as per NTU announcement 2 March 2015 in relation to increased reserves.

Ore Reserves



			TREO		Dy ₂ O ₃		Tb₄O ₇		Y ₂ O ₃	
Deposit	Classification	Ore Tonnes	kg/t	kg Contained	kg/t	kg Contained	kg/t	kg Contained	kg/t	kg Contained
OPEN PIT										
Wolverine	Probable	833,000	6.15	5,124,000	0.55	460,000	0.08	66,000	3.59	2,989,000
Gambit West	Probable	219,000	10.10	2,212,000	0.83	182,000	O.11	25,000	5.52	1,209,000
Gambit	Probable	37,000	8.05	298,000	0.68	25,000	0.09	3,000	4.74	176,000
Area 5	Probable	467,000	2.24	1,048,000	0.14	65,000	0.02	10,000	0.99	463,000
UNDERGROUN	D									
Wolverine	Probable	2,104,000	8.00	16,833,000	0.70	1,483,000	0.10	221,000	4.71	9,908,000
Gambit West	Probable	90,000	9.54	860,000	0.88	79,000	O.11	10,000	5.78	521,000
RESERVE										
Total	Probable ¹	3,750,000	7.03	26,375,000	0.61	2,294,000	0.09	335,000	4.07	15,266,000

¹ Rounding may cause some computational discrepancies

Ore reserves as per NTU announcement 2 March 2015 in relation to increased reserves.

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The Northern Minerals SPIRIT



