

AUSTRALIA'S NEXT RARE EARTHS PRODUCER



**HASTINGS**  
Technology Metals Limited

ersonal use only

CORPORATE PRESENTATION | 4 JULY 2022

# Begin the Future

HASTINGS TECHNOLOGY METALS LIMITED | ASX : HAS

# Important Notices and Disclaimer

All currency amounts are in A\$ unless stated otherwise.

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## Competent Persons' Statement

The information in this release that relates to Mineral Resources is based on information compiled by David Princep and Lyn Widenbar. Both Mr. Princep and Mr Widenbar are independent consultants to the Company and members of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Princep and Mr Widenbar have sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this announcement and to the activity which they are 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' ("JORC Code").

The information in this announcement that relates to the Ore Reserves at Bald Hill, Fraser's, Auer, Auer North, Yangibana, Yangibana West and Yangibana North is based on information reviewed or work undertaken by Mr. Stephen O'Grady, member of the Australasian Institute of Mining and Metallurgy, and a Director of Intermine Engineering Consultants. Mr O'Grady has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the preparation of mining studies to qualify as a Competent Person as defined by the JORC Code 2012. Mr O'Grady consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The scientific and technical information in this announcement and that relates to process metallurgy is based on information reviewed by Ms. Narelle Marriott (General Manager Processing) of Hastings Technology Metals Limited. Ms. Marriott is a member of the AusIMM and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined by the JORC Code 2012. Ms. Marriott owns shares in the company and participates in the company employee share plan. Ms. Marriott consents to the inclusion in this announcement of the matters based on their information in the form and context in which it appears.

The information in this announcement that relates to Exploration Results in relation to the Yangibana Project is based on information compiled by Mr. Andrew Reid BSc (Hons) MSc FAUSIMM, a Competent Person, who is a Fellow of the Australian Institute of Mining and Metallurgy. Mr. Reid is a full-time employee of the company in the role of Chief Operating Officer and has sufficient experience that is relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. The Competent Person has verified the data disclosed in this release, including sampling, analytical and test data underlying the information contained in this release. Mr. Reid owns shares in the company and participates in the employee share plan. Mr. Reid consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

# Important Notices and Disclaimer

## ASX Listing Rule 5 requirements

This presentation includes estimates of mineral resources and ore reserves in relation to Hastings' mining projects. Hastings has previously reported these estimates in the ASX announcements "Yangibana Project updated Measured and Indicated Mineral Resource Tonnes up by 54%, TREO oxides up 32%", dated 5 May 2021 and "Yangibana Rare Earths Project Significant Ore Reserve Tonnes increase of 37%, NdPr Tonnes up 18% to 58Kt", dated 27 July 2021 and "Hastings to Acquire 30% Yangibana Joint Venture Interest from Cadence Minerals Plc" dated 23 June 2022. Hastings confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed.

This presentation contains production targets and forecast financial information derived from a production target. Hastings has previously reported the production targets and forecast financial information in the ASX announcement "Yangibana Project NPV8 Increases 84% to A\$1 billion (post tax)", dated 21 February 2022. Hastings confirms that all material assumptions underpinning the production targets, and the forecast financial information derived from the production targets, continue to apply and have not materially changed.

## JORC Code

It is a requirement of the ASX Listing Rules that the reporting of ore reserves and mineral resources in Australia comply with the Joint Ore Reserves Committee's Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code"). Investors outside Australia should note that while ore reserve and mineral resource estimates of the Company in this document comply with the JORC Code (such JORC Code-compliant ore reserves and mineral resources being "Ore Reserves" and "Mineral Resources" respectively), they may not comply with the relevant guidelines in other countries and, in particular, do not comply with (i) National Instrument 43-101 (Standards of Disclosure for Mineral Projects) of the Canadian Securities Administrators (the "Canadian NI 43-101 Standards"); or (ii) Industry Guide 7, which governs disclosures of mineral reserves in registration statements filed with the SEC. Information contained in this document describing mineral deposits may not be comparable to similar information made public by companies subject to the reporting and disclosure requirements of Canadian or US securities laws. In particular, Industry Guide 7 does not recognise classifications other than proven and probable reserves and, as a result, the SEC generally does not permit mining companies to disclose their mineral resources in SEC filings. You should not assume that quantities reported as "resources" will be converted to reserves under the JORC Code or any other reporting regime or that the Company will be able to legally and economically extract them.





# Australia's Next Rare Earths Producer



## Globally significant supplier of NdPr

- NdPr is critical to the global energy transition - permanent magnets are key components of EV's and wind turbines with no substitute
- NdPr market expected to be in significant supply deficit by late 2020s - Yangibana estimated to account for 6-8% of global NdPr supply
- Rare Earths deemed a critical mineral by the EU Commission, US Department of Energy and Australian Critical Minerals Office



## Unique deposit in Tier 1 jurisdiction

- World leading composition of NdPr (up to 52%) in RE basket – more than double the world average
- Ore grades significantly improved by beneficiation – producing a high grade concentrate containing up to 27% total rare earth oxides
- Located in Tier 1 mining jurisdiction of Western Australia, Onslow well serviced with major existing infrastructure



## Attractive project economics

- 16.7Mt Ore Reserve; 15 year mine life producing 15,000tpa of high grade Mixed Rare Earth Carbonate (“MREC”)
- NPV<sub>8</sub> (post-tax) of A\$1,012m and post-tax IRR of 26%<sup>1</sup>
- Significant exploration upside to expand existing Mineral Resources and discover new rare earth deposits



## Offtake secured with blue-chip counterparties

- ~70% of production is contracted for the first 10 years
- 10 year Offtake Agreement signed with thyssenkrupp in April 2021
- 10 year Master Supply Agreement with Schaeffler to supply feed for a mine to magnet supply chain within Europe



## Funding well advanced, NAIF secured

- Northern Australian Infrastructure Facility (“NAIF”) has approved A\$140m loan facility underpinning debt funding requirements
- Well advanced on discussions with other debt and equity providers for remaining funding including German State bank, KfW-Ipex Bank.
- ~A\$131.3m of cash on balance sheet as at 31 Mar 2022



## Experienced leadership strongly aligned to shareholders

- Board and Executive Leadership Team with a proven track-record of delivering success for shareholders
- Shareholder alignment with the Board & KMP's currently holding a collective ~7.4% (including ~6.8% by Executive Chairman Charles Lew)

<sup>1</sup> Refer ASX announcement “Yangibana Project NPV8 Increases 84% to A\$1 Billion (post-tax)” dated 21 February 2022

# Corporate Overview

Hastings is an emerging ASX-listed company focused on the development of its Yangibana Rare Earths Project

## Yangibana Project

### Downstream – Onslow Hydrometallurgical Location



**REGION**  
Pilbara Region, WA

**FINAL PRODUCT**  
15,000tpa MREC containing:  
8,500tpa TREO  
3,400tpa NdPr

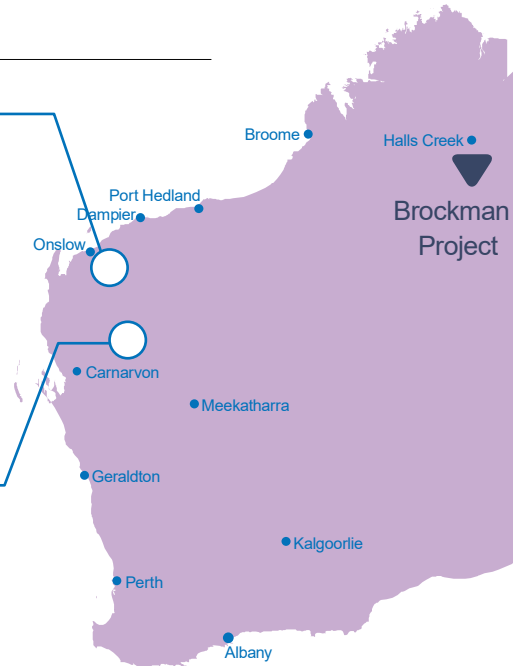
### Upstream – Yangibana Mine Site Location



**REGION**  
Upper Gascoyne Region, WA

**BENEFICIATION**  
upgrading ore grade 25x

**PRODUCT**  
production of high-grade Rare Earths Oxide (REO) concentrate



Early Works Infrastructure under construction  
Commissioning ahead of production scheduled for late 2024

## Corporate snapshot (1 July 2022) ASX: HAS

Market Cap.

**A\$416m**

Share price (\$/s)

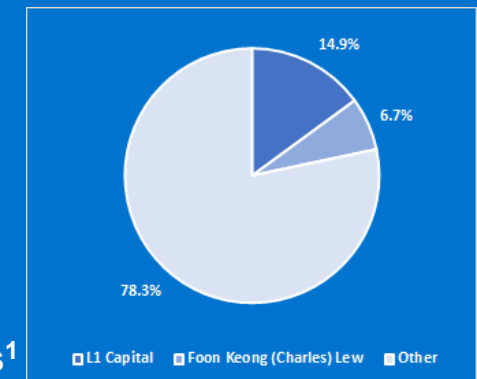
**A\$4.10**

Shares on issue

**101.4m**

~7.4% held by Board and Executive Leadership Team

Major shareholders



Cash and liquid assets<sup>1</sup>

**A\$131.3m**

1. As at 31 March 2022

# Accomplished Board of Directors

## Jean Claude Steinmetz Non Executive Director

- Joined the Board in Jul 2016
- Chief Operating Officer for Lynas Corporation 2013 - 2015
- 25+ years in the chemical industry with Rhodia and General Electric
- Chairman of the Auto Plastic and Innovative Materials Committee of Sino-EU Chemical Manufacturers Association



## Bruce McFadzean Non Executive Director

- Joined the Board in Jan 2021
- Managing Director of Sheffield Resources since 2015
- 40+ years in the global resource industry including 15+ years with BHP Billiton & Rio Tinto
- Led successful financing and operation of mines around the world



## Charles Lew Executive Chairman

- Took over HAS in Dec 2013 and appointed Chairman
- 30+ years investment banking experience in London and Singapore
- Entrepreneur with business experience in macro hedge fund, F&B and real estate
- MD of ABN Amro Investment Bank Singapore 1997 - 2000
- Independent Non Executive Director of Malaysia's RHB Banking Group 2004 - 2016



## Guy Robertson Finance Director

- Served on the Board of Hastings since Oct 2012
- 30+ years CFO experience
- CFO for various ASX listed junior mining companies
- Senior finance executive in Jardine Matheson Group in Hong Kong and Australia including Jardine Lloyd Thompson, Colliers Jardine, and Franklins Limited



## Mal Randall Non Executive Director

- Joined the Board in Feb 2019
- 45+ years extensive experience in corporate, management and marketing in the resources sector including 25+ years with the Rio Tinto group of companies



## Neil Hackett Non Executive Director

- Joined the Board in Nov 2018
- 15+ years ASX Director, Company Secretary with mining and industrial experience
- Corporate Finance and Regulatory Experience ASIC 1990-1999
- Independent Corporate Governance Advisor and AICD Facilitator



# Experienced Senior Management Team

**Andrew Reid**  
Chief Operating Officer

- Appointed COO in Nov 2018
- 30 years of expertise in mine management, geology and mining engineering concentrating on open pit and narrow vein mining
- Constructed and operated mining projects in West Africa, Finland and Indonesia
- Previously COO of Finders Resources, GM of Kevitsa Mine, First Quantum Minerals



**Matthew Allen**  
FCA, GAICD, F FIN  
Chief Financial Officer

- Joined Hastings in 2021 with 20+ years experience in finance, operational & management of public companies in resource sector
- CFO and Managing Director of Otto Energy Ltd in the US, and spent 8 years as Finance Manager at Woodside Energy



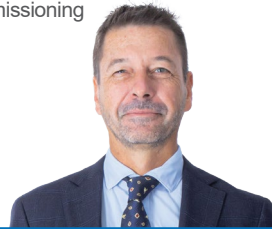
**Nick Holthouse**  
GM Engineering &  
Operation Readiness

- Joined Hastings in Feb 2019 with 30+ years experience in surface & underground mining operations, engineering & surveying in commodities – gold, uranium, coal and base metals
- Managed, commissioned / operated mines & process plants in remote regions
- Merdeka Mining, Finders Resources, CSA Global



**Nick Bennett**  
Project Manager

- Joined Hastings in 2021 with 30+ years experience in mining and metals
- Over 20 years experience in executing studies and projects in the chemical and mineral processing industry
- Previously with Ausenco, MSP Engineering and First Quantum
- Skilled in project development from concept through to commissioning



**Narelle Marriott**  
Manager Process  
Development

- Joined Hastings in late 2014 working on early metallurgical process development
- A minerals process engineer with 20 years experience in the mining industry across Nickel, Iron Ore and Rare Earths industries
- Experience in operations, flowsheet development, project engineering, R&D and project improvement



**Lisa McGrath**  
GM Environment

- Joined Hastings in October 2021 with over 25 years experience in gold and mineral sands mining
- Over 16 years with Iluka Resources with broad experience across environmental approvals, project delivery, sustainability and business risk



**Valerie Quay**  
Legal Counsel

- Joined Hastings in 2017, with 10+ year experience in cross culture and multi jurisdiction matters in corporate law, management and strategy consulting
- Barrister at Law, Middle Temple UK and Masters in Law (LLM) International Business Transactions and previously at Herbert Smith Freehills London and McKinsey & Co



**Andrew Ford**  
BSc (Hons) AusIMM  
GM Exploration

- Joined Hastings in June 2021 with +30 years of exploration and mine development experience.
- Lead technical teams throughout Australia, as well as Africa, USA, Europe and Asia.
- Previously COO with Rubicon Resources and Peninsula Minerals



**Cathal Smith**  
LLB LLM (UWA), MGA (AGSM)  
Commercial Counsel

- Joined Hastings in March 2022 with +20 years of experience advising clients in the resources and energy sectors.
- Worked extensively international and domestically both in-house and in international law firms



**Dr Lara Jefferson**  
GM Sustainability

- Joined Hastings in July 2016 worked as GM Environment, Permitting and Government Relations before becoming GM Sustainability in 2021
- More than 30 years experience in a variety of environmental roles, including the preparation of environmental approvals, government and stakeholder consultation and compliance and sustainability reporting



**Rachael Ward-Pryce**  
Human Resources Manager

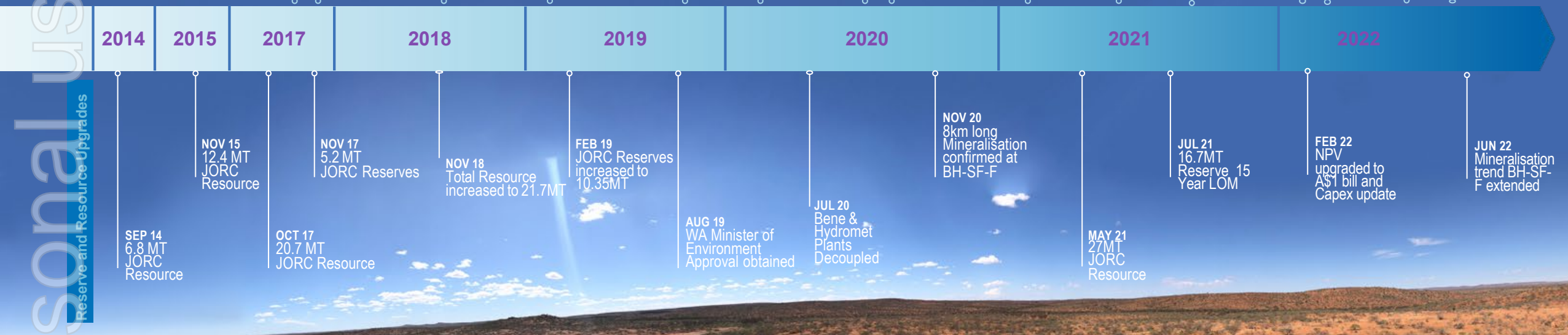
- Joined Hastings in April 2021 with 18+ years experience in all facets of human resources management
- Recruited and built teams for domestic and international operations
- Newmont Australia, Resolute Mining, Iluka Resources, Alcoa





# Yangibana Milestones since 2014

Personal use only  
Project Milestones





# Strategic Purpose

We aim to be Australia's next rare earths producer and play a vital role in supplying the world with its high grade NdPr rare earth



## **Yangibana Rare Earths Project**

*Deliver Mixed Rare Earth Carbonate Product to global market*



## **Yangibana Expansion 1**

Accelerate newly discovered deposits proximal to plant infrastructure thereby increasing mine life



## **Hastings 2.0**

Partner with downstream supply operators so as to deliver rare earth products to end customers



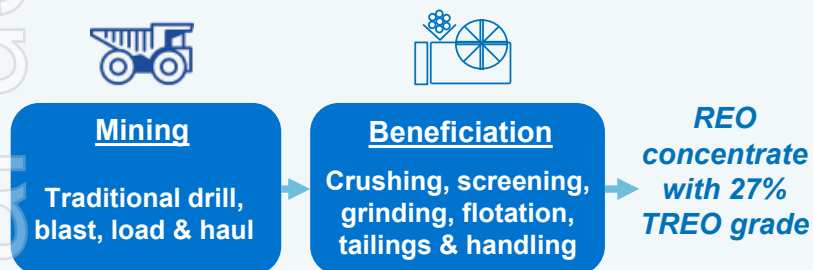
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# Yangibana Rare Earths Project

Proven and de-risked flowsheet delivering high-value MREC product to global market

## Upstream - Yangibana Mine Site and Beneficiation plant

- Located in the Gascoyne Region, Western Australia
- Traditional drill, blast, load & haul mining operation
- Ore Beneficiation (crushing, screening, grinding flotation and tailings handling)
  - Upgrades concentrate to 27% TREO grade
- Final product: REO concentrate will be transported to the Onslow Hydrometallurgical plant



Open pit mining

16.7Mt of Ore Reserves

15-year mine life



## Downstream – Onslow Hydrometallurgical Plant

- Located in the Onslow Region, Western Australia
- Hydromet plant to crack and leach monazite hosted rare earths concentrate using sulphuric acid and heat
- Plant to produce a mixed rare earth carbonate (“MREC”)
- Final product (MREC) concentrated to 59% TREO
- MREC to be shipped to oxide separation facilities currently existing in China, south-east Asia and Europe to produce final RE oxides



Annual MREC production of ~15,000tpa

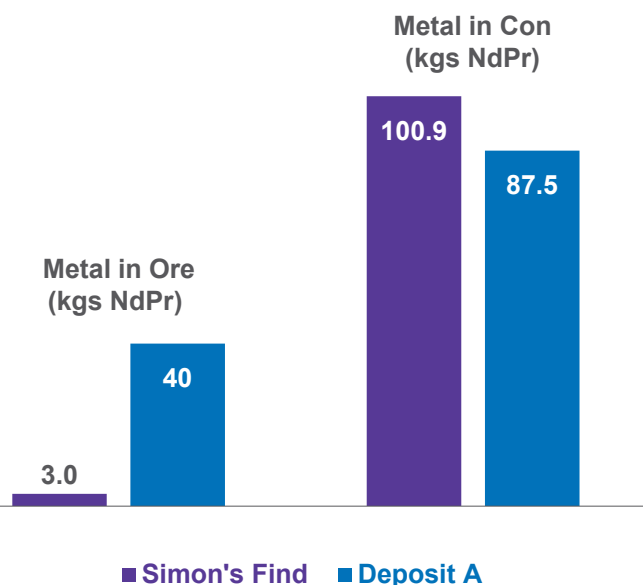
Average NdPr production of ~3,400tpa

# Exceptionally high NdPr composition: Low mine grade to high metal output

Significant NdPr metal output per tonne of MREC

## Simon's Find vs Deposit A

- 28 times lower head grade
- 15% higher metal output



## Simon's Find vs Deposit A

Deposit	Mine Head Grade		
	% TREO	NdPr:TREO	% NdPr
Simon's Find	0.57	52%	0.30

Deposit	Mine Head Grade		
	% TREO	NdPr:TREO	% NdPr
A	16	25%	4.00

 28 times higher  
 9% higher than world Avg  
 13 times higher

## Simon's Find vs Deposit A

Beneficiation Grade		
% TREO Con	% NdPr Con	Bene Upgrade
19.4	10.3	34x

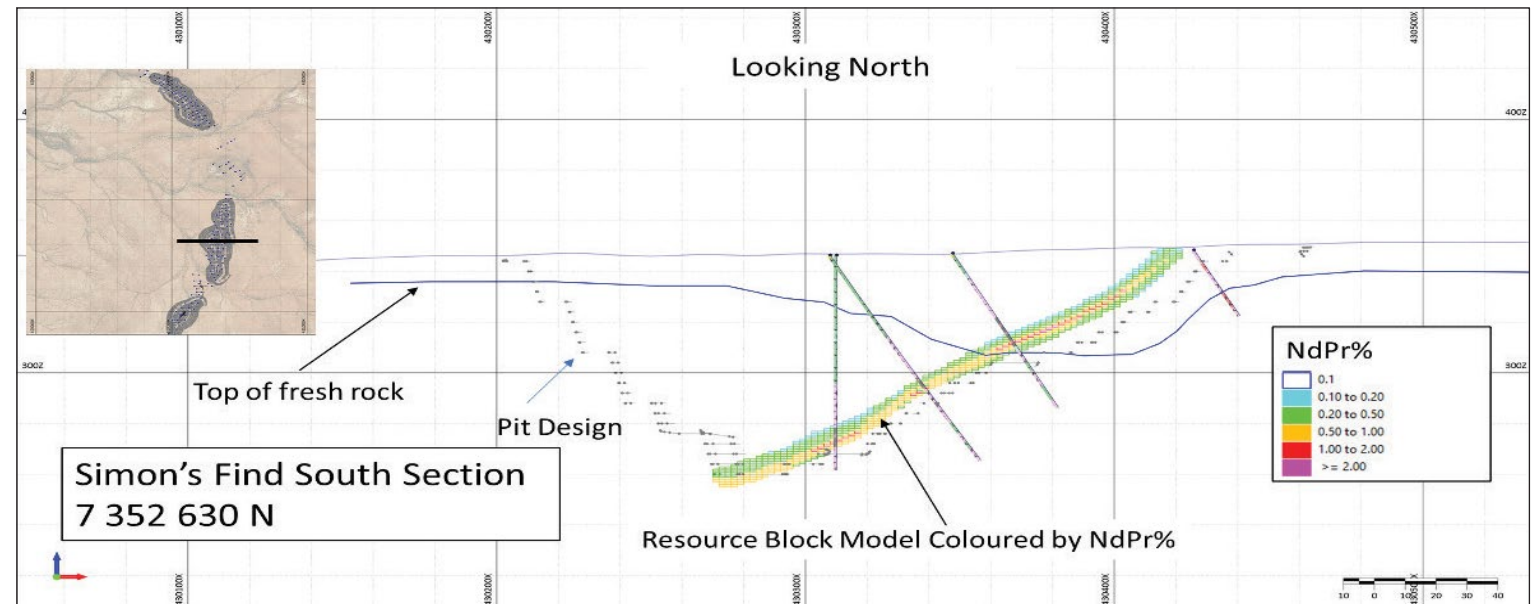
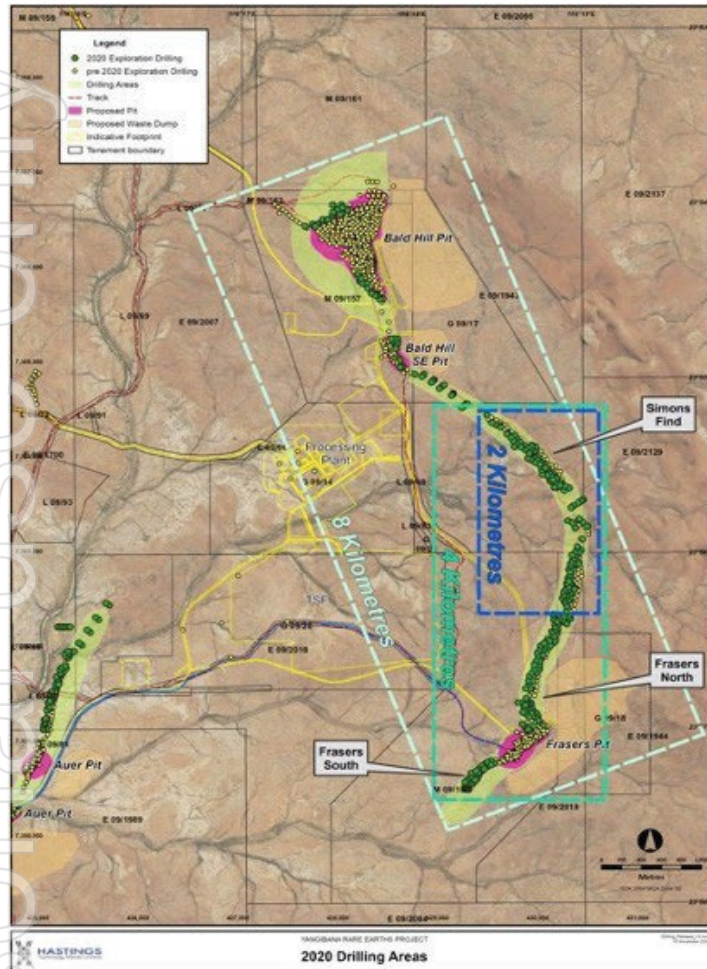
Beneficiation Grade		
% TREO Con	% NdPr Con	Bene Upgrade
35	8.8	2.2x

 1.8 times higher  
 15% lower metal output per ton of concentrate



# Proximity to Plant: 8km long mineralised trend

- 1 Major 8km long zone of economic mineralisation at Fraser's - Simon's Find - Bald Hill, open in all directions
- 2 Simon's Find contains 52% of rare earths as NdPr, provides good strong early cashflows to project
- 3 <sup>1</sup>Recent drilling program completed over 13,000 metres of Reverse Circulation ("RC") drilling, good results received targeting material in close proximity to processing plant

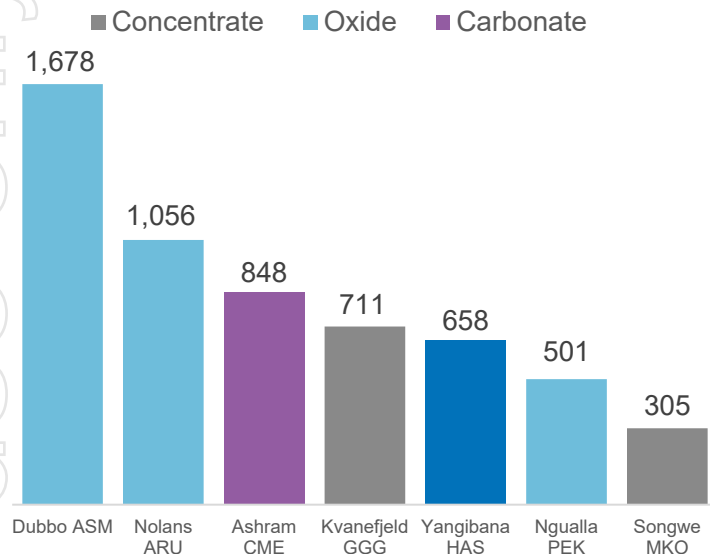


<sup>1</sup> Refer ASX announcement "Drilling Extends Mineralisation with Exceptional Quality" dated 09 June 2022

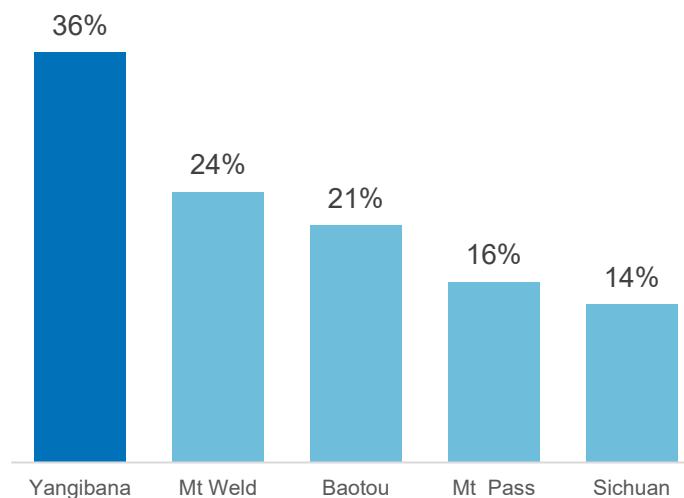
# Yangibana Project

## Exceeding On All Key Metrics

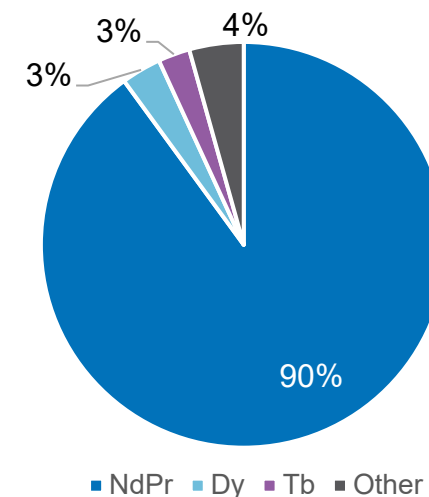
### Low capital development cost (AUDm)<sup>1</sup>



### 36% LoM NdPr content<sup>2</sup>



### NdPr – 90% of expected Yangibana revenues<sup>3</sup>



- AUD658m total capital cost

- Low capital intensity compared to other projects

- 36% LoM NdPr content – surpassing global leaders

- 90% of expected Yangibana revenues to come from NdPr

- NdPr is a key input factor in the green economy

1) Capex numbers for: Songwe sourced from PFS released 23 Sep 2014 - Feasibility Study due in Q1 2022, Ngualla sourced from BFS release 12 April 2017 - BFS optimisation / update commenced in August and is currently ongoing, Kvaneveld sourced from New World Metals Conference - 9 December 2020, Ashram sourced from: NI 43-101 Technical Report revised 7 January 2015, Nolans sourced from Bell Potter Unearthed Natural Resources Conference – 10 February 2022 and Dubbo sourced from Optimisation Study - 7 Dec 2021 (previously 1,297). FX rate of USD:AUD of 0.71 and CAD:AUD of 0.9

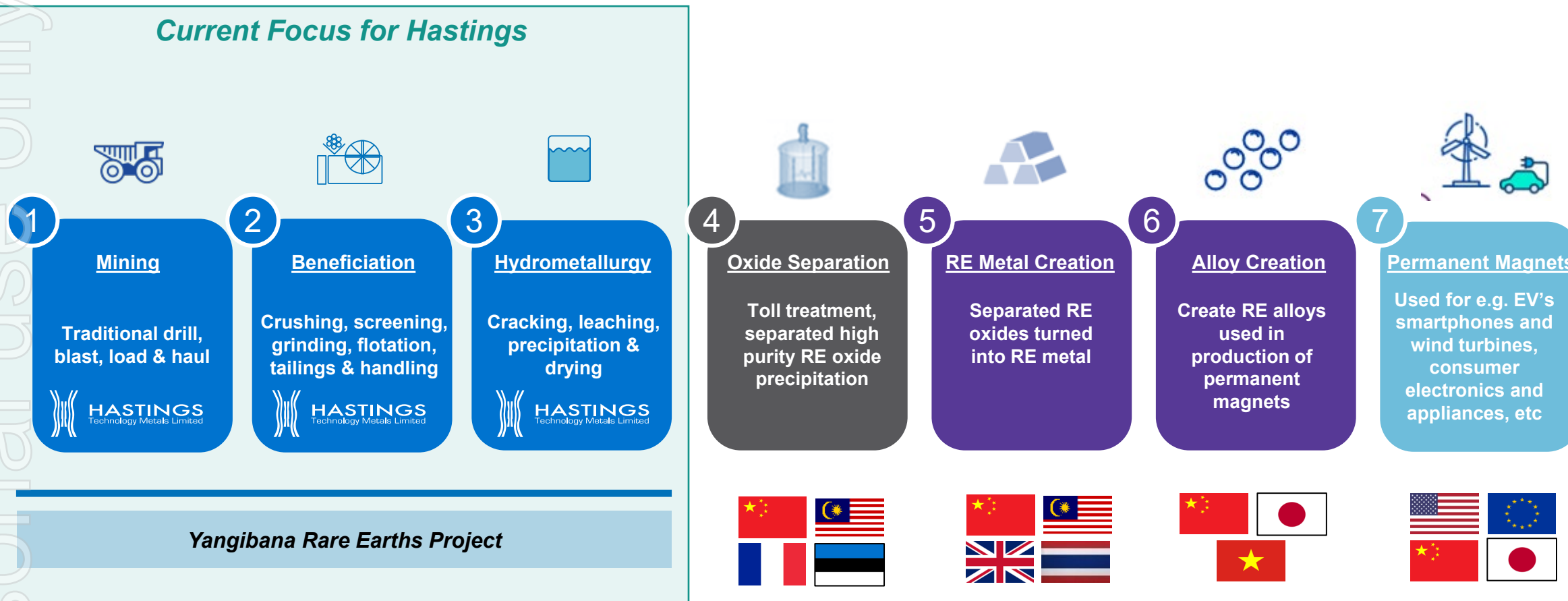
2) Hastings Tech Metals, Thematic Firing, Ord Minnett, 15 December 2020

3) ASX announcement “Yangibana Project NPV8 Increases 84% to A\$1 Billion (post-tax)” dated 21 February 2022

# Value Proposition

Hastings will supply the raw commodities for the permanent magnet production process

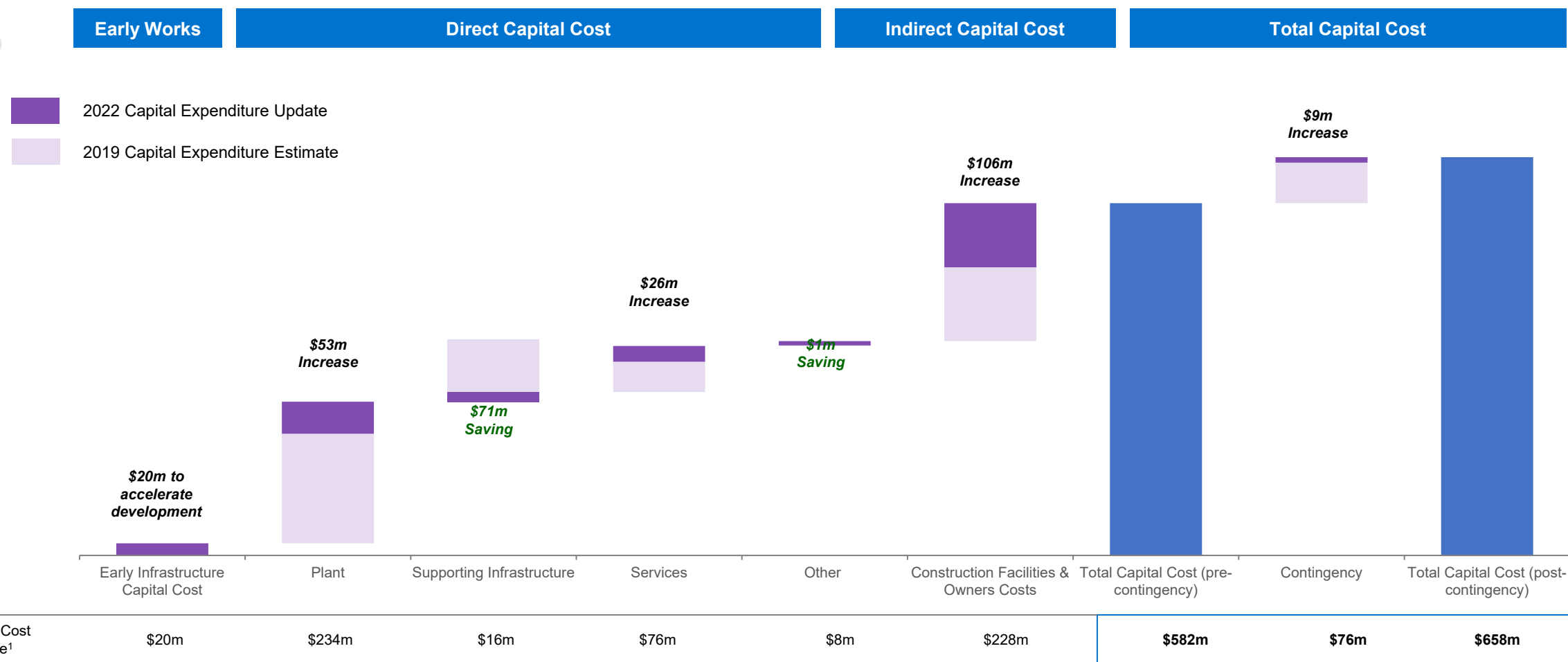
## Current Focus for Hastings





# Yangibana Project – Project Budget

Project is 'shovel-ready' following a comprehensive review and assessment of current inflationary pressures present in Western Australia



<sup>1</sup> Refer ASX announcement "Yangibana Project NPV8 Increases 84% to A\$1 Billion (post-tax)" dated 21 February 2022

# Yangibana Project – Funding

Hastings continues to advance funding discussions and remains on-track to deliver first production from Yangibana in 2024

## Status of Funding Discussions

- Non-recourse project financing discussions initiated in early 2021, A\$140m NAIF loan facility secured in February 2022. US\$130m credit approval obtained from KFW Ipex Bank
- US\$350m Nordic Bond market sounding exercise exceeded expectations
- Funding discussions remain ongoing, with alternative proposals received from strategic parties in recent weeks
- These proposals have the potential to substantially alter the funding mix (i.e. debt versus equity) and provide the opportunity for Hastings to participate downstream via an end-to-end mine to magnet magnet solution
- Hastings continues to evaluate the proposals and expects to be in a position to finalise the preferred funding pathway by the end of Q3 2022
- Hastings has appointed Barrenjoey as financial adviser and King & Wood Mallesons as legal adviser to assist with strategic discussions
- KPMG Corporate Finance is acting as project finance adviser and Herbert Smith Freehills as legal adviser in relation to the project finance package

## Near-Term Project Execution



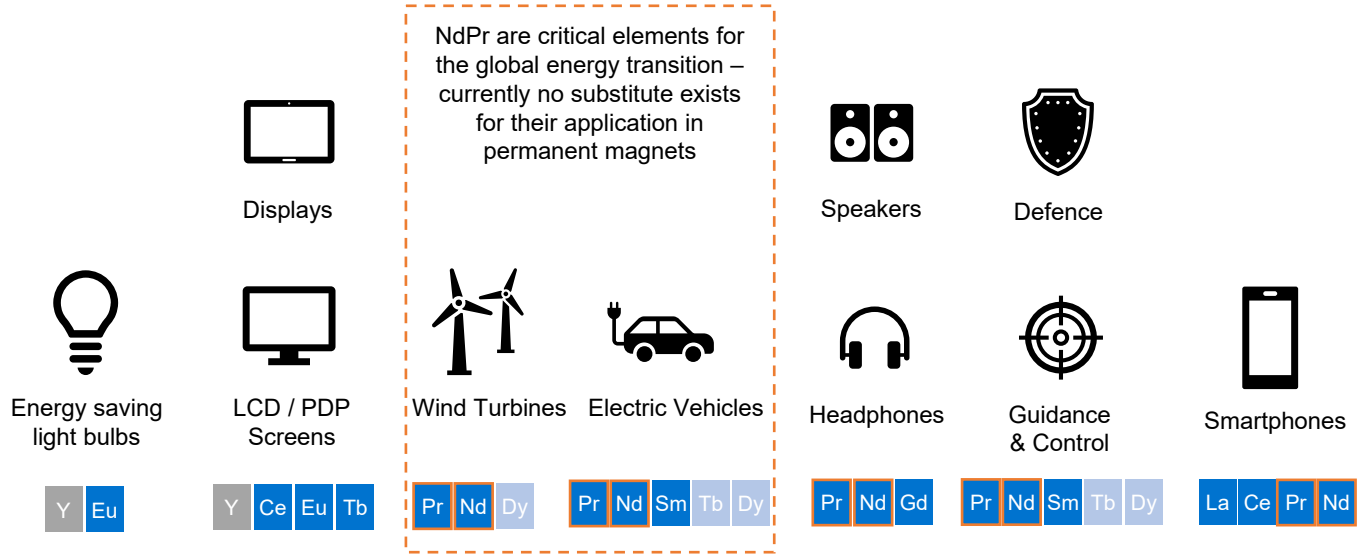
*All funding discussions are preliminary in nature. There is no guarantee that any funding discussions will be forthcoming or would be recommended by the Board or that a transaction will eventuate*

# Rare Earths in the Spotlight

NdPr oxide is a critical input for NdFeB magnets used in Wind Turbines and Electric Vehicles

## Rare Earth Applications

## Significant Support from Governments



**“Australian Government’s Critical Mineral Facility to provide AUD 1.25 billion to fund the development of a domestic rare earth refinery”**



**“The economic importance of the rare earths value chain becomes obvious by looking at the emerging electric vehicle market”**



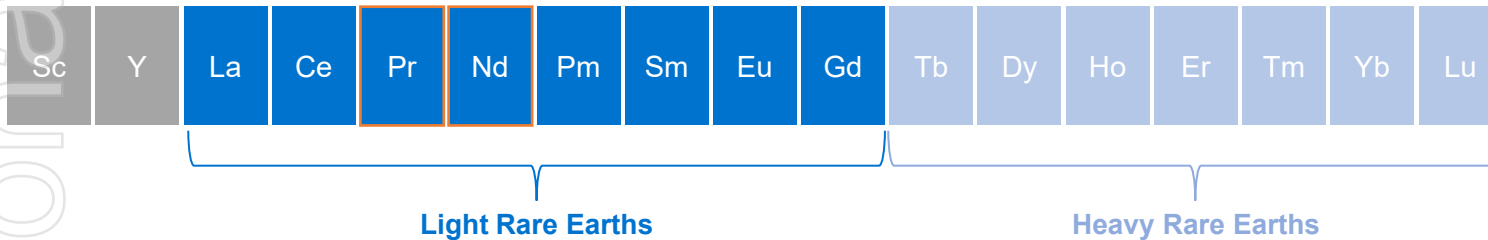
**“The European Commission considers rare earths to be amongst the most resource-critical raw materials”**



**“U.S. needs more mines to boost rare earths supply chain, Pentagon says”**



**“This project [Yangibana] will help meet the growing global demand for critical minerals, supporting Australia’s position as a world-leading producer”**



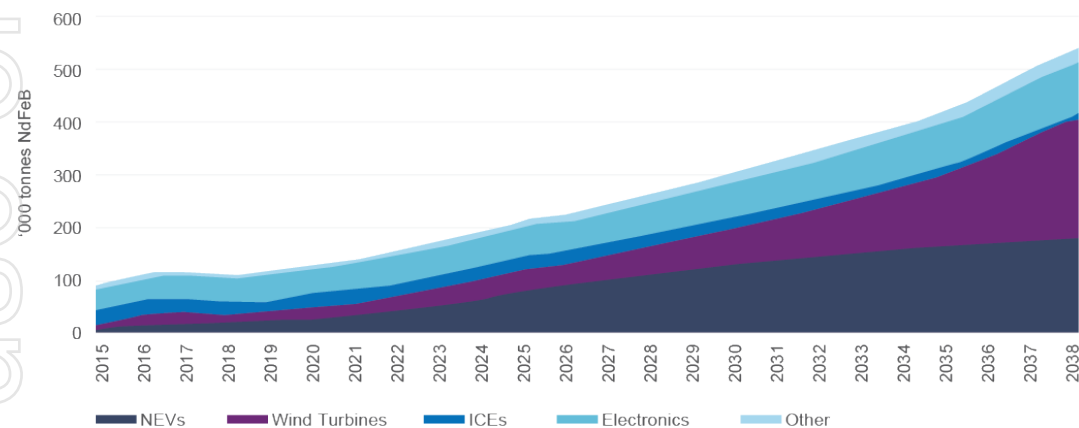
Source: 1) Rare Earth Magnets and Motors: A European Call for Action. A report by the Rare Earth Magnets and Motors Cluster of the European Raw Materials Alliance. Berlin 2021, Reuters, Asia financial



# Global Supply Deficit Approaching Reality

Market for NdPr will be in deficit over coming decade due to strong demand growth

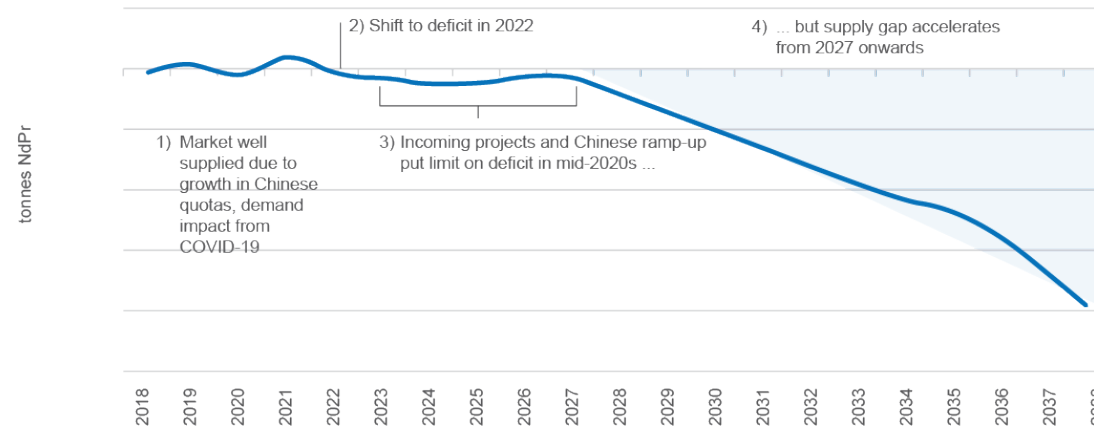
## NdFeB Demand



Global NdFeB demand will increase 3.9x over the period 2021-2038 (CAGR 8.3%)

Source: Rare Earths Market Outlook, CRU International Ltd, August 2021  
ICE = Internal combustion engine

## NdPr market imbalance



Sizeable supply gap emerges in later part of this decade due to time lag in new mine investment

Yangibana expected to supply 6-8% of global NdPr requirements when it comes online

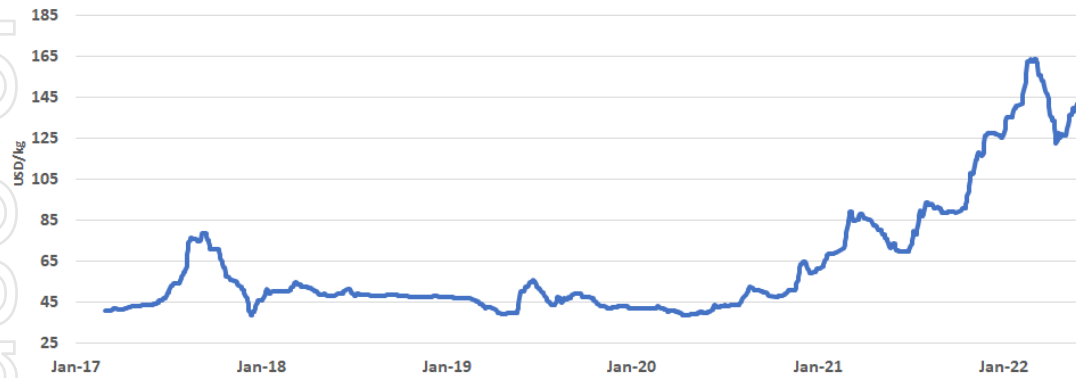
(Yangibana = 3.750 Kt p.a./ Market Demand 58.0 Kt p.a. (source CRU Jan 2021))

Source: CRU

# NdPr Prices Increasingly Resilient

## NdPr Oxide Price (5 years to March 2022)

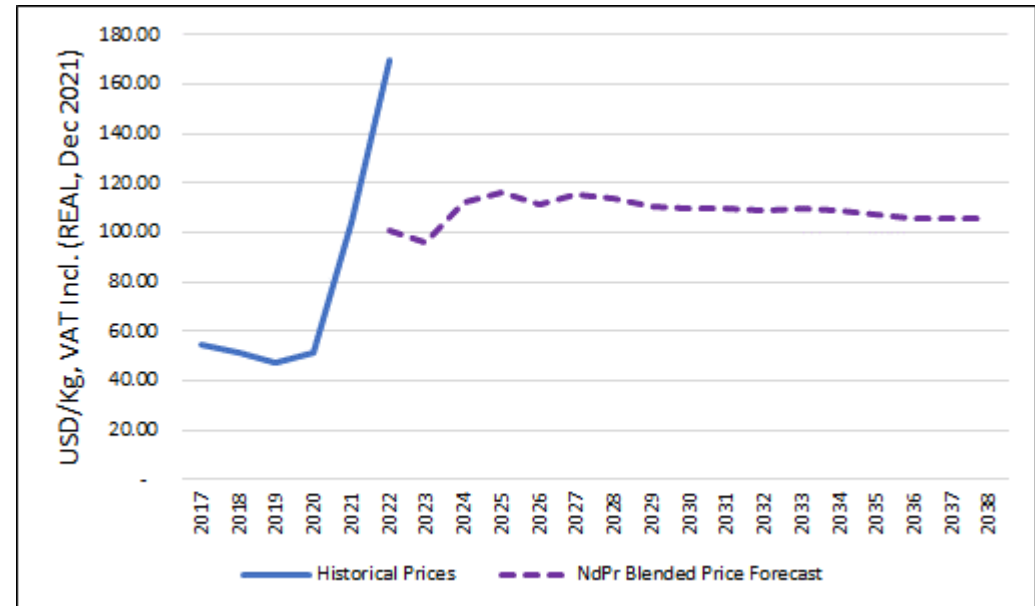
Pr6O11 25%, Nd2O3 75% ExW China



NdPr Oxide prices have seen continued strength into 2022 now over US\$140 per kg (incl. VAT)

Source: Asian Metals, 28 June 2022

## NdPr Price Forecast 2022 to 2038



Forecast prices show continued strengthening during Yangibana construction and operations

Source: Source: Blended price forecasts prepared by Hastings incorporating:

- Adamas (Rare Earth Magnet Market Outlook to 2030), April 2021
- Wood Mackenzie (Rare Earth Markets 2021: Outlook to 2050), December 2021
- CRU Report Commissioned by Yangibana Project Finance Lenders, August 2021

# Updated DFS Key Metrics<sup>1</sup>

Hastings Revised issued February 2022

<b>NPV<sub>8</sub> (post-tax)</b>	A\$1,012M
<b>IRR / Payback</b>	26% / 2.7 years
<b>Capex</b>	A\$658M (incl. 13% Contingency)
<b>NdPr Oxide Price</b>	US\$112/kg (average LOM)
<b>Average Annual EBITDA</b>	A\$295M p.a.
<b>Opex</b>	A\$24.17/kg TREO (real, January 2022)
<b>Initial Mine Life</b>	15 Years

<sup>1</sup> Refer ASX announcement "Yangibana Project NPV8 Increases 84% to A\$1 Billion (post-tax) dated 21 February 2022"



## Ore Reserve

16.70 Mt @ 0.95% TREO and  
0.35% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>



## Mineral Resource (M/I/I)

27.42 Mt @ 0.97% TREO and  
0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>



## Production

Mixed Rare Earth Carbonate: 15,000 tpa  
Containing NdPr Oxide: ~3,400 tpa



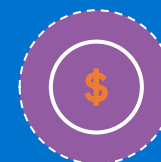
## Mining

15 year Life of Mine  
1.2 Mtpa ore feed



## Opex

Opex: A\$24.17 per kg TREO



## Total Free Operating Cash Flow

A\$4,376 M

# Yangibana Project – NPV Sensitivity Analysis

Updated DFS demonstrates strong improvement in project NPV with upside/downside to key input variables being demonstrated below

## Foreign Exchange Rate

### Revised NPV

Model assumption – Jan 2022 Fwd

- |                     |            |
|---------------------|------------|
| • AUD\$1 :USD\$0.64 | A\$1,106 M |
| • AUD\$1 :USD\$0.75 | A\$728 M   |

## Capex

Model assumption – A\$582m (excl. contingency)

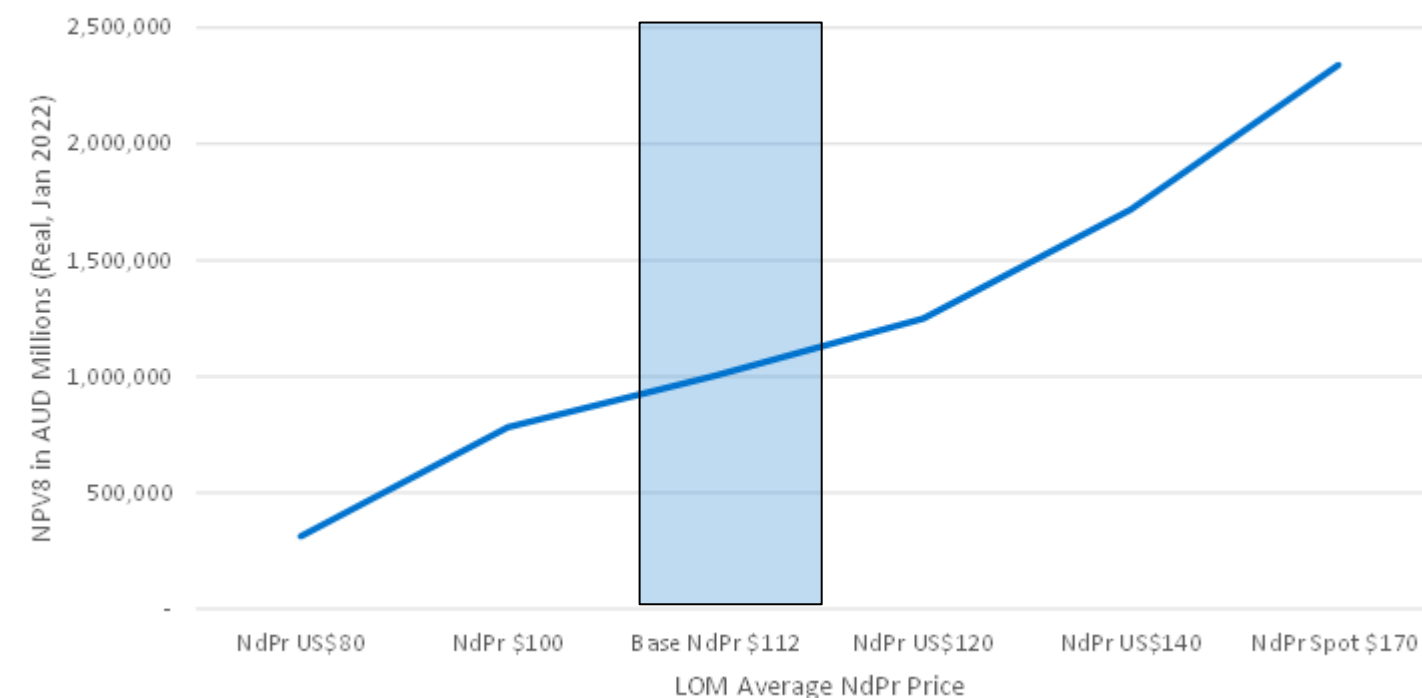
- |         |            |
|---------|------------|
| • - 10% | A\$1,029 M |
| • + 10% | A\$948 M   |

## Plant Recoveries

Model assumption -

- |        |            |
|--------|------------|
| • + 1% | A\$1,059 M |
| • - 1% | A\$947 M   |

## Yangibana Rare Earths Project NPV8 Sensitivity to NdPr Oxide Prices






<sup>1</sup> Refer ASX announcement "Yangibana Project NPV8 Increases 84% to A\$1 Billion (post-tax)" dated 21 February 2022



# Offtake Contracts

~70% of production contracted for 10 yrs with strong offtake counterparties

Counterparty	 thyssenkrupp	SKYROCK	SCHAEFFLER
Counterparty	thyssenkrupp Materials Trading GmbH (“TMT”)	Baotou Sky Rock Rare Earth New Materials Co., Ltd (“Skyrock”)	Schaeffler Technologies AG (“Schaeffler Tech”)
Counterparty headquartered	Essen, Germany 	Inner Mongolia, China 	Herzogenaurach, Germany 
Counterparty website	<a href="https://www.thyssenkrupp-materials-trading.com/">https://www.thyssenkrupp-materials-trading.com/</a>	<a href="http://skyrockre.com/en/">http://skyrockre.com/en/</a>	<a href="https://www.schaeffler.com/fork/">https://www.schaeffler.com/fork/</a>
Agreement type	Binding framework offtake contract. Take or pay once TMT has arranged end buyers for Hastings MREC from its global RE magnet customers. (Hastings take TMT credit risk.)	Offtake agreement (take or pay). Bankability is supported by an irrevocable LC prior to shipment.	Master agreement for long term supply of MREC signed ahead of project agreement to be signed (for European mine to magnet supply chain).
Counterparty details	TMT is a 100% subsidiary of thyssenkrupp AG. TMT is a leading raw material trading company specialising in trading and complex logistics for raw and finished materials. TMT has 480 sites globally. thyssenkrupp AG has a market capitalisation of USD 5.3 billion <sup>1</sup> and a BB- credit rating.	Skyrock specialize in the production, research and development of rare earth metals and high temperature NdFeB permanent magnetic materials.	Schaeffler Tech is a subsidiary of Schaeffler AG and a leading German global automotive components Tier 1 supplier. Schaeffler is planning to develop a European rare earth magnets supply chain. Schaeffler AG has a market capitalisation of USD 4.1 billion <sup>1</sup> and a credit BB+ credit rating.
Agreement term	10 years from production start	5 Years from November 2018	13 years from production start
Quantity	Year 1-5: 9,000tpa MREC Year 6-10: 5,000tpa MREC	Year 1-5: 2,500tpa MREC	Quantities to be agreed between Hastings/Schaeffler Tech.

<sup>1</sup> Refer ASX announcement “Hastings Signs Off-Take Contract with Sky Rock Rare Earth New Materials Co Ltd”, dated 29 Nov 2018

<sup>2</sup> Refer ASX announcement “Hastings Signs Long Term Master Agreement with German Automotive Tier 1 Supplier, Schaeffler Technologies AG”, dated 3 June 2020

<sup>3</sup> Refer ASX announcement “Hastings Signs Major Offtake with thyssenkrupp Materials Trading GmbH”, dated 20 April 2021

# Sustainability At the Core of All We Do

Committed to playing a key role in the push for a more sustainable world



## Transparent reporting – Maiden sustainability report released

- Guided by Global Reporting Initiative (GRI) Standards, including the Mining and Metals Sector Disclosure Supplement
- Materiality assessment prioritised topics that matter to our stakeholders

Comprehensive due diligence audits completed as part of project finance loan terms

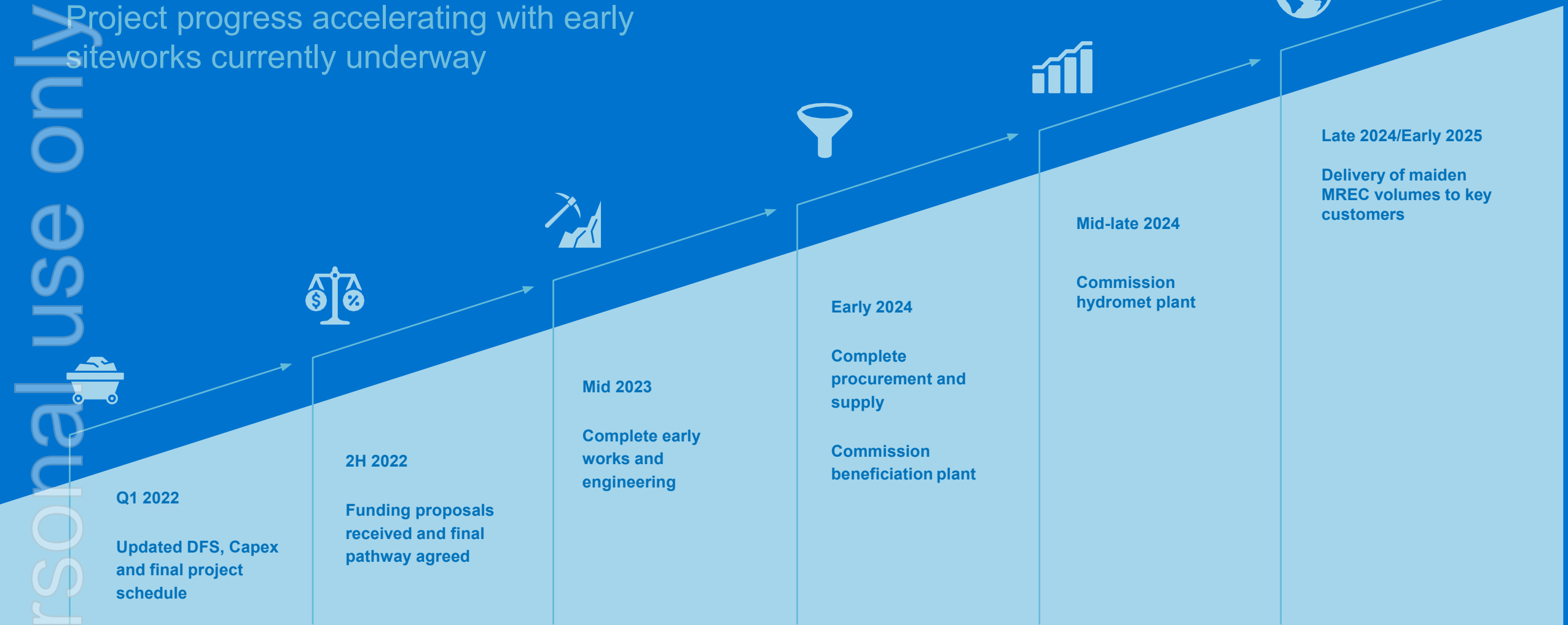
2022 Annual Report will include climate-related financial disclosures aligned with the Task Force for Climate Related Disclosures (TCFD) recommendations

ESG Committee established – continuous work

Voluntary Native Title Agreement – foundation of Traditional Owner engagement

# Yangibana Project Upcoming Milestones

Project progress accelerating with early siteworks currently underway



ersonal use only



# Appendix A

## Yangibana Project Additional Materials



# Mineral Resources and Reserves

## Yangibana Project – Total JORC Mineral Resources <sup>(1)</sup>

AS AT 30 JUNE 2021

Category	Million Tonnes	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>	TREO Tonnes
Measured	4.9	1.01	0.38	49,442
Indicated	16.24	0.95	0.33	154,750
<b>Sub-total</b>	<b>21.14</b>	<b>0.97</b>	<b>0.34</b>	<b>204,192</b>
Inferred	6.27	0.99	0.31	62,225
<b>TOTAL</b>	<b>27.42</b>	<b>0.97</b>	<b>0.33</b>	<b>266,417</b>

## Yangibana Project – Total JORC Ore Reserves as <sup>(2)</sup> <sup>(3)</sup>

AT 30 JUNE 2021

Deposit	Mt	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub> as % of TREO
Bald Hill	6.75	0.86	0.34	39
Fraser's	1.40	1.09	0.47	43
Simon's Find	1.72	0.57	0.30	52
Auer	2.07	0.96	0.35	35
Yangibana	1.39	0.79	0.37	47
Yangibana North	4.10	1.31	0.34	26
<b>TOTAL</b>	<b>17.42</b>	<b>0.95</b>	<b>0.35</b>	<b>38</b>

Category	Mt	%TREO	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub>	%Nd <sub>2</sub> O <sub>3</sub> +Pr <sub>6</sub> O <sub>11</sub> as % of TREO
Proved	4.81	0.99	0.38	41
Probable	12.61	0.93	0.34	43
<b>TOTAL</b>	<b>17.42</b>	<b>0.95</b>	<b>0.35</b>	<b>38</b>

- (1) Refer ASX announcement "Yangibana Project updated Measured and Indicated Mineral Resource Tonnes up by 54%, TREO oxides up 32%", dated 5 May 2021
- (2) Refer ASX announcement "Yangibana Rare Earths Project Significant Ore Reserve Tonnes increase of 37%, NdPr Tonnes up 18% to 58Kt", dated 27 July 2021
- (3) Refer ASX announcement "Hastings to Acquire 30% Yangibana Joint Venture Interest from Cadence Minerals Plc" dated 23 June 2022

# Project Flow Sheet Extensively Tested

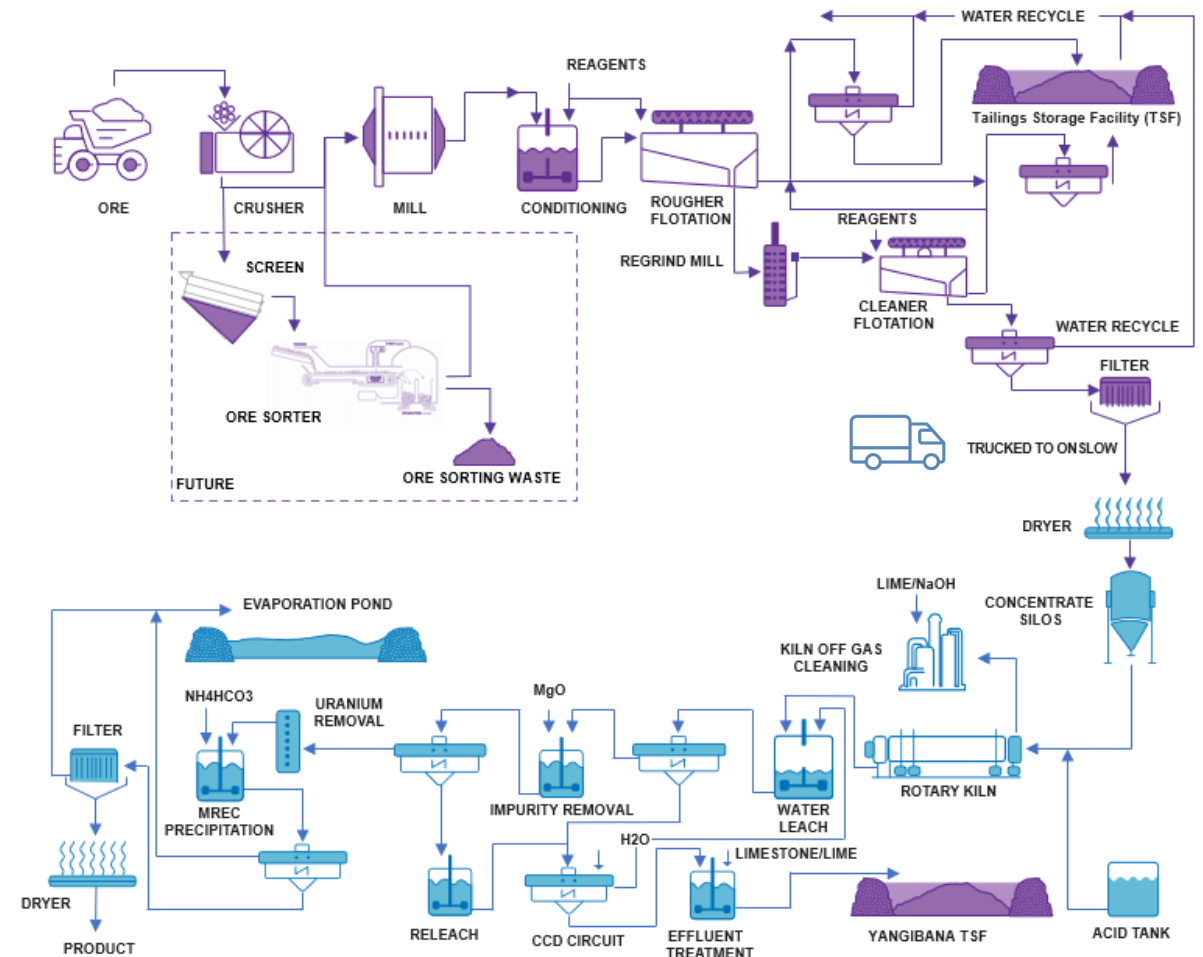
## Yangibana: Beneficiation plant

- The conventional beneficiation process at Yangibana consists of crushing, XRF ore sorting, grinding, regrinding and flotation
- The plant recovers a REO concentrate with an estimated grade of 27% TREO with a projected recovery to concentrate of 87.7% from a feed grade of approximately 1.23% TREO
- A life of mine average of 37 ktpa of REO concentrate will be produced at Yangibana and then transported to Onslow in road train trucks with an average of 1 truck per day

## Hydrometallurgical plant

- The Hydrometallurgical plant process flowsheet consists of acid bake, water leach, impurity removal and MREC product precipitation
- The plant's location is close to the Horizon power station grid and AGIG gas pipeline, access to water is via the Water Corp bore field located adjacent to the power station
- The Hydrometallurgical plant will have a capacity of 15,000 tpa of a MREC concentrate at a MREC grade of 59%. Total contained TREO content capacity is 8,500tpa
- The process flowsheet of the beneficiation and hydrometallurgy plants was developed by Robin Zhang (ex Lynas Senior Technical Services Manager & Senior Project Development Manager). It was peer reviewed by Michael Vaisey, Lynas' ex-VP Research and Technology

## Project flow sheet





# Project Overview

## Operational Fly Camp supporting early construction workforce



Figure 1. Yangibana Fly Camp



Figure 2. Yangibana Fly Camp



Figure 3. Permanent village site clearing at Yangibana

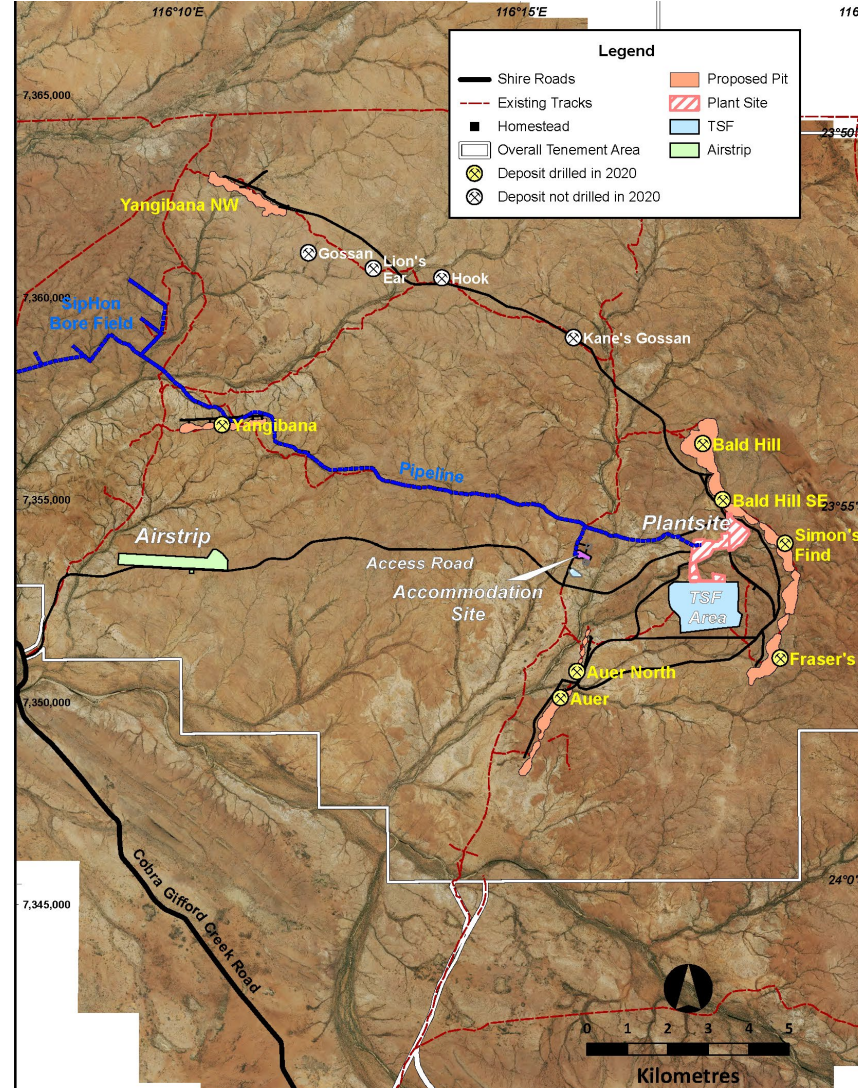


Figure 5. First blast initiated at Yangibana



Figure 6. First blast successfully completed and ready for excavation.



Figure 4. Turkeys nest for construction water



# MREC Concentrate – Product Composition

## High value rare earths

Approximately 90% of Yangibana's MREC concentrate revenue is high value NdPr

- High value Terbium and Dysprosium represent 5.6% of MREC concentrate revenue
- High value rare earth element concentrate compositions leads to Yangibana having a high basket price / high margin project

## Toll treatment of oxide separation

The MREC that is produced at Onslow will be packed in 1 tonne bulker bags, containerised up to 40' containers and exported to oxide separation facilities that currently operate in China, Vietnam and Thailand

- A toll treatment price through the facilities utilised in China, Vietnam and Thailand will be applied to separate the MREC concentrate into separate oxides

## Yangibana MREC Product Composition and Revenue split

RE composition	Name	Hastings MREC composition %	Current Prices (28 June 2022) (USD/kg)	LOM NdPr Revenue (USDm)	% Revenue
Y <sub>2</sub> O <sub>3</sub>	Yttrium oxide	0.6%	12.44	5	0.1%
CeO <sub>2</sub>	Cerium oxide	41.7%	1.24	125	1.8%
La <sub>2</sub> O <sub>3</sub>	Lanthanum oxide	11.2%	1.17	45	0.7%
Pr <sub>6</sub> O <sub>11</sub>	Praseodymium oxide	8.0%	144.96	856	12.4%
Nd <sub>2</sub> O <sub>3</sub>	Neodymium oxide	32.6%	144.96	3,307	47.8%
NdPr Oxide	Neodymium-Praseodymium oxide		139.80	2,063	29.8%
Sm <sub>2</sub> O <sub>3</sub>	Samarium oxide	3.3%	3.31	16	0.2%
Eu <sub>2</sub> O <sub>3</sub>	Europium oxide	0.7%	28.60	34	0.5%
Gd <sub>2</sub> O <sub>3</sub>	Gadolinium oxide	1.4%	79.93	67	1.0%
Tb <sub>4</sub> O <sub>7</sub>	Terbium oxide	0.1%	2,123.00	175	2.5%
Dy <sub>2</sub> O <sub>3</sub>	Dysprosium oxide	0.3%	372.46	219	3.1%
Ho <sub>2</sub> O <sub>3</sub>	Holmium oxide	0.0%	197.77	4	0.0%
Er <sub>2</sub> O <sub>3</sub>	Erbium oxide	0.0%	53.26	1	0.0%
Tm <sub>2</sub> O <sub>3</sub>	Thulium oxide	0.0%	0.00	0	0.0%
Yb <sub>2</sub> O <sub>3</sub>	Ytterbium oxide	0.0%	16.76	0	0.0%
Lu <sub>2</sub> O <sub>3</sub>	Lutetium oxide	0.0%	774.71	0	0.0%
<b>MREC Basket Price</b>		<b>US\$ per kg</b>	<b>\$64.95</b>		



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