

### **Peak Resources**

**INVESTOR PRESENTATION - UK** 

October 2017



the number you need to remember

#### Disclaimer



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#### **Competent Person Statements**

The information in this report that relates to Exploration Results is based on information compiled and/or reviewed by David Hammond, who is a Member of The Australian Institute of Mining and Metallurgy. David Hammond is the Technical Director of the Company. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity which he is undertaking to qualify as a Competent Person in terms of the 2012 Edition of the Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves. David Hammond consents to the inclusion in the report of the matters based on his information in the form and content in which it appears.

The information in this statement that relates to the Mineral Resource Estimates is based on work conducted by Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimate. Rod Brown is a Member of The Australian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as Competent Person in terms of the Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition).Rod Brown consents to the inclusion of such information in this report in the form and context in which it appears.

The information in this announcement that relates to Ore Reserve estimates was based on information compiled by Ryan Locke, a Principal Consultant with Orelogy Consulting Pty Ltd, Orelogy are an independent consultant to Peak Resources. Ryan Locke, who is a Member of the Australasian Institute of Mining and Metallurgy, has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and 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, Mineral Resources and Ore Reserves'. Ryan Locke consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this report that relates to metallurgical test work results is based on information compiled and / or reviewed by Mr Roy Gordon who is a Member of The Australasian Institute of Mining and Metallurgy. Roy Gordon is the Metallurgist of the Company and has sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Roy Gordon consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to infrastructure, project execution and cost estimating is based on information compiled and / or reviewed by Lucas Stanfield who is a Member of the Australian Institute of Mining and Metallurgy. Lucas Stanfield is the General Manager - Development for Peak Resources Limited and is a Mining Engineer with sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Lucas Stanfield consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.











- Executive Summary
- The Asset & Business Model
- The Market
- The Asset Update- Economics post BFS/ Process Optimisation
- The Company Strategy
- The Investment Proposition
- Appendices





#### Peak Resources - where top class rare earth experience meets with a world class deposit and a perfect alignment with the market

#### • NdPr "the" raw material for Permanent Magnet Motors, the heart of the next industrial revolution

- NdPr demand doubling by 2025, driven by e-mobility demand growth and alternative energy
- **90% of Peak's future revenue from NdPr**, perfectly aligned with highest value segment of the rare earth market
- **Sustained increases** in NdPr rare earth prices
- **Ngualla a world class asset**, one of the world's largest & highest grade NdPr deposits
- **Strong management team**, extensive operational, commercial rare earth experience and industry network
- Peak to become one of the world's lowest cost rare earth producers based on the delivered BFS results
- Perfect timing in the market to bring incremental capacity online with demand momentum

You have seen the effect the rapidly expanding e-mobility market has had on Lithium and Cobalt – well we think NdPr is next

#### NGUALLA UNDERSTOOD - DE-RISKED - COMPETITIVE - MANAGEABLE - READY TO BE DELIVERED









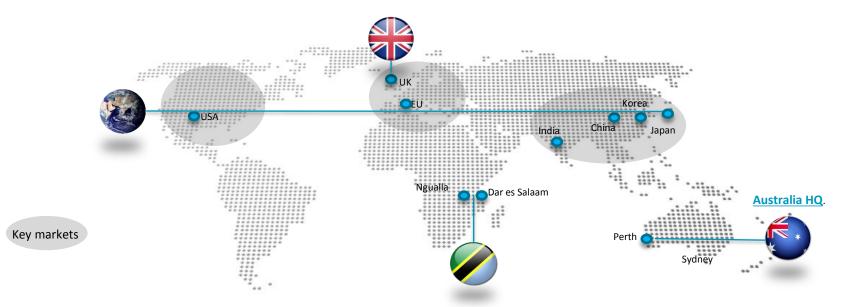


# Peak to become one of the world's lowest cost rare earth producers. With a CAPEX of only US\$ 366 million incl. 15% contingency and OPEX of US\$ 91 million p.a.\*



#### **UK** Tees Valley the location of Peak's Rare Earth Refinery

- Capex: US\$ 165 million incl. 15% contingency plus 5% owners costs Opex: US\$ 40million p.a.
- Location: Top logistics infrastructure + skilled labour + sustainable waste management facilities
- Production: Oxide =2,810 tpa NdPr 2N; Carbonate = 7,995 tpa La; 3,475 tpa Ce & 625 tpa SEG/HRE



#### Tanzania Ngualla Project, one of the largest and highest grade undeveloped NdPr deposits worldwide

- Ore Reserve of 18.5 million tonnes at 4.8% REO; 22% of the total Mineral Resource
- Capex: US\$ 201 million incl. 15% contingency plus 5% owners costs; Opex: US\$ 51 million; 26 year life of mine; Mill feed rate 711,000 tpa; Strip ratio 1.77; 32,700 tpa of 45% rare earth concentrate

\*See ASX Announcement <u>"Higher grade Resource for Ngualla nearly 1 million</u>" and ASX Announcement "Ngualla Rare Earth Project – Updated Ore Reserve" as of 12 April 2017 and : "BFS positions Ngualla one of worlds lowest cost RE Projects" as of 12 April 2017 and : "Process optimisation study boosts Ngualla's operating margin" as of 28 August 2017





#### ENABLING LOW CARBON TECHNOLOGIES

More than 30 different NdFeB magnet applications are in a regular car using NdPr, which is equivalent to approx 200gr NdFeB Magnets. A hybrid vehicle contains between 1.5-3kg NdFeb magnets, 1/3 of this is pure NdPr oxide.

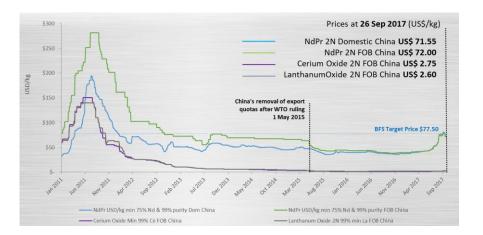


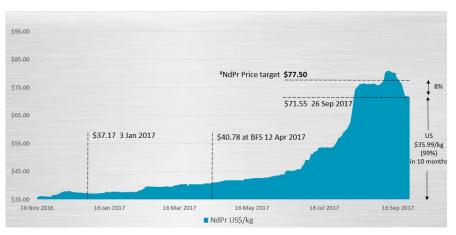


PEAN



After more than 6 years of declining prices, we believe that the recent price increases in 2017 support our understanding of demand projections and the Chinese Government actions against illegal production





### After 6 years of declining prices...

In October 2016, China's Ministry of Industry and Information Technology released its Rare Earth Industry Development Plan which aims to restrict rare earth production, refining and raw mineral exports. Since the end of Q4-2016, the Chinese government has cracked down on illegal mining and non-compliant environmental operations, reducing the total production capacity and output.

Furthermore, the <u>Chinese Resources tax</u>, which has not yet fully materialised in the market, and the <u>upcoming environmental tax</u>, effective in 2018, will be among other governmental initiatives aimed to increase the cost base of the Chinese producers and consequently influence the pricing.

### +84% NdPr YTD

2017 had an exceptional start. The biggest light rare earth producer worldwide, Chinese company Northern Rare Earth Group (known as Baotou) has announced and implemented its <u>8th consecutive</u> price increase since January 2017 (258.5 RMB/US \$37.17) announcing on the 4<sup>th</sup> of September 2017 the new price of 520 RMB/kg NdPr or US \$79.53. In the last few weeks the Market price adjusted and reached 475 RMB/kg or 71.55 USD/kg (27.09.2017).

The above initiatives and continued efforts of the Chinese government to monitor more stringent compliance of the upstream business with the existing environmental regulations coupled with the industry trends on the demand side suggests that this is the turnaround.

\*Target price which is required to realise the same financial performance as communicated in the BFS incorporating the process improvements of the "Process optimisation study boosts Ngualla's operating margin" dated 28 August 2017 Source: Asian Metal Chinese Domestic NdPr oxide 2N price Prices incl. VAT – calculated using daily exchange rates





#### NdPr-Permanent Magnet Motors obtain now close to 100% Market share among electrified vehicles



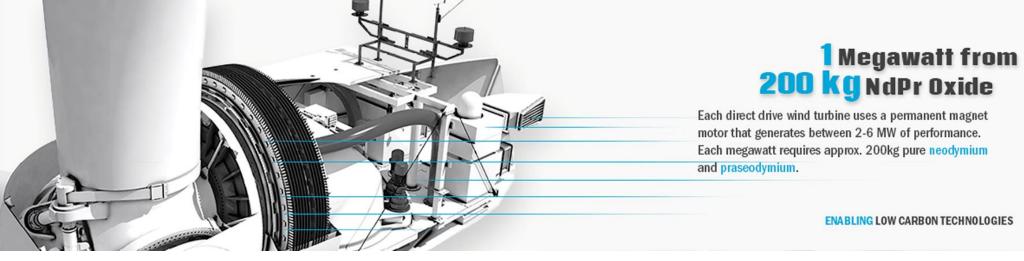
### Tesla has decided to change it's Motor technology. Tesla Model 3 is using a NdPr Permanent Magnet Motor!

The recently published <u>EPA documents</u> of the Model 3 confirm that instead of their traditional induction motor, Tesla has decided to use a <u>258-HP</u> <u>AC 3-PHASE PERMANENT MAGNET MOTOR</u> in their Model 3. With Tesla coming onboard with Permanent Magnet Motor applications this technology now represents close to **100% market share** in the electrified Motor automotive segment.

The 500,000 already ordered Model 3's of Tesla, of which production recently commenced, will consume a minimum of 600 tonnes incremental new demand of NdPr oxide per year. This is equivalent to 2% of the world's global legal annual produced Nd/Pr oxide - and that's just the beginning! According to Bloomberg, more than <u>120 additional new electric cars</u> are in the pipeline to be launched during the next 2.5 years to join the Model 3.











With the improvements from the process optimisation study, Ngualla requires a lower commodity prices to deliver the original projected financial BFS results

	BFS April 2017#	<b>Process Opt.</b> ^	Improvements
NdDp		1100 77 60 /ka	1100 07 EQ /kg
NAPP Mixed Oxide 2N Min 75% Nd2O3	US\$ 85.00/kg	US\$ 77.50/kg	US\$ 07.50/kg
<b>Lanthanum*</b>	US\$ 04.41/kg	US\$ 03.70/kg	US\$ 00.63/kg
<b>Cerium*</b>	US\$ 02.25/kg	US\$ 02.20/kg	US\$ 00.05/kg
SEG & Mixed Heavy*	US\$ 08.00/kg	US\$ 08.00/kg	US\$ 00.00/kg

\* Oxide equivalent

# See ASX Announcement: "BFS positions Ngualla one of worlds lowest cost RE Projects" dated 12 April 2017

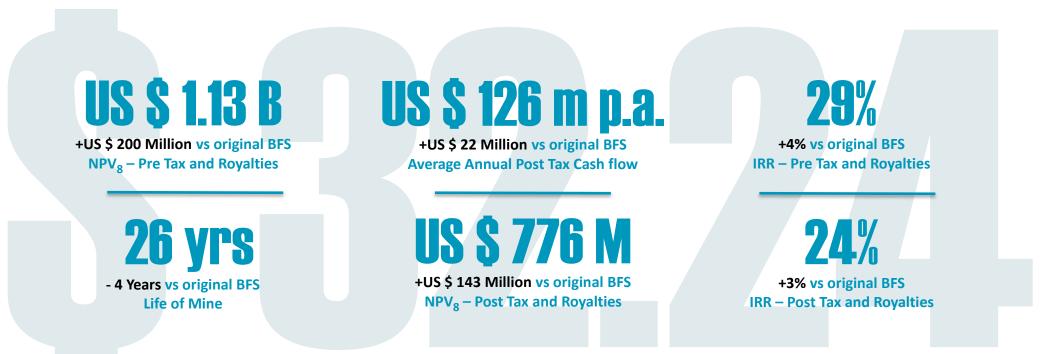
^ ASX Announcement: "Process optimisation study boosts Ngualla's operating margin" dated 28 August 2017 + applying the indicated price deck, Ngualla delivers same financial performance as communicated in the BFS#



The Asset - Updated Key economics post Process Optimisation Study\*



As a result of the recent project optimisation, Ngualla has further improved its already compelling economics



US \$ 32.24 is the breakeven point for positive cash flow only from the projected 2,810t p.a. NdPr sales; OCBRITDA = Operating cost before royalties, interest, tax, depreciation and amortisation. \*See ASX Announcement: "Process optimisation study boosts Ngualla's operating margin" dated 28 August 2017





Peak - a unique proposition where world class rare earth expertise meet with a world class deposit and a perfect alignment with the market

#### FILTERING THROUGH TO THE #1 PROJECT

Globally we have identified 58 rare earth projects. If a project does not fit within the following 4 criteria ... it falls out of the bucket





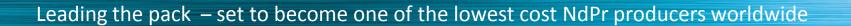
Filter 1: "Does the project have an Ore Reserve or Mineral Inventory?"

Filter 2: "Are the project's REEs hosted by a mineral that has been commercially produced and processed in the past (i.e. bastnaesite, monazite, or xenotime)"? Filter 3: "Does the project aim to separate and purify REE products to market-desired specifications in-house, or are they reliant on a third party to make their products" Filter 4: "Can the project be developed for less than US \$500 million?"

Source: Benchmarketing data provided by: Adamas Intelligence











Peak has one of **the lowest OPEX** as a full integrated producer per kg of NdPr among 58 development projects worldwide<sup>\*3</sup>





Peak has one of **the lowest CAPEX** as a full integrated producer per kg of NdPr among 58 development projects **worldwide**<sup>\*3</sup>

\*2NdPr = Nd2O3 /Pr6O11 Mixed Oxide 2N - min 75% Nd2O3. \*3 Benchmarking data provided by: Adamas Intelligence

# US \$ 32.24 is the breakeven point for positive cash flow only from the projected 2,810t p.a. NdPr sales; OCBRITDA = Operating cost before royalties, interest, tax, depreciation and amortisation. See ASX Announcement: "<u>BFS positions Ngualla one of worlds lowest cost RE Projects</u>" dated 12 April 2017 and ASX Announcement: "<u>Process optimisation study boosts Ngualla's operating margin</u>" dated 28 August 2017











#### Getting the final green lights for Ngualla and looking at additional opportunities

- With the recent receipt of the Environmental Certificate and submission of the Mining Licence application actively engage with the Government of Tanzania to rapidly advance Ngualla through the final permitting process to seek further clarity on recent legislative changes in Tanzania
- Ramp up discussions with potential offtake partners with special focus on magnet manufacturers
- Continue to work on opportunities to further improve the economics of Ngualla
- Continue to evaluate other commodity potential of Ngualla
- Seek strategic partner to fund development of Ngualla

Peak is perfectly positioned with the rising market for NdPr driven by e-mobility and other low carbon technologies. Peak has a project with a comprehensive BFS showing lowest quartile Capex and Opex which positions us as the goto company for exposure to this exciting sector

**NGUALLA UNDERSTOOD** – **DE-RISKED** – **COMPETITIVE** – **MANAGEABLE** – **READY TO BE DELIVERED** 











#### Peak Resources - where top class rare earth experience meets with a world class deposit and a perfect alignment with the market

- Peak is the only rare earth developer who has both deep in-house rare earth manufacturing and sales expertise and has infused this know-how into the engineering design and BFS
- Peak has de-risked the mine to product supply chain through extensive pilot plant operation and testing (> \$5M AUD) combined with real life operational know how and rare earth expertise
- Peak has delivered a BFS and optimised project update that show Ngualla is the leading NdPr development project with its low capital and operating cost and long life
- Peak's track record shows that it has a steady, conservative and deliverable approach
- The management team is well connected in the industry and has a good understanding who the customers are and their requirements

#### Positioning Ngualla for the surge in NdPr demand driven by Electric Vehicles





Nd Pr

# Peak - where top class rare earth expertise meet with a world class deposit and a perfect alignment with the market















# **Appendices**











#### CONFIDENCE THROUGH EXPERIENCE

Peak Resources' management team has extensive operational and commercial rare earth experience and industry networks









#### **Rocky Smith** Chief Operating Officer Development & Interim CEO

Chemist with over 35 years' operations and senior management experience in the mineral processing and chemical engineering sectors. Previously Managing Director of Molycorp's Mountain Pass Rare Earth Complex from 2009 to 2015. Achievements include the delivery of successful expansions resulting in a 230% increase in production capacity over a three year period as well as managing of operation budget in excess of US\$150 million

#### Graeme Scott Chief Financial Officer/ Company Secretary

Fellow of the Association of Chartered Certified Accountants (UK) More than 20 years' experience in professional and corporate roles in both Australia and the UK. Has spent the last 10 years working in the resources sector in CFO and Company Secretarial roles for both ASX and TSX listed companies

#### **Darren Townsend**

Managing Director & transitioning to Non Executive Director

Mining Engineer with 20 years' mining and corporate experience Extensive experience in managing ASX and TSX listed companies. East African experience incl. development of tantalum mine in Mozambique and resource drill out and permitting a niobium project in Kenya Michael Prassas General Manager- Sales, Marketing & Business Dev

Over 15 years' experience in sales and business development. Former Global Account Manager Automotive Catalysis /Sales Manager of Rare Earth Systems for Solvay/ Rhodia.Has been responsible for sales of Rare Earth Mixed Oxides in EMEA Management skills include budget responsibility, project management, building stakeholder relationships and competing priorities in deadlinedriven environments

#### Dave Hammond Technical Director

Exploration Manager with +25 years' technical and management experience in leading teams in Africa and Australia in areas of exploration, resource definition, feasibility studies, permitting and government liaison. Formerly held senior roles with De Grey Mining Ltd and Sons of Gwalia. Previously with Billton/Gencor in Africa. MSc in Mineral Exploration, DIC, BSc (Hons) Geology















#### Peter Harold Non-Executive Chairman

Chemist with almost 30 years' operational and corporate experience in the minerals industry specialising in financing, marketing and business development

Currently Managing Director of Panoramic Resources. Previous senior roles with Spectrum Rare Earths, Shell Australia, Australian Consolidated Minerals Limited and Normandy Mining Limited

#### Jonathan Murray Non-Executive Director

Partner at independent corporate law firm Steinepreis Paganin

Specialising in equity capital raisings, acquisitions and divestments, governance and corporate compliance

Bachelor of Law and Commerce (majoring in accounting)

#### John Jetter Non-Executive Director

Extensive international finance and M&A experience. Former Managing Director, CEO and head of investment banking of JP Morgan in Germany and Austria, and a member of the European Advisory Council of JP Morgan in London Experience in negotiating and executing rare earth off-take agreements Paul Rupia Special Adviser

Currently Chairman of DCB Commercial Bank Plc and has held this role since 2002. He has served in the Government of Tanzania at senior levels as Chief Secretary in the President's Office, Secretary to the Cabinet, Head of Civil Service, Principal Secretary in the Ministry of Foreign Affairs, Permanent Representative of Tanzania to the United Nations, Ambassador to Ethiopia and Deputy High Commissioner in the United Kingdom.

#### **Kibuta Ongwamuhana** Non-Executive Director PR NG Minerals

Leading Tanzanian legal practitioner who specialises in taxation and corporate law. Managing partner of the legal firm, Ako Law in Dar es Salaam and an Advocate of the High Court and Court of Appeal as well as legal consultant to a number of government, nongovernment and private business organisations.





#### Peak is the go to Magnet Metal Rare Earth opportunity on the ASX.



#### **Key Statistics**

Share Price	A\$0.037
Number Of Shares (Undiluted)	547.5M
52 Week Range	A\$0.13- 0.035
Market Capital	A\$20.0M
Cash As At 30 June 2017 Peak Resources*	A\$2.1M
Appian Debt due September 2019 (US\$3.5M)*	A\$4.6M
Enterprise Value	A\$22.5M
Unlisted Performance Rights	8M
Unlisted Options Outstanding (Exercise Prices A\$0.15- A\$0.55)	20.6M

#### **The Share Price**



#### **Top Shareholders**

		Number of Shares	%
1	Appian Pinnacle Holdco Limited	76,965,767	14.06
2	International Finance Corporation	31,846,257	5.82
3	J P Morgan Nominees Australia Limited	27,043,381	4.94
4	Crx Investments Pty Ltd	13,000,000	2.37
5	ERP Strategic Minerals, LLC	12,500,000	2.28
6	HSBC Custody Nominees (Australia) Limited	12,679,574	2.32
7	Sambold Pty Ltd	12,125,000	2.21
8	Wisevest Prt Ltd	10,536,557	1.92
9	Ashabia Pty Ltd	9,200,000	1.68
10	Bushell Nominees Pty Ltd	8,572,401	1.57
	Тор 10	214,468,937	39.18%

#### **Board Members Shareholdings**

3,646,867 shares are held collectively by board members Darren Townsend, David Hammond and Jonathan Murray

\*\$2.8M placement at \$0.04 per share completed in September 2017 accompanied with a 1 for 2 free attaching 12 month \$0.06 option (subject to shareholder approval) 1 for 8 entitlement issue in progress to raise up to a further \$2.7M together with a 1 for 2 attaching option on the same terms as the placement options. Some repayment of debt is due to Appian, amount dependent on total funds raised.





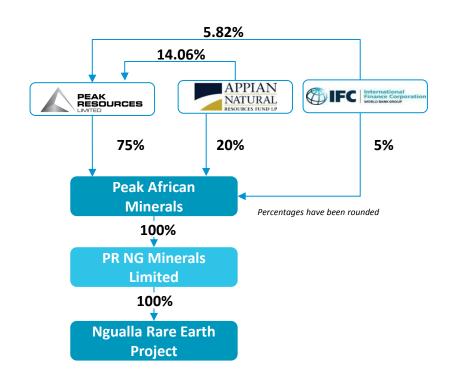
#### **Overview – Appian and IFC Investment**

- Stage 1: received A\$20.3M\*
- Stage 2: received A\$3.1M\*
- Appian and IFC have invested on a 80:20 basis
- Appian and IFC now hold +20% of ASX:PEK, 25% of PAM and have a 2% Gross Revenue Royalty

#### **Appian and IFC**

- Collaborative long-term partners
- Provides financial certainty
- Enables 100% focus on project development and value growth
- Deep operating expertise, including 30+ mines built and managed in Africa
- Tier-one social and environmental practices
- \* US\$ components of the transaction converted at exchange rate of A\$1=US\$0.7222 (RBA rate 22 December 2015)

#### **Investment Structure**













# A unique combination of physical attributes and selected processes drive Ngualla's low operating costs and sustainable credentials

#### **NGUALLA ORE BODY**

- High grade 4.80% REO ٠
- ٠ Large deposit
- Bastnaesite mineralogy ٠
- Mineralisation from surface ٠
- Very low U and Th (14 and 55 ppm) ٠
- Thick blanket morphology ٠
- Low in reagent consuming minerals .

#### **NGUALLA MINE AND PROCESS PLANT**

- Soft, free dig Ore
- Simple, small open pit mine
- Low waste: Ore strip ratio (1.77)
- Zero offsite discharge + water recycle
- High Grade (45% REO), low mass concentrate •
- Proven piloted process

**Right sized project** Low production cost Long life -26 years **Ethically sustainable** High value, separated products NdPr drives 90% of revenue

#### **TEES VALLEY REFINERY**

- Selective leach process
- Low strength acids- no acid roast
- Modular plastic tanks
- Small SX separation plant
- Bulk, low-cost reagents available
- **Pre-existing utilities**
- Existing waste management facilities





Aligned to permanent magnet and EV markets

See ASX Announcement: "BFS positions Ngualla one of worlds lowest cost RE Projects" dated 12 April 2017 and ASX Announcement: "Process optimisation study boosts Ngualla's operating margin" dated 28 August 2017



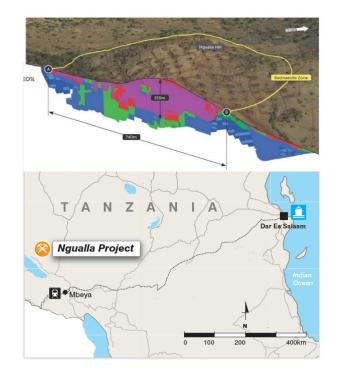


One of the highest grade and largest rare earth deposits in the world with favourable mineralogy supporting its low cost position expected to be in line with the low cost producers from China

#### Highlights

Location: Geology: Ore Reserve: Mining: Processing:	Tanzania Weathered carbonatite with a high grade bastnasite- rich zone, low in phosphate and carbonate 18.5 Mt at 4.80% REO <sup>##</sup> Ore Reserve only 22% of Total Mineral Resource 38,800m of drilling (649 holes) 40 x 50m spacing, depth of 120m Low strip ratio open-pit Proven high grade concentrate 45% REO and selective leach / SX
Environmental Certificate :	Received Mar2017
Mining licence:	Expected in 2017, Environmental Certificate received
Estimated Capex:	US\$ 196 M incl. 15% contingency and 5% owners costs
Life of Mine:	30 years
Mill feed rate:	556,000 tpa dry ore
Rare Earth Concentrate:	28,300 tpa at 45% REO
Mine to harbour:	980 km

#### Continuous, wide high-grade zone



The material assumptions underpinning Ore Reserve, production target, capital and operating costs are disclosed in the ASX Announcement dated 12 April 2017 "BFS positions Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement dated 12 April 2017 "Higher grade Resource for Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement "Higher grade Resource for Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement dated 12 April 2017 "BFS positions Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement dated 12 April 2017 "BFS positions Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement dated 12 April 2017 "BFS positions Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement dated 12 April 2017 "BFS positions Ngualla as one of the world's lowest cost rare earth projects" continue to apply and have not materially changed. ## See ASX Announcement "Higher grade Resource for Ngualla Asy and the sec Asy





#### Tees Valley cost structures compare favourably with those in China

#### Wilton Int. Site, Tees Valley- A "plug and play" solution close to European markets

- Option on the site
- 5<sup>th</sup> largest UK port by volume 40Mt of cargo p.a.
- Competitive chemical (HCL) costs and availability
- Local and National Government Support
  - Corporate tax rate reduced to 18% from 2020
  - Enhanced capital allowance for up to Euro 125 million on qualifying plant and machinery
- Available Waste Disposal and Treatment Facilities
- **Excellent Location:** Road, Rail, Air and Sea Connections and long heritage and industry expertise, ready-skilled, affordable workforce
- Close to UK & European markets (important for the lower value Cerium + Lanthanum); NdPr shipped to Asia and Europe
- **Capex:** US\$ 160 million incl. 15% contingency plus 5% owners costs







Ngualla is host to a thick blanket of high-grade mineralisation at surface – supporting low cost, predominantly free dig open cut mining

### Nd Pr

#### Classification of Mineral Resources for the Weathered Bastnaesite Zone (WBZ) mineralisation at a 1.0% REO cut-off grade<sup>#</sup>

Lower Cut-Off Grade	JORC Resource Category	Tonnage (Mt)	REO (%)*	Contained REO t
1.0% REO	Measured	18.9	4.75	900,000
	Indicated	1.9	4.85	90,000
	Inferred	0.5	4.43	20,000
	Total	21.3	4.75	1,010,000

#### Classification of Mineral Resources for Total All Ngualla Resources at a 1.0% REO cut off grade

Lower Cut-Off Grade	JORC Resource Category	Tonnage (Mt)	REO (%)*	Contained REO t
1.0% REO	Measured	86.1	2.61	2,250,000
	Indicated	112.6	1.81	2,040,000
	Inferred	15.7	2.15	340,000
	Total	214.4	2.15	4,620,000

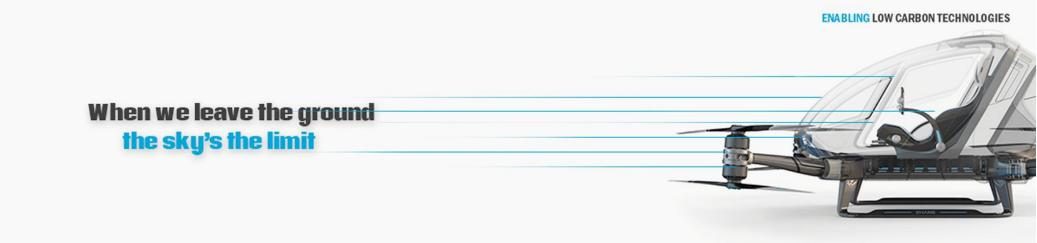
# The Weathered Bastnaesite Zone Mineral Resource >=1% REO is contained within and is a subset of the total All Resources Ngualla Mineral Resources >=1% REO.

\* REO (%) includes all the lanthanide elements plus yttrium oxides. Figures above may not sum precisely due to rounding. The number of significant figures does not imply an added level of precision. See ASX announcement "Higher grade Resource for Ngualla nearly 1M tonnes REO" dated 22 February 2016 for further details. There have been no material change to the rare earth Mineral Resource estimate since this announcement.

The information in this statement that relates to the Mineral Resource estimates is based on work conducted by Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimates to based on work conducted by Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimates. Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimate. Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Mineral Resource Estimate. Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the work conducted by Peak Resources, which SRK has reviewed. Rod Brown takes responsibility for the Reporting of Exploration Results. Mineral Resource Estimate. Rod Brown of SRK Consulting (Australasia) Pty Ltd, and the activities undertaken, to qualify as Competent Person in terms of the Australian Code for the Reporting of Exploration Results. Mineral Resources and Ore Reserves (JORC Code, 2012 edition). Rod Brown consents to the inclusion of such information in the form and context in which it appears.











- China's total annual rare earth mining output to be restricted to no more than 140,000 tpa REO by 2020
- No new mining rights to be issued to companies other than the selected Six State Owned Enterprises
- China solvent extraction refining capacity to be cut by 33% to 200ktpa REO (from 300ktpa REO in 2015)
- Rare earth industry profit margins to be increased to 12 percent
- High end downstream rare earth product market penetration to be increased from 25% to 50%
- Environmental compliance to be increased from 40% to 90% for rare earth operations
- Primary export of rare earth raw materials to be reduced from 57% to 30% of total Chinese production
- Announcement of launching a new environmental tax by 2018

Combined with increasing demand for the magnet metals, these internal China policies and the targeted expansion of high value downstream industry applications, China may well become a net importer of NdPr by 2025. China today supplies more than 90% of the global demand of rare earth.

A component of China's 5 Year Plan is to encourage the use and development of offshore rare earth resources and strengthen international co-operation.

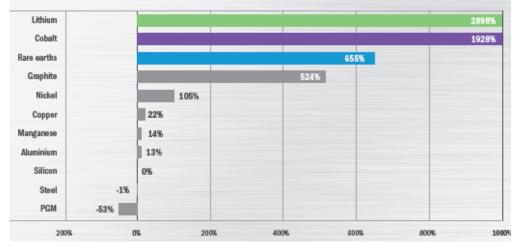




UBS confirms that NdPr are critical enablers for the low carbon industry and poised for growth. We believe significant demand increases from e-mobility have yet to hit the market.

### +655% NdPr growth projected

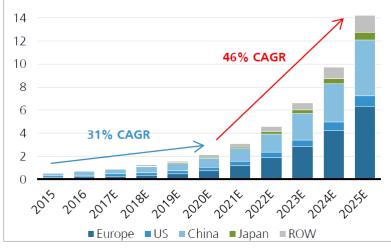
in a 100% EV world (% of today's global production)



Source: "UBS Evidence Lab Electric report" global research report dated 18 May 2017

### E-Mobility+46% CAGR

Between 2020-2025 EV sales by region (million units)



Source: "UBS Evidence Lab Electric report" global research report dated 18 May 2017

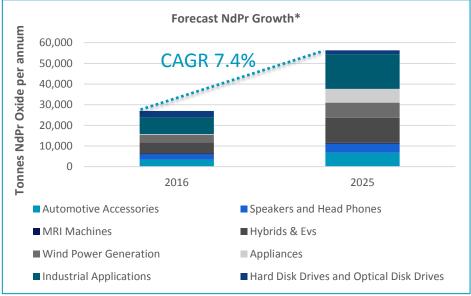




The rare earth market by value is projected to grow from today's ~US\$ 2 billion p.a.,	
of which ~80 % is permanent magnets, to ~US\$ 8 billion p.a by 2025*	

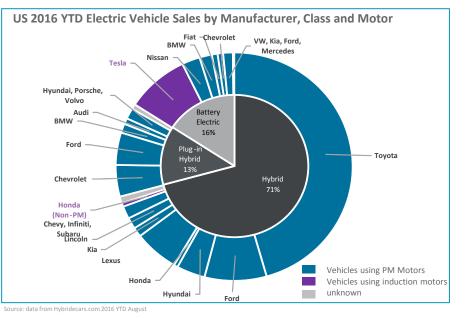
# +100% incremental demand

is projected. A strong uplift in the demand for NdPr/ permanent magnet motors required by the rapidly expanding electric vehicle market, which has been the main catalyst for significant increases in the price of lithium and cobalt since late 2015. Additionally, we see also significant growth contributors in the areas of drones, magnetocaloric fridges, wind energy and robotics. \*



# ~99% market share

With Tesla's move to adopt the <u>permanent magnet motor</u> technology for it's <u>Tesla Model 3</u>, NdFeB permanent magnet Motors (PMM) reached now close to 99% market share. The NdFeB PMM technology is now clearly the leading engine technology and industry standard. Below Chart shows the Market status by end of the year 2016 before the Model 3 launch, representing model X and S.



\*Source: data from Adamas Intelligence April 2017





# Peak's proposed annual NdPr output of 2,810t is less than one years' incremental demand growth and is equivalent to ...



### **2.8 million E-cars**

under the assumption that each combustion vehicle which is converted to an electrified vehicle represents 1kg of incremental NdPr oxide demand. Of the <u>91.5 m vehicles</u> sold in 2016, approx. 2 to 3 million were electrified.

or

## 14,050 megawatts

each direct drive permanent magnet wind turbine generates between 2 to 6 megawatts of performance. Each megawatt represents on average a demand of 200kg NdPr oxide. In other words, with Peak's annual output, 7,025 x 2 MW or 3,512 x 4 MW or 2,341 x 6 MW Direct Drive Wind Turbines could be built. In 2015 the annual <u>new installations was 63 GW</u>, 17% increase, resulting in a global installation base of 433 GW.

### **462,000 Industrial Robots**

under the assumption that each robot requires 5kg NdPr oxide. Considering that today, China's penetration rate is <u>10 times</u> lower than that of Japan, we see significant market potential for this application.

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# 7 million Home Fridges

under the assumption that each <u>NdPr magnetocaloric fridges</u> represents 0.40kg NdPr oxide demand. Peak Assumptions: 7.5 billion people on the planet. 1 fridge per 7 people.; Each fridge gets replaced every 10 years. (7.5bn people /7 people per fridge) / 10 years = 107 million refrigerators sold per year. In conjunction with the Kigali agreement and the phase out of HFC we see a significant market potential for NdPr magnetocaloric fridges.

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# **15.6 million E-Scooters**

under the assumption that each scooter requires 0.180 kg NdPr oxide. Considering estimated annual sales of <u>46 million combustion two-wheelers</u> worldwide, we believe this application has significant potential.

### or 16.9 million Car Air Conditioners

under the assumption that each car air conditioner represents 0.166 kg incremental NdPr oxide demand. Considering that today 90 million vehicles are sold annually, we believe this application has significant market potential.



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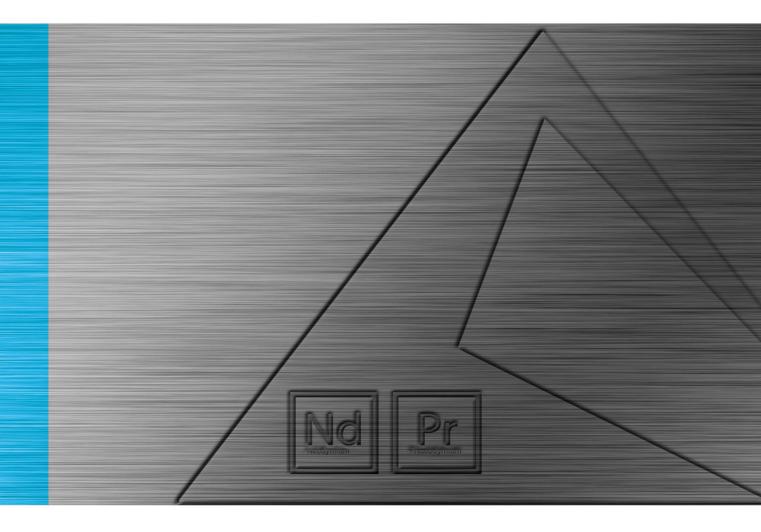
Company Secretary: Graeme Scott

Non-Executive Chairman: Peter Harold

Managing Director: **Darren Townsend** 

Technical Director: Dave Hammond

Non-Executive Directors: Jonathan Murray, John Jetter



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