Lynas Surges Ahead with Expansion Plans, Record Production & Solid Quarterly Results Despite Tesla's Rare Earths Comments

written by InvestorNews | May 22, 2023

Lynas Rare Earths Limited (ASX: LYC) ("Lynas") recently announced some positive news that the Malaysian authorities have advised that their license to import and process lanthanide concentrate is now valid until 1 January 2024, effectively a 6-month extension to get their Malaysian rare earths unit in line with environmental requirements.

Meanwhile, Lynas continues to oppose the Malaysian government's 'new' rules and is working on alternate facilities in Western Australia. Should the Malaysian situation not be resolved then Lynas has a backup plan. The announcement stated:

> *"The licence variation allows the Lynas Malaysia cracking and leaching plant to continue to operate until 1 January 2024 and will remove the requirement for a shutdown at the Lynas Malaysia plant prior to 1 January 2024."*

At the heart of the issue is that the Malaysian authorities say the cracking and leaching plant generates radioactive waste. Lynas argues that they are meeting the conditions as per their original agreement with the Malaysian government. Lynas stated:

> *"Lynas had applied to the MOSTI Minister for the removal of the conditions which limit operations at the Lynas Malaysia*

> *facility as they represent a significant variation from the conditions under which Lynas made the initial decision to invest in Malaysia.“*

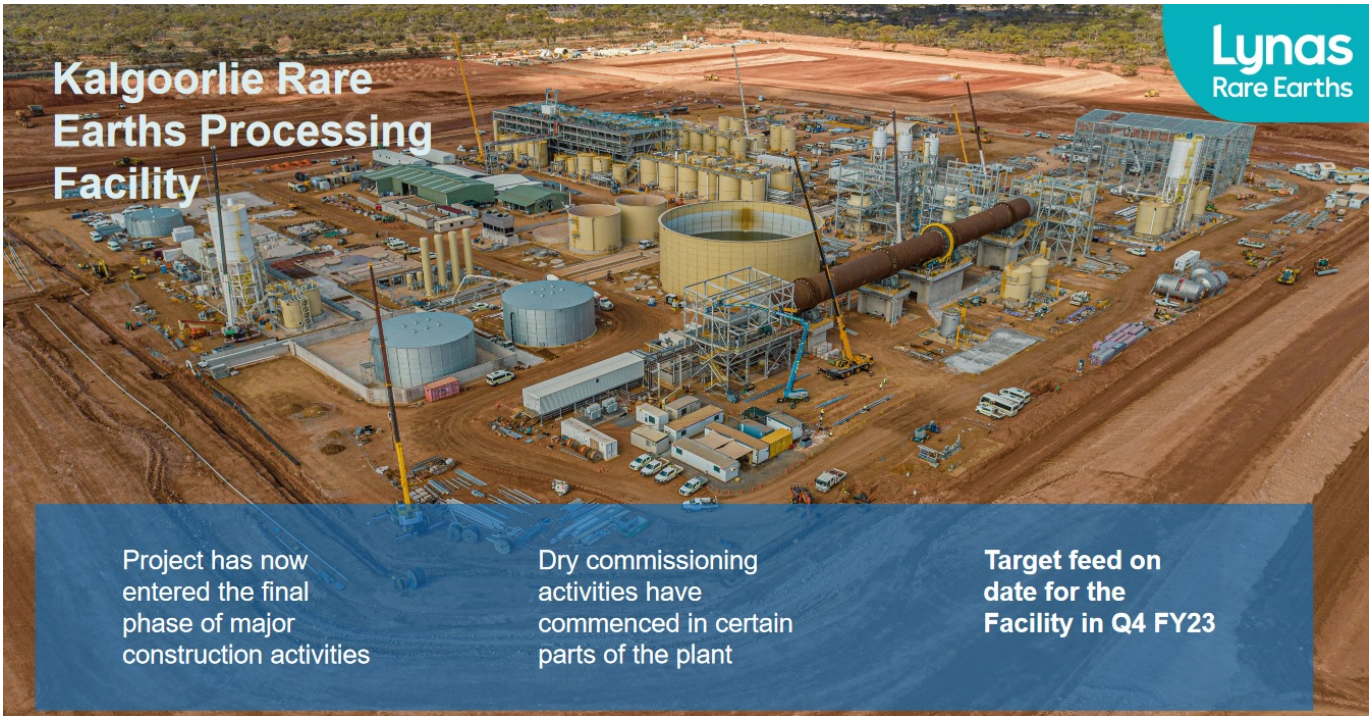
We will have to wait until January 1, 2024, to see what happens next regarding Lynas operating its cracking and leaching plant in Malaysia.

Lynas’ Kalgoorlie Rare Earths Processing Facility is in the final stages of construction, feed to start this quarter (Q4/FY23 – Ending June 30)

Lynas has been rapidly building a backup rare earths processing facility in Kalgoorlie, Western Australia. Lynas stated that the facility “has now entered the final phase of major construction activities, dry commissioning activities have commenced in certain parts of the plant, target feed on date for the Facility in Q4 FY23.”

Lynas plans to use rare earths carbonate feed from their Mt Weld Mine to feed the new Kalgoorlie rare earths processing facility once complete (noting a ramp-up period applies). The product would then be shipped to Malaysia for final processing.

FIGURE 1: Lynas’ under construction rare earths processing facility in Kalgoorlie Western Australia

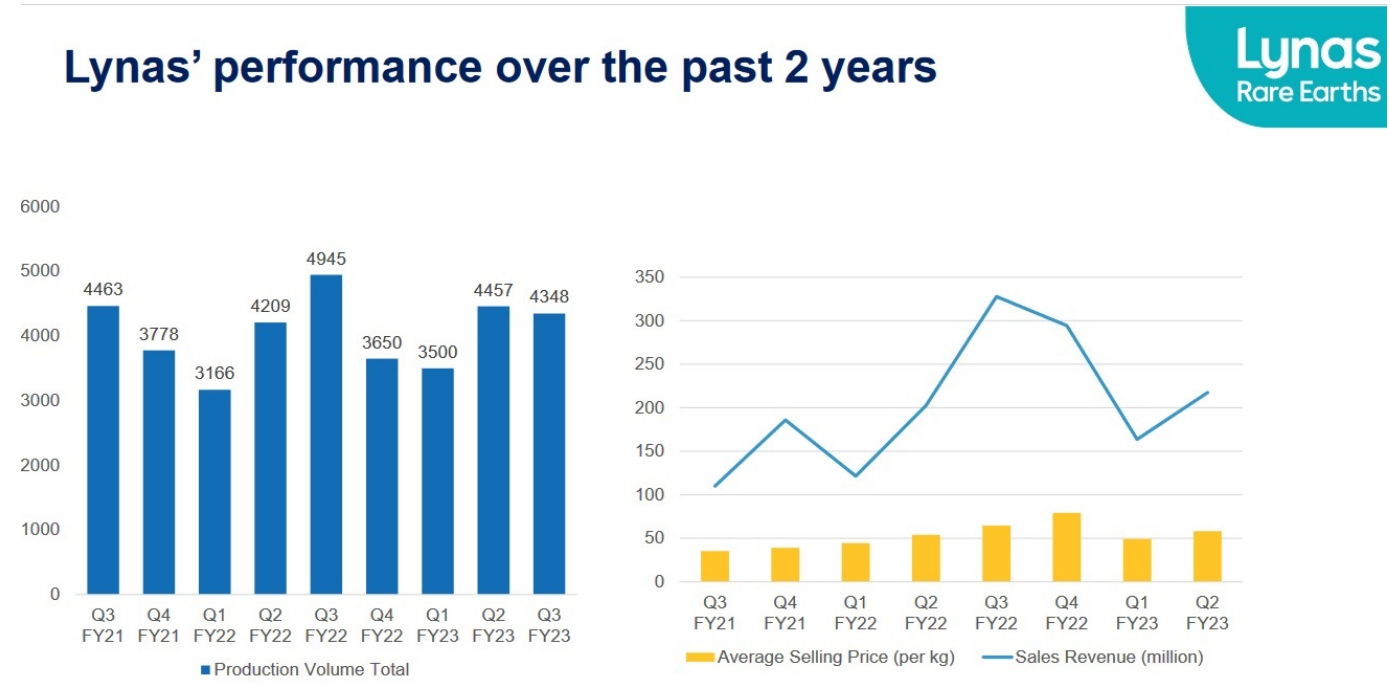


Source: Lynas company presentation

Lynas achieved record NdPr production in Q3/FY23 (Ending March 31)

In Q3/FY23 Lynas produced 4,348 tonnes of total rare earths oxide and a record 1,725 tonnes of Neodymium-Praseodymium ("NdPr"). This resulted in A$237.1 million of revenue for the quarter. The chart below shows Lynas' revenue trending slightly higher over the past 2 years on the back of solid production and prices.

FIGURE 2: Lynas' last 2 years Total Rare Earth Oxides ("TREO") production volumes and sales revenues



Source: [Company presentation]

USA LRE and HRE facilities update

The USA Light Rare Earth ("LRE") and Heavy Rare Earth ("HRE") facilities plan to be able to process both light and heavy rare earths.

Lynas has secured a greenfield site in an existing industrial zone in Texas, further progressed the detailed engineering design, and engaged a preferred U.S. Engineering, Procurement, Construction, and Management ("EPCM') contractor.

Tesla plans to use non-rare earths motors in their next generation vehicle

Lynas CEO, Amanda Lacaze, stated in the [Q3, FY 2023 earnings call]:

"The neodymium iron boron [NbFe] magnet technology is the most

energy efficient, because it is the lightest motor, and over the life time of the vehicle it gives you the best efficiency… …and it has the lowest CO2 emissions… …more are choosing NbFe technology than the alternative… …today we find that demand still is ahead of our ability to service everyone who would like to buy Lynas NdPr… …the current (price) softness is very much about internal China dynamics… …but we at Lynas remain very confident of the long term trend and we know that the Chinese rare earth firms share that confidence. We remain committed to growing to meet the market and that's one of the reasons why our ambitious capital investment plan continues."

Closing remarks

Lynas is very well positioned in 2023 with A$1.12 billion in cash (as of March 31, 2023) and is on target with its expansion plans.

The 6-month Malaysian extension also means that Lynas' rare earths production can continue uninterrupted, at least until January 1, 2024. At that point, the Kalgoorlie facility should hopefully be operating smoothly and ramping up production and offer an alternative should the Malaysia cracking and leaching plant need to be shut down on January 1, 2024.

Lynas Rare Earths trades at a market cap of A$6.82 billion and a PE ratio (TTM) of 12.39.

Lynas Bets $500 Million on Rare Earths Market Expansion

written by Melissa (Mel) Sanderson | May 22, 2023

Lynas Rare Earths Ltd.'s (ASX: LYC) August 3 announcement that it will invest an additional $500 million to rewrite its own already aggressive growth plan is risky, sure, but then, when it comes to rare earths, what isn't? Managing Director Amanda Lacaze appears to be reading the demand-pull market for Lynas' main products, neodymium (Nd) and praseodymium (Pr), as further accelerating, despite some hits to the "green" economy from the war in Ukraine. There are sound reasons supporting such a view, including the commitments by EU auto manufacturers to cease all gasoline production by 2025 and recent (surprising) political developments in the US, especially passage of the CHIPS Act (supporting redevelopment of a US-based semiconductor industry) and the current Inflation Reduction Act (also known as Build Back Better in disguise) likely to be approved this week by the House of Representatives and signed quickly by President Biden.

Lynas is particularly well-positioned to benefit from this latest legislation as it already has two agreements with the US Department of Defense for construction of two separation plants: a $30 million light rare earths plant (deal signed in January 2022) and also in June a $120 million deal for a heavy RE plant. This in addition to Japan's ongoing demand, a not insignificant factor as Lynas self-identifies as controlling 80% of that market.

So, if all looks positive on the demand, where are the risks? Well, unvarnished success will require the split-second timing of a juggler. Expanding output at Mt. Weld should be a green light: the deposit and its characteristics are well known and

should present few obstacles to an experienced team (with the usual caveats about the weather which these days can be a real Devil).

But, there is a problem with Malaysia. Despite winning an unprecedented two EcoVadis awards, political and public concerns about radioactive materials led the Malaysian government to refuse to extend Lynas' cracking and leaching permits. (ESG Comment: this goes to show how history haunts even companies who had nothing to do with previous problems, and how hard it can be to gain and retain trust.)

Lynas announced in February of this year that it has received Ministerial approval for its Kalgoorlie rare earth processing facility, clearing the way for construction to begin. This new facility will strip and store the radioactive elements (uranium and thorium) and then ship the "clean" material to Malaysia for final processing. Thus the timing issue. If the processing plant can be constructed in record time with no unexpected issues, it could dovetail nicely with the increased output from the mine. Otherwise, lower through-put or possibly storage of mined materials could be necessary, providing a cost hit. And even if the timing is impeccable, there will be some increased product cost due to shipping to and processing at Kalgoorlie and then onwards to Malaysia.

Nonetheless, kudos to Lynas for a bold move, going for market share in a booming market with positive political signals and economic momentum. As Christopher Ecclestone said to InvestorIntel: "Lynas just goes to show that it is a doer when so many others are just talkers in the Rare Earth space."

DoD awards Australia's Lynas $120 million to build a heavy rare earths facility in the USA: I have questions

written by Jack Lifton | May 22, 2023

Updated June 28, 2022: Lynas' Managing Director Amanda Lacaze provides answers below

I was intrigued last week when the U.S. Department of Defense (DoD) made the announcement that it had awarded US$120 million to Lynas Rare Earths Ltd. (ASX: LYC) to build a 3-5 kta heavy rare earth separation system in the USA. This is in addition to the $30 million the DoD awarded to Lynas (to be matched by Lynas) in February 2021, for the same thing. My guess is that since Lynas built and operates the world's largest light rare earth separation system in Malaysia where it processes ore from its Mt. Weld Australia monazite mine (the world's largest worked deposit of monazite), it seemed like an easy decision for the DoD, provided it was prepared to overlook the skills of the domestic American market and the mandate to buy American and reshore.

But, since the DoD had already agreed to provide US$30 million of an estimated (by Lynas) US$60 million to build such a facility in Texas, why, I asked myself was an additional US$120 million necessary?

So, I drafted a set of questions for Lynas, the answers to which would be particularly important in a due diligence study for the project, in case the DoD either did not do a due diligence (my guess) or would not publicly answer the same questions citing national security concerns, or some such nonsense.

Here are the questions I sent to Lynas at the beginning of this week:

1. What is the project's location?
2. What is the detailed CAPEX and the estimated OPEX for the system?
3. When will the permitting be finished?
4. Is the plant design finished (It would have to be for the permitting to be finalized)?
5. What is the timeline for construction and first output?
6. What exactly will be the composition of the plant's output in individual rare earths and tonnages of each, and when will the (nameplate) target capacities be reached?
7. Will the costs per KG of each individual rare earth and blend be competitive with the Chinese costs?
8. Will the US DoD be the only customer?
9. Will any of the heavy rare earths be consigned to specific metal/alloy/magnet makers? and,
10. From where, exactly, will the feedstocks be sourced?

Question number 10 is extremely important since there is today no commercial production of heavy rare earths outside of China. Also of note is the fact that Lynas has never commercially produced any separated individual heavy rare earths, nor is its Malaysian plant equipped to do so.

I am awaiting a reply to these questions from Lynas, but I will let you know when I get them.

Publisher's Update:

In response to the above questions InvestorIntel editor Jack Lifton received the following answers by email from Amanda Lacaze, Managing Director of Lynas on June 27, 2022:

1. What is the project's location?

Following a detailed site selection process, the facility is expected to be located within an existing industrial area on the Gulf Coast of the State of Texas.

Texas is an excellent location from which to serve our U.S. customers and support the U.S. government's moves to strengthen its industrial base and make supply chains more resilient through a diversified supply.

2. When will the permitting be finished? / Is the plant design finished? / What is the timeline for construction and first output?

The design of the Heavy Rare Earths plant was completed as part of the Phase 1 contract. The construction timeline will be confirmed following the completion of detailed engineering and planning. The plant is targeted to be operational in financial year 2025.

3. What exactly will be the composition of the plant's output in individual rare earths and tonnages of each?

A typical Heavy Rare Earths separation facility of this type would produce between 2500-3000 tonnes of heavy rare earths per year. We would expect our Heavy Rare Earths production to be in this range.

We have publicly stated our expectation that the Light Rare Earths plant will produce approximately 5,000 tonnes per year of

Rare Earths products, including approximately 1,250 tonnes per year of NdPr.

4. Will the US Department of Defense be the only customer?

This will be a commercial facility and will be designed to serve both the U.S Defense Industrial Base and commercial manufacturers.

5. Will any of the heavy rare earths be consigned to specific metal/alloy/magnet makers?

This facility is a positive step towards reinvigorating the domestic Rare Earths market, and we will work to encourage investment in value-added downstream processes including metal and magnet making.

6. From where, exactly, will the feedstocks be sourced?

Feedstock for the facility will be a mixed Rare Earths carbonate produced from material sourced at the Lynas mine in Mt Weld, Western Australia. Lynas is building a new Rare Earths Processing Facility in Kalgoorlie to process the Rare Earth concentrate from Mt Weld. The material produced in Kalgoorlie will be further processed at the new Rare Earths separation facility in the United States. Lynas will also work with potential 3rd party providers to source other suitable feedstocks as they become available.

Lynas Continues Its Reign Under Amanda The Great

written by Tracy Weslosky | May 22, 2023

Look online, and you will discover that while Lynas Rare Earths Ltd. (ASX: LYC) is covered by 9 research companies, it is impossible to find one PDF Equity Research Report online. For Australian-listed companies, sometimes they publish the reports on their website; unfortunately, not for Lynas.

Dig deeper online and you may see a headline about whether Lynas has too much debt… these conclusions are in my humble opinion quite wrong, and underestimate this rare earths' ruler outside of China, Amanda Lacaze.

I ran my conclusions by a semi-retired analyst, who requested anonymity and wrote me back promptly in agreement: "Saw their balance sheet and they are running just over 1x debt: cash flow and their cash flow is strong based on growing sales and commodity prices."

The media loves to tout Chinese control of rare earths, but it is a woman with an iron fist that rules the rare earths world. Proud of how she likes to watch the pennies, it is unquestionably the reason why she has held the role as a Non-Executive Director for ING Bank Australia Ltd. for over 11 years.

Now let's start with some prenuptial notes on Lynas, before you decide to make a commitment to this industry giant.

Lynas Rare Earths Ltd. is listed on the Australian Securities Exchange (ASX: LYC). The company also has a sponsored Level 1 American Depository Receipt (ADR) program through the Bank of

New York Mellon (Code: LYSDY). On June 6 (Australia), the shares closed at AUD$ 9.35. There 902.4 million shares outstanding, giving the company a market capitalization of approximately AUD$8.4 billion (US$6.1 billion. At December 31, 2021, Lynas reported six month results including AUD$741.7 million positive working capital (including AUD$674 of cash and short term deposits) and AUD$156 million long term debt. Cash and short term deposits increased to AUD$768.4 at March 31, 2022.

Lynas' quarter ended March 31, 2022, had the following highlights:

- All necessary approvals received for the Kalgoorlie Rare Earth Processing Facility (Australia based processing facility)
- Site clearing of the Kalgoorlie facility location is complete
- Delivery of major equipment to Kalgoorlie site with foundation and building work underway
- Kalgoorlie should be on track as part of the company's 2025 Foundation Project program
- Planning is underway for the US Rare Earths Processing Facility including contracts signed with the US Department of Defense
- Record quarter for operations including:
    - Sales revenue of AUD$ 327.2 million (AUD$ 202.7 million previous quarter)
    - Sales receipts of AUD$ 262 million (AUD$151 million previous quarter)
    - Total REO production of 4,945 tonnes (4,209 tonnes previous quarter)
    - NdPr production of 1,687 tonnes (1,359 tonnes previous quarter)
- Lynas noted quarterly price strength for NdPr contributed to record financial results

- Automotive demand for rare earths “remains strong”
- Exploration drilling under the existing Mt. Weld extraction pit revealed continuous rare earth element mineralization along 1,020 metres of drill core. Further targeted exploration is to be conducted “with the goal of meeting accelerating customer demand”.
- The company targets to be operating four sites in three countries with global sales in 2025

Having heard Amanda speak on several occasions in her early role as Managing Director nearly eight years ago, I recall believing that her reign would be short-lived. Her valiant commitment to the bottom line above all else seemed conservative and backward compared to the charismatic marketing styles of other leaders I quite like in the market. Commenting that weekly meetings would necessitate accountability for every dime spent, seemed dismal and droll to me, it seems, however, she was quite right.

As down winds from the recession are upon us, or gales of a correction are indeed in full force, I look to the critical materials sector for which many experts harbor no fears. And with the demand for rare earths continuing to exceed supply, it seems that the noble Australian woman whose fearless tactics took me by surprise is now the one championing it all.

The Post-COP26 World Looks To Australia For Future Non-

Chinese Rare Earths Production

written by InvestorNews | May 22, 2023

To achieve U.N. climate change management goals the world needs to shift rapidly to clean energy, and that means we need to build or secure, reliable sources of rare earths. While the USA and Canada have made some progress in this direction, Australia will also be needed to play a key role.

When looking at a chart of rare earths reserves by country, China shows the largest reserves followed by Vietnam, Brazil, Russia, India, and Australia, in that order. The USA is ranked 8th and Canada is outside of the top ten. Given Australia's stellar track record as a reliable supplier of raw materials, it should not be surprising to know that the West is looking towards Australia to step up production of rare earths, especially those needed to support the surging cleantech sectors of electric vehicles, wind energy, and solar energy.

ClearWorld.us says it well, stating:

"Renewable energy development relies upon sufficient quantities of rare earth minerals, specifically neodymium, terbium, indium, dysprosium, and praseodymium. These are used in the production of solar panels and wind turbines. **If the world is to meet the greenhouse gas emissions targets sought in the Paris Climate Agreement the availability of these minerals must increase by 12 times by 2050**."

(Emphasis by the author.)

Rare earths are key elements in the cleantech revolution

Australian listed rare earths companies:

Producers

Lynas Rare Earths Limited (ASX: LYC) ("Lynas")

Lynas is the second largest neodymium and praseodymium ("NdPr") producer in the world. Lynas owns the Mt Weld rare earth mine, which is one of the world's highest grade rare earths' mines, and the Mt Weld ORE Concentration Plant, both located in Western Australia. Lynas also owns the Lynas Advanced Materials Plant (LAMP), which is an integrated manufacturing facility, separating and processing rare earths' materials in Malaysia. The Lynas 2025 growth strategy encompasses plans to build the Kalgoorlie Rare Earths Processing Facility (cracking and leaching) in Australia and an LRE/HRE separation and specialty materials facility in the USA. Lynas trades on a market cap of A$7.3 billion.

Iluka Resources Ltd. (ASX: ILU) ("Iluka")

Iluka is a relatively new (April 2020) producer of rare earths at their Eneabba Project in Western Australia. Iluka intends to ramp to selling 50,000 tpa of a 20% monazite-zircon ore concentrate for further processing offshore. Iluka has an offtake agreement for 50,000 tpa. Iluka is working on developing a Phase 2 of the Eneabba Project which involves investigating techniques to beneficiate and purify the monazite to an 80% concentrate for sale further down the value chain. Iluka is mostly known for being an Australian heavy mineral sands, zirconium and titanium, producer. Iluka trades on a market cap of A$3.5 billion.

Vital Metals Limited (ASX: VML) ("Vital")

Vital recently began mining ore at its Nechalacho' Mine in Canada's Northwest Territories (NWT), with commencement of ore processing at Vital's, under construction, Saskatoon cracking

and leaching facility expected to begin in 2022. The Nechalacho Mine is a high grade, light rare earth (bastnaesite) project with a world-class resource of 94.7Mt at 1.46% REO (measured, indicated and inferred). Nechalacho's North T Zone, which is being mined by Vital, hosts a high-grade resource of 101,000 tonnes at 9.01% LREO (2.2% NdPr). Vital has a non-binding MOU with Ucore Rare Metals Inc. for the supply to it of a mixed rare rare earth carbonate, beginning H1 2024. Vital Metals trades on a market cap of A$250 million.

Explorer/Developers (in alphabetical order):

Arafura Resources Limited (ASX: ARU) ("Arafura")

Arafura 100% own the Nolan's Bore rare earth project 135kms from Alice Springs in the Northern Territory, Australia. Arafura states: "The Project is underpinned by low-risk Mineral Resources that have the potential to supply a significant proportion of the world's NdPr demand. It is a globally significant and strategic NdPr project which, once developed, will become a major supplier of these critical minerals to the high-performance NdFeB permanent magnet market."

The deposit contains a JORC 2012-compliant Mineral Resources of 56 million tonnes at an average grade of 2.6% total rare earth oxides (TREO). 26.4% of the total rare earths contained are NdPr. The Project is supported by Export Finance Australia (EFA), and the Northern Australia Infrastructure Facility (NAIF), via non-binding letters of support for a proposed senior debt facility of up to A$200 million and A$100 million respectively. Arafura is looking to raise further funds to get the project started. Arafura recently stated: "The momentum with offtake discussion has enabled engagement to expand to include the options for strategic investment as part of the Nolan's project funding." Market cap is A$379 million.

Australian Rare Earths Limited (ASX: AR3) (“AREL”)

AREL is progressing in the exploration of a significant deposit of valuable ‘clay-hosted’ rare earth elements, located at their Koppamurra Project spread over ~4,000km² of tenements in South Australia and Victoria. Past exploration of the Koppamurra region has shown it contains mineralization containing the rare earth elements neodymium, praseodymium, dysprosium and terbium. The Koppamurra Project is an ‘ionic clay’ rare earth opportunity with a 2021 JORC Inferred Mineral Resource of 39.9Mt @ 725ppm TREO. AREL trades on a market cap of A$98 million.

Australian Strategic Materials Ltd. (ASX: ASM) (“ASM”)

ASM owns the Dubbo Rare Earths Project in NSW, Australia. The Dubbo Project is a 100% owned ‘construction ready’ poly-metallic and rare earths project with potential to become a key global supplier of specialty metals and rare earths. ASM’s goal is a “mine to metal” strategy to extract, refine and manufacture high-purity metals and alloys, supplying directly to global technology manufacturers. Market cap is A$1.92 billion.

Northern Minerals Limited (ASX: NTU)

Northern Minerals own the Browns Range heavy rare earth minerals project in Western Australia. Northern Minerals has built a pilot plant to test a number of deposits and prospects that contain high-value dysprosium and other Heavy Rare Earths (HREs) such as yttrium, hosted in xenotime mineralization.

The Company states: “Northern Minerals is positioned to become the world’s first significant producer of dysprosium outside of China. Accounting for 60% of the Browns Range Project’s (the Project) revenue, dysprosium is the key value driver of the Project and is at the core of Northern Minerals’ marketing strategy. With a high value, high purity, dysprosium rich

product, the Company is set to become a long term and reliable supplier of dysprosium and other critical heavy rare earths to world markets." Market cap is A$339 million.

Peak Resources Limited (ASX: PEK)

Peak Resources 75% owns the Ngualla Tanzania rare earth project, which the Company states is one of the world's, largest and highest grade, undeveloped rare earth projects. The Ngualla Project has ore reserves of 18.5 million tonnes at 4.8% REO; 22% of the total mineral resource is NdPr, with an expected 26 year life of mine. The Project is currently at the funding stage having completed a BFS in 2017. The BFS summary details are here. About 90% of the Project's revenues will be coming from NdPr. Peak Resources state: "Operating cost of US$ 34.20/kg NdPr* Oxide, demonstrating potential to be the world's lowest-cost fully integrated rare earth development project." Market cap is A$135 million.

Closing remarks

With rare earths demand set to grow strongly this decade as the world moves towards cleaner energy and technology, investors would be wise to take a second look at the rare earths sector.

Australian critical minerals projects were recently in the news after the Government announced that they would receive an A$2 billion boost (via a loan facility), to support the sector. This bodes well for the Australian rare earths junior miners to join Lynas as producers. Stay tuned as this sector looks set to shine this decade.