

15 November 2023

IONIC TECHNOLOGIES RAMPING UP TO 24/7 OPERATION IN EARLY 2024 AS THIRD-PARTY INTEREST CONTINUES TO INCREASE

- **Ionic Technologies Magnet Recycling Demonstration Plant is ramping up to move to 24/7 continuous operation from early January 2024, enabling an increase to the amount of rare earth oxide (REO) product from the plant for samples to potential customers;**
- **This is a result of increased third-party interest in utilising the world class technology, where several further potential supply chain collaborations with rare earth metal, alloy and magnet manufacturers and Original Equipment Manufacturers (OEMs) and Industrials have emerged;**
- **All Demonstration Plant process equipment has now been delivered to Ionic Technologies and the majority installed for the ramp up;**
- **Process control system installation and commissioning expected to be completed by the end of 2023, with 24/7 operation to follow shortly thereafter;**
- **Ford and Less Common Metals collaboration partnership as announced in October 23 is progressing with an initial production run planned for February 2024; and**
- **Shortlist of engineering partner progressing for Feasibility Study of a full-scale commercial magnet recycling facility in Belfast expected to commence within weeks.**

The Board of Ionic Rare Earths Limited (“IonicRE” or “The Company”) (ASX: IXR) is pleased to provide an update regarding its rare earth magnet recycling business Ionic Technologies International Ltd (“Ionic Technologies”), a 100% owned subsidiary based in Belfast UK.

Ionic Technologies is a global first mover in the recycling of Neodymium-Iron-Boron (NdFeB) permanent magnets to enable the creation of sustainable, traceable and sovereign Rare Earth supply chains.

Ionic Technologies has received multiple new enquiries regarding partnering with the Company to utilise its magnet recycling technology to secure sustainable rare earths supply. Ionic is now ramping up its capabilities and moving operations at its Demonstration Plant to 24 hours, 7 days a week production capacity, which will enable greater volumes of rare earths to be produced for samples to

potential customers, and which will facilitate converting these discussions into commercial agreements.

Ionic Technologies has already successfully secured funding for two CLIMATES grants from the UK Government's Innovate UK totalling £2 million (A\$3.90 million) (ASX: 12 September 2023) which provides a significant endorsement of the Company and the technology. Ionic Technologies successful grant funding submissions centred on two CLIMATES projects:

1. in partnership with Ford Technologies (Ford) and Less Common Metals (LCM), Ionic Technologies will develop a traceable, circular supply chain of rare earths for application in EV motors within the UK; and
2. in partnership with the British Geological Survey, Ionic Technologies will complete a feasibility study and supply chain analysis for a commercial magnet recycling plant in Belfast.

Ionic Technologies' Demonstration Plant has already produced quantities of high purity (> 99.5%) neodymium (Nd) and dysprosium (Dy) rare earth oxides (REOs), as announced 19 June 2023. After initial process commissioning and production runs through Q3 2023, Ionic Technologies has installed additional processing equipment, and is in the final stages of upgrading the installed control system which is now undergoing processing commissioning and is expected to be completed by the end of 2023. Ionic Technologies is targeting 24/7 operations from early January 2024, with commercial production runs to support the LCM and Ford collaboration, and processing end of life magnet samples for other potential customers.

These additional supply chain engagement discussions have progressed based upon reverse enquiry post production of high purity REOs in June 2023. The Company is evaluating several significant opportunities across the rare earth supply chain, and progressing supply arrangements with leading businesses in the permanent magnet supply chain.

Technology Overview

Since its founding in 2015, as a spinout from Queens University Belfast (QUB), Ionic Technologies has developed processes for the separation and recovery of REEs from mining ore concentrates and waste permanent magnets.

The technology developed is a step up in efficient, non-hazardous, and economically viable processing with minimal environmental footprint.

Ionic Technologies proprietary technology provides a universal method for the recovery of high purity grade rare earth elements from lower quality and variable grade magnets, to be used in the manufacture of modern high-performance and high specification permanent magnets required to support substantial growth in both electric vehicle (EV) and wind turbine deployment.

Our Path to Commercialisation

Rapid acceleration of our technology ready to scale globally

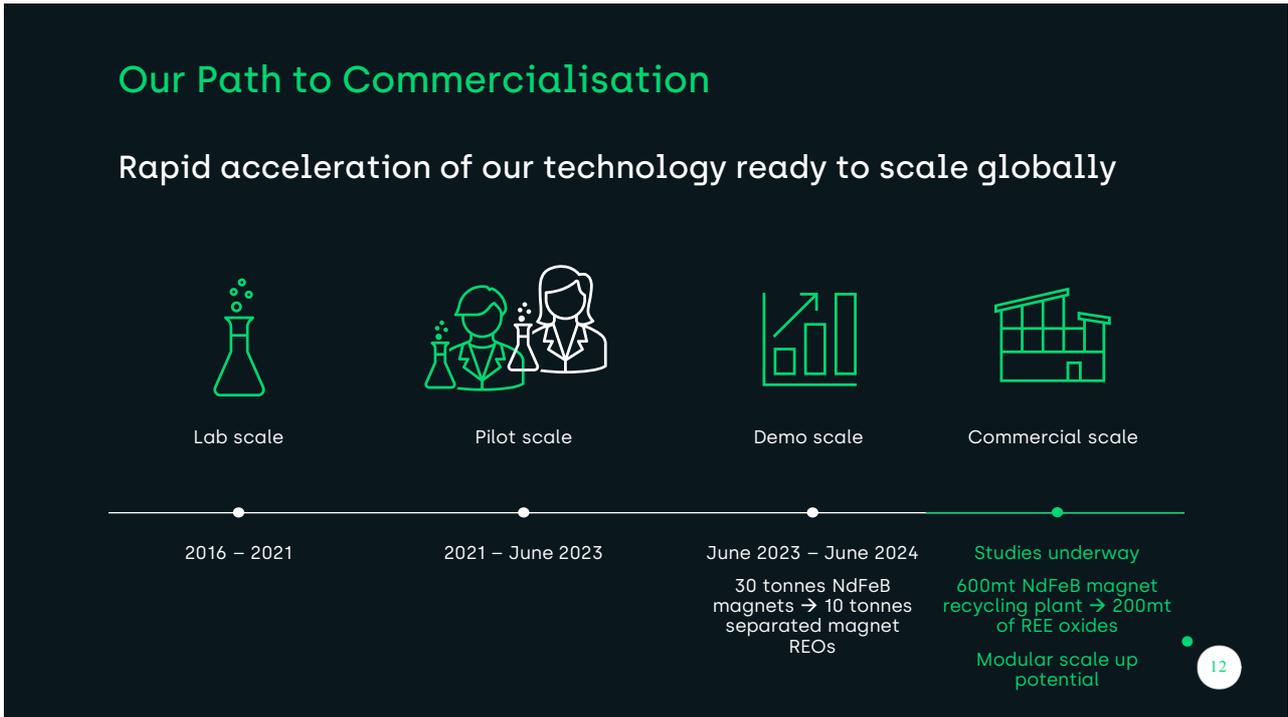


Figure 1: Ionic Technologies path to production.

About Ionic Technologies

Ionic Technologies has developed separation and refining technology that can be applied to the recycling and refining of individual magnet rare earths from used permanent (NdFeB) magnets.

Our hydrometallurgical process is able to deliver high purity separated magnet rare earth oxides no matter the quality and variability in composition of magnet feedstock.

Ionic Technologies is 100% owned by Australian rare earth resources company **Ionic Rare Earths Limited** (ASX: IXR).

Intake flexibility

Unlike other recycling processes, our technology can recycle any form of mixed waste magnets and production swarf regardless of type, age or coatings. We are not reliant on a single feedstock stream.

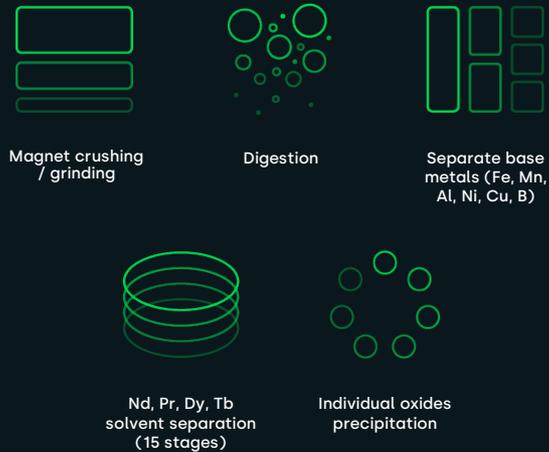


Figure 2: Ionic Technologies technology overview.

Authorised for release by the Board.

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About Ionic Rare Earths Ltd

Ionic Rare Earths Limited (ASX: IXR or IonicRE) is set to become a miner, refiner and recycler of sustainable and traceable magnet and heavy rare earths needed to develop net-zero carbon technologies.

The Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, is well-supported by existing tier-one infrastructure and is on track to become a long-life, low Capex, scalable and sustainable supplier of high-value magnet and heavy rare earths oxides (REO). In March 2023, IonicRE announced a positive stage 1 Definitive Feasibility Study (DFS) for the first of six (6) tenements to progress to a Mining Licence Application (MLA) which is pending in Uganda. The Makuutu Stage 1 DFS defined a 35-year life initial project producing a 71% rich magnet and heavy rare earth carbonate (MREC) product basket and the potential for significant potential and scale up through additional tenements.

Ionic Technologies International Limited (“Ionic Technologies”), a 100% owned UK subsidiary acquired in 2022, has developed processes for the separation and recovery of rare earth elements (REE) from mining ore concentrates and recycled permanent magnets. Ionic Technologies is focusing on the commercialisation of the technology to achieve near complete extraction from end of life / spent magnets and waste (swarf) to high value, separated and traceable magnet rare earth products with grades exceeding 99.9% rare earth oxide (REO). In June 2023, Ionic Technologies announced initial production of high purity magnet REOs from its newly commissioned Demonstration Plant. This technology and operating Demonstration Plant provides first mover advantage in the industrial elemental extraction of REEs from recycling, enabling near term magnet REO production capability to support demand for early-stage alternative supply chains. In September 2023, Ionic Technologies announced with the support of the UK government, collaboration partnerships to build a domestic UK supply chain, from recycled REOs to metals, alloys and magnets and supplying UK based electric vehicles (EV) manufacturing, with potential to replicate across other key markets.

As part of an integrated strategy to create downstream supply chain value, IonicRE is also evaluating the development of its own magnet and heavy rare earth refinery, or hub, to separate the unique and high value magnet and heavy rare earths dominant Makuutu basket into the full spectrum of REOs plus scandium.

This integrated strategy completes the circular economy of sustainable and traceable magnet and heavy rare earth products needed to supply applications critical to EVs, offshore wind turbines, communication, and key defence initiatives.

IonicRE is a Participant of the UN Global Compact and adheres to its principles-based approach to responsible business.

Forward Looking Statements

This announcement has been prepared by Ionic Rare Earths Limited and may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Ionic Rare Earths Limited. Actual values, results or events may be materially different to those expressed or implied in this document. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this document speak only at the date of issue of this document. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Ionic Rare Earths Limited does not undertake any obligation to update or revise any information or any of the forward-looking statements in this document or any changes in events, conditions, or circumstances on which any such forward looking statement is based.