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ASX Announcement

05 December 2024

APPLICATION LODGED FOR UK GOVERNMENT FUNDING TO BUILD COMMERCIAL BELFAST MAGNET REO RECYCLING PLANT

- **Ionic Technologies lodges application for substantial capital grant from UK Government via the Automotive Transformation Fund, administered by the Advanced Propulsion Centre, for automotive manufacturing and supply chains;**
- **Funding to support development of new commercial REO manufacturing facility in Belfast, UK, delivering sovereign magnet REO capability to UK, fostering energy transition and supporting regional growth in Northern Ireland;**
- **Application follows successful Feasibility Study which showed strong potential for profitable magnet recycling business; industrial business model scaleable to other markets including Europe, USA, Brazil and Asia.**

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Ionic Rare Earths Limited ("IonicRE" or the "Company") (ASX: IXR) wholly owned subsidiary Ionic Technologies has applied for a significant capital grant from the UK Government as it moves to fast-track the development of a commercial-scale Rare Earth Oxide (REO) manufacturing facility in Belfast, UK.

The application has been submitted via the Automotive Transformation Fund (ATF), administered by the Advanced Propulsion Centre (APC), for automotive manufacturing and supply chains. The APC is dedicated to supporting the UK's global leadership position in scientific research, automotive engineering and net zero.

The potential cornerstone capital grant could provide the UK with sovereign magnet REO capability for the first time, following the Belfast plant's success in becoming the first producer of recycled magnet REOs in the Western world, based on technology developed at Queen's University Belfast.

The grant application follows IonicRE's release of a Feasibility Study (refer ASX announcement 18 November 2024) which showed strong potential for a profitable and unique commercial REO manufacturing facility in Belfast, recycling pre-consumer rare earth magnet scrap and end-of-life magnets. The study showed positive financial outcomes, including an NPV (post-tax) of US$502 million, an IRR (post-tax) of 43.6% and capital payback within 2.4 years, based on throughput of 1,200

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tonnes per annum (tpa) of feed with production capacity of 400 tpa of separated magnet REOs over a 20-year life of operation.

IonicRE's Managing Director, Tim Harrison said the grant application was another major milestone in the development of a world-scale commercial REO facility in Belfast Harbour.

"The UK Government has consistently shown strong backing for Ionic Technologies and its patented, leading edge magnet recycling, having provided various grants to support the development of this made-in-Belfast innovation," Mr Harrison said.

"This technology is vital in establishing a sustainable, sovereign and traceable UK supply chain that supports the net-zero transition, advanced manufacturing and defence, while fostering a new renewable industry for Northern Ireland.

"Having shown with our recent Feasibility Study the positive economics of a commercial REO business, IonicRE looks forward to driving its development even faster with vital financial support from the UK Government which aligns with its vision of creating a circular economy for critical raw materials."

The Company is also exploring additional government backed financing which targets projects that have the potential to facilitate the UK's energy transition and drive regional growth, supporting investment in Northern Ireland. This combination has the potential to significantly reduce the equity component required to finance the commercial facility.

The Feasibility Study estimated capex for a commercial facility in Belfast Harbour totalling US$108.7 million, including contingencies. IonicRE anticipates the potential additional UK Government funding could add to funding from strategic investors and debt financiers, securing the total investment necessary to progress towards a Final Investment Decision in the first half of calendar 2025.

Ionic Technologies has previously benefitted from UK Government grant funding, with up to £5m of funding and commitments received to date. These include two recent grants with a combined value of £1.27m GBP (A$2.46m), including direct funding totalling £470k, to foster REE supply chain partnerships (refer ASX announcement 1 October 2024).

During a UK visit in October 2024, IonicRE's Mr Harrison met several senior UK Government officials, including the Hon. Sarah Jones MP, Minister of State (Minister for Industry) at both the Department for Energy Security and Net Zero and the Department for Business and Trade. These meetings highlighted the UK Government's commitment to strengthening the UK's role in the circular economy for critical raw materials.

Ionic Technologies has also received a high level of off-taker inquiries and investor support, as highlighted by its successful analyst and strategics day hosted at the Belfast facility in July 2024. This adds to the commercial partnerships established with UK-based metal and alloys manufacturer Less Common Metals (LCM) and Germany-based magnet manufacturer Vacuumschmelze (VAC) to produce magnets containing 100% recycled HREEs and LREEs. Additionally, the Company is making good progress to demonstrate a UK based supply chain with both LCM and Ford UK, who just

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announced the intention to produce over 420,000 e-drives per annum at its Halewood facility in the UK to supply into both the UK and EU markets.

Designed for a brownfield site located in Belfast Harbour, the planned commercial-scale would represent a 40-fold increase in production capacity (400 tpa) from the Demonstration Plant (10 tpa).

The Company is progressing approvals for the commercial site located on Queens Island, with permitting expected to be finalised in early 2025. Subject to regulatory approvals and funding, first production could occur as early as late 2026, giving Ionic Technologies "first mover" advantage and ensuring UK leadership in the production of this critical mineral for the 21st century.

Figure 1: Architect's Impression of Ionic Technologies' Commercial Plant, Belfast, UK.

IonicRE Executive Chairman, Brett Lynch commented: *"IonicRE is focused on rapidly accelerating the development of our technology, creating an industrial business that is globally scaleable based on our patented magnet recycling technology.*

"We have been delighted by the support shown by the UK Government thus far and are confident the UK will continue to back the Belfast plant. This is a genuine step change in creating a low capex, alternative magnet rare earth supply chain for Western end users across defence, energy transition and advanced manufacturing.

"We are now hyper-scaling this model globally, taking little steps but extremely quickly to deliver increased value for our shareholders and all stakeholders."

Ionic Technologies is a global first mover in the recycling of Neodymium-Iron-Boron (NdFeB) permanent magnets to high purity separated magnet rare earth oxides (REOs) – enabling the creation of sustainable, traceable, and sovereign rare earth supply chains. It is also a producer of a suite of

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magnet REOs including neodymium oxide (Nd_2O_3) didymium oxide (NdPr oxide), dysprosium oxide (Dy_2O_3) and terbium oxide (Tb_4O_7) and is a leader in producing such high-quality REO products.

Figure 2: IonicRE Managing Director Tim Harrison (right) with Sarah Jones MP, Minister of State at both the Department for Energy Security and Net Zero, and the Department for Business and Trade, during a recent meeting in London, UK.

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Figure 3: Advanced Propulsion Centre CEO Ian Constance (right) and APC Project Delivery Lead Matthew Pardington (left)during a recent visit to Ionic Technologies, Belfast.

Figure 4: Advanced Propulsion Centre CEO Ian Constance and Project Delivery Lead Matthew Pardington tour the Ionic Technologies Demonstration Facility in Belfast.

The Company will continue to work closely with its partners in the UK to ensure Belfast is positioned to maximise its competitive advantages in this key sector. As highlighted at IonicRE's recent Annual General Meeting, there is potential for further reductions in operating costs, particularly in new markets such as the United States, Brazil and Asia.

Figure 5: United States Special Envoy to Northern Ireland for Economic Affairs Joe Kennedy III (right), during a recent visit to Ionic Technologies' Demonstration Facility in Belfast, UK.

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Figure 6: United States Consul General Belfast James Applegate (centre) and United States Special Envoy to Northern Ireland for Economic Affairs Joe Kennedy III (right) during a tour of the plant.

About the production of REOs at Ionic Technologies

Owned 100% by IonicRE, Ionic Technologies has developed rare earth element (REE) separation and refining technology and applied this to the recycling of spent permanent NdFeB magnets. The process uses a hydrometallurgical process to extract the REEs, then separate the individual magnet REEs within –Nd, Pr, Dy and Tb – and finally refine to high purity individual magnet REO.

In September 2022, IonicTech was awarded a grant of £1.72 million (approximately A$2.9 million) from the UK Government's Innovate UK Automotive Transformation Fund Scale-up Readiness Validation (SuRV) program to construct a Demonstration Plant.

In September 2023, Ionic Technologies announced it had successfully secured additional funding via two Innovate UK CLIMATES grants totalling £2 million (A$3.90 million). The successful grant funding submissions centred on two CLIMATES projects:

1. in partnership with Less Common Metals (LCM) and Ford Technologies, 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 has commenced a feasibility study for a commercial magnet recycling plant in Belfast, UK.

In September 2024, Ionic Technologies announced it had successfully secured additional funding for two Innovate UK CLIMATES grants totalling £1.265m (A$2.46m). The successful grant funding submissions centred on two CLIMATES projects:

1. in partnership with Less Common Metals (LCM) and Vacuumschmelze, Ionic Technologies will demonstrate a circular supply chain for pre-consumer NdFeB magnet scrap (swarf);

2. in partnership with the Materials Processing Institute (MPI) and Swansea University, Ionic Technologies are developing techniques for front end demagnetisation and comminution of magnets.

The Ionic Technologies magnet recycling process is agnostic on magnet quality, can process oxidised magnets, and can also manage coatings and films, to produce individually separated and refined high purity REOs.

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 has demonstrated capability for REEs to achieve near complete extraction of REO's from lower quality spent magnets and waste (swarf) to a recovery of high value magnet REO product quality exceeding 99.9% REO.

Ionic Technologies now has "first mover" advantage in the industrial elemental extraction of separated REOs from spent magnets and waste, enabling near term magnet REO production capability to satisfy growing demand from the energy transition, advanced manufacturing, and defence.

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

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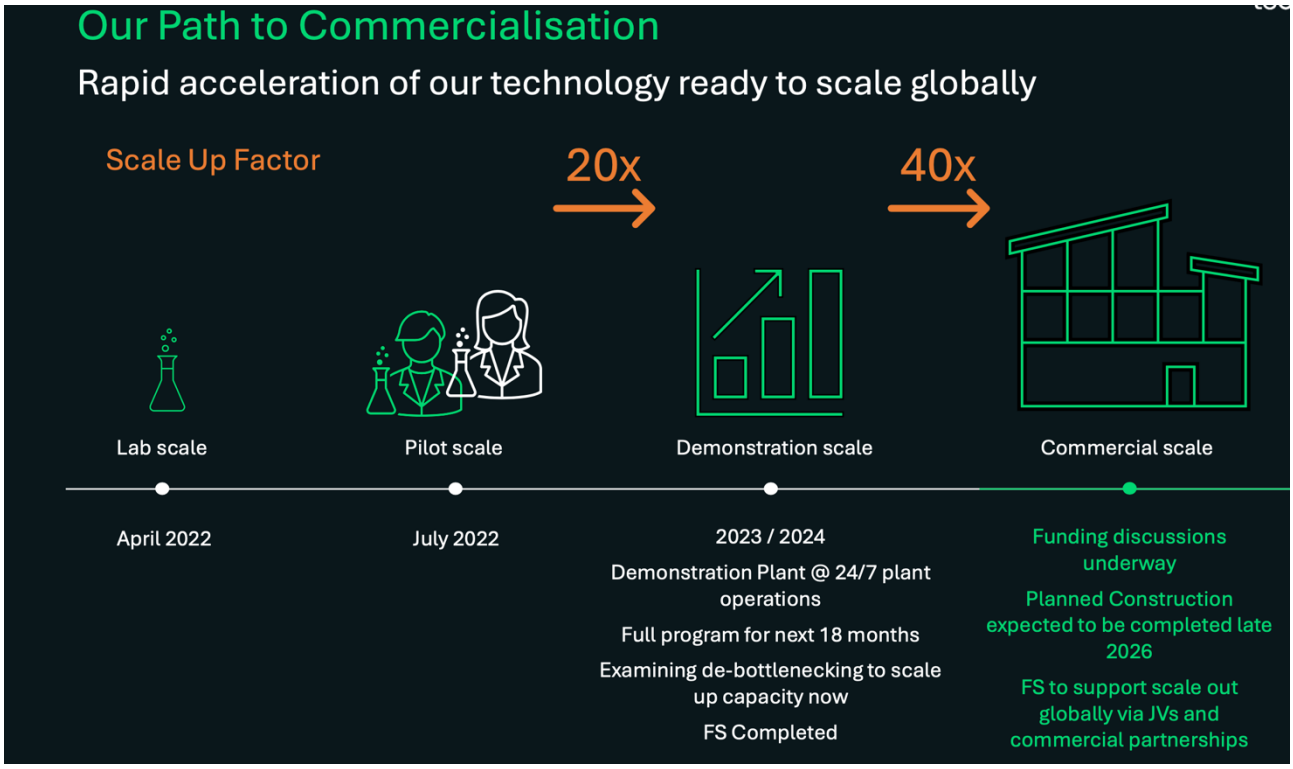

Figure 7: Ionic Technologies' path to production and scale up from laboratory towards commercial operations.

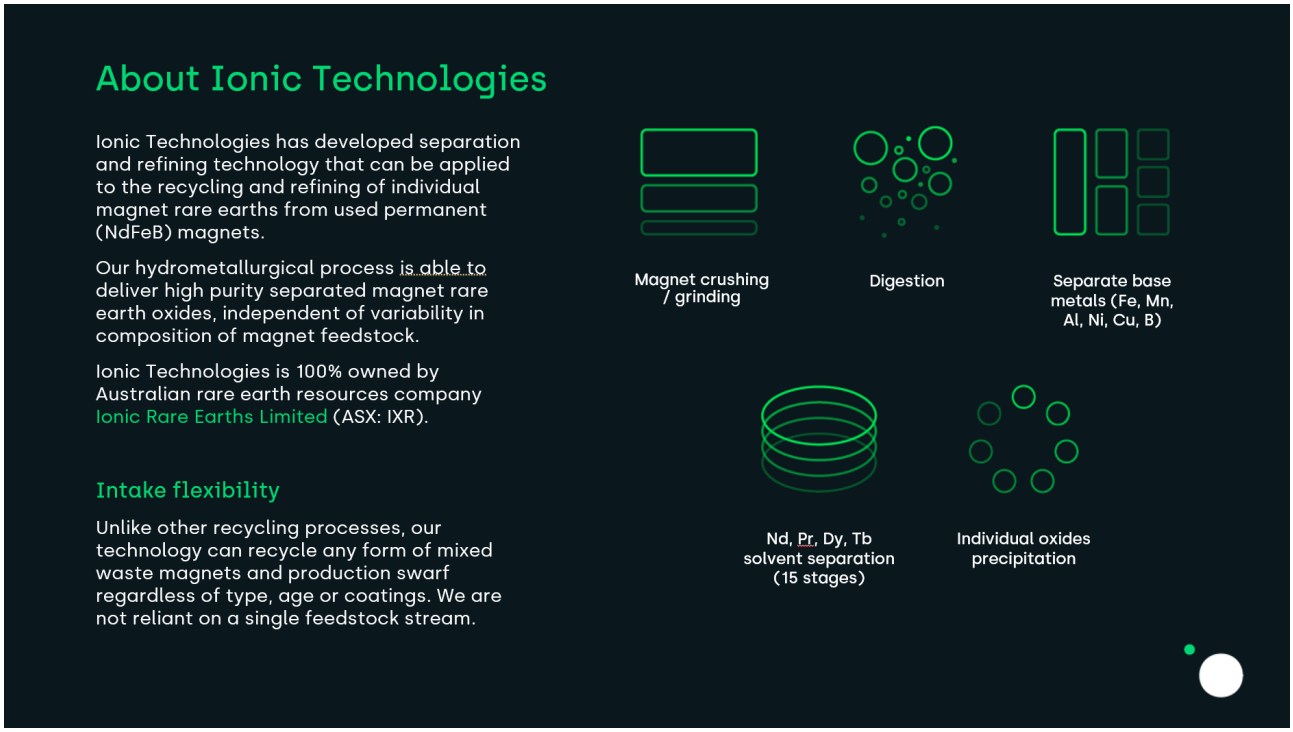

Figure 8: Ionic Technologies technology overview.

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For more information about IonicRE and its operations, please visit www.ionicre.com.

Authorised for release by the Board.

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About Ionic Rare Earths Ltd

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

Ionic Technologies International Limited ("Ionic Technologies"), a 100% owned UK subsidiary, 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 and moved to continuous production in March 2024, providing a first mover advantage in the industrial elemental extraction of REEs from recycling. In September 2023, Ionic Technologies announced collaboration partnerships with Ford Technologies, Less Common Metals (LCM) and the British Geological Survey (BGS) 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. Ionic Technologies gained further UK Government support in September 2024, via its CLIMATES funding programme to demonstrate a circular supply chain for pre-consumer NdFeB magnet scrap (swarf) in partnership with LCM and Vacuumschmelze. The business also benefited from support from the UK Government to develop magnet demagnetisation and comminution processes in partnership with Materials Processing Institute (MPI) and Swansea University.

The Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, moving to 94% ownership) 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 REO. In March 2023, IonicRE announced a positive stage 1 Definitive Feasibility Study (DFS) for the first of six tenements to

progress to a mining licence, which was awarded in January 2024. Makuutu is now producing mixed rare earth carbonate (MREC) from a Demonstration Plant on site to advance offtake negotiations.

IonicRE has also executed a transformational 50/50 joint venture refinery and magnet recycling facility in Brazil with Viridis Mining and Minerals Limited (ASX: VMM) to separate high value magnet and heavy rare earths from the Colossus Project's full spectrum of REOs.

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.

For more information about IonicRE and its operations, please visit www.ionicre.com.

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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.

References to Previous ASX Releases

- *IonicRE AGM Presentation – 27 November 2024*
- *Feasibility Study demonstrates profitable magnet REO business case – 18 November 2024*
- *Quarterly Activities Report – 31 October 2024*
- *IXR awarded grants with LCM, VAC for UK-EU REPM partnership – 1 October 2024*

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and all material assumptions and technical parameters continue to apply and have not materially changed.