ionic
rare earths

ASX Announcement

14 July 2025

IONIC TECHNOLOGIES SECURES UK GOVERNMENT BACKING WITH £11M "CirculaREEconomy" PARTNERSHIP

- **Ionic Technologies led consortium backed by the Advanced Propulsion Centre UK (APC) and UK Government, awarded £11 million (A$22.6 million) funding for a first-of-kind UK based rare earth permanent magnet (REPM) supply chain;**
- **"CirculaREEconomy" consortium includes Ford Technologies Limited (Ford), Bentley Motors Limited (Bentley, part of the Volkswagen Group), Wrightbus, Less Common Metals (LCM), European Metals Recycling Limited (EMR), and British Geological Survey (BGS);**
- **European REPM manufacturers, Vacuumschmelze (VAC) and GKN Powder Metallurgy (GKN) are expected to produce magnets for the project, manufacturing magnets in Germany to OEM specifications;**
- **Three-year project creates novel supply chains for REPM for advanced applications in electric vehicles, which rely on high purity (99.5%) separated REOs, while quantifying the economic and emissions benefits of the entire supply chain;**
- **UK Government funding will support Ionic Technologies' project management, production, and capability to prepare material for metal making;**
- **APC-facilitated Belfast commercial plant capital grant progressing through approvals, with APC appointing a grant delivery officer to work with Ionic Technologies through next phase of planning; and**
- **Funding demonstrates direct strategic alignment with the UK Government's DRIVE35 (Driving Research and Investment in Vehicle Electrification) program, which aims to transform the UK's automotive sector and advance electric drivetrain technology, especially Permanent Magnet Synchronous Motors, and advances capability at each stage of the supply chain for sovereign, sustainable UK REPM capacity.**

Ionic Rare Earths Limited ("IonicRE" or the "Company") (ASX: IXR) wholly owned subsidiary Ionic Technologies has successfully secured UK Government funding for the next three years for

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pioneering Collaborate funding, facilitated via the Advanced Propulsion Centre UK (APC), in a significant boost to the creation of a sovereign and sustainable UK rare earth permanent magnet (REPM) supply chain. Ionic Technologies led the establishment of the unique consortium for a successful bid, which was officially announced by APC on 13 July 2025.

Ionic Technologies will lead the £11 million "CirculaREEconomy" project, commencing from 1 August 2025, which necessitates the production of high purity, separated rare earth oxides (REOs) from its Demonstration Plant in Belfast, UK. The project is aligned with the APC's efforts to support electric drivetrain capability in the UK, with the project serving the e-motor market, promoting capability in permanent magnet synchronous motor technology. Ionic Technologies' direct allocation as part of the overall program will be approximately £3.1 million (approximately A$6.4 million) over the program.

Having established Ionic Technologies as a key strategic player in the REPM supply chain, IonicRE has been able to create, lead, and successfully obtain UK Government backing for a unique circular supply chain for the UK. Ionic Technologies and its collaboration partners will work with leading German REPM manufacturers to produce the best available sintered magnets for use in e-motors. Notably, Ionic Technologies will be working closely with market leaders for each supply chain stage to deliver on its vision for a UK-based circular supply chain for rare earth elements (REEs) via long-loop recycling.

Welcoming the UK Government grant, IonicRE Managing Director, Mr Tim Harrison stated: *"IonicRE is delighted to receive this hugely welcome and additional support from the APC to continue our work with our supply chain partners, both existing and new, as we build a sovereign and sustainable UK-based rare earth permanent magnet supply chain.*

"Over the past two years we have successfully delivered the initial work stream with both Ford, LCM and GKN, and we look forward to seeing our recycled magnets soon in EVs being manufactured by Ford at Halewood in the UK. We also anticipate expanding on that with relationships now extending to both Bentley and Wrightbus on downstream supply of recycled REOs, and upstream partnerships with EMR on sourcing, completing a circular supply chain with the support of two of our magnet partners, Vacuumschmelze and GKN in Germany.

"With the export of REPMs from China effectively turned off in April, the customer base has felt first-hand the risk of complete dependence on a monopolistic supply chain. These initiatives enable the customer base to see that ex-China capability is possible with the support of Western governments, and we congratulate the UK Government for delivering on their vision of sovereign supply."

IonicRE Executive Chairman, Mr Brett Lynch commented: *"This is another significant demonstration of the UK Government's support for the development of a sovereign, secure and sustainable rare earth supply chain. Vision is important but execution is essential and IonicRE is delighted by this additional support as we develop a fully integrated UK rare earth supply chain.*

"IonicRE continues to build a global industrial business, with the aim of developing multiple magnet recycling plants located in the US and Brazil, adding to our established Belfast Demonstration Plant with its unique technology.

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"We are taking small steps but very quickly with an extremely lean but fast-paced expansion strategy. By prudently deploying capital and resources, as well as securing non-dilutive government funding, IonicRE is hyperscaling our global magnet recycling business and maximising shareholder returns."

Fully Formed Circular Supply Chain

Owing to the criticality of REPM supply chains, three of the UK's leading automotive Original Equipment Manufacturers (OEMs) form part of the collaboration, as well as the other key rare earth supply chain partners, with whom Ionic Technologies already has established working relationships. The collaborators in the £11million CirculaREEconomy initiative comprise:

- Ionic Technologies – project leader, world-leading REE recycler and magnet REO producer;
- EMR – global leader in sustainable materials with physical operations in the UK, USA, Germany, and the Netherlands; currently an IonicRE partner under a non-binding Memorandum of Understanding (refer ASX release 26 May 2025);
- Less Common Metals – the world's most advanced, ex-China REE metal and REE alloy manufacturer, and IonicRE partner organisation under a non-binding Memorandum of Understanding (refer ASX release 27 May 2024);
- Ford Technologies – a Ford Motor Company subsidiary, Ford Technologies owns and operates a major Research & Development complex at Dunton, Essex, UK. Ford currently has four drive production facilities globally and the majority of EU production will come from its UK-based Halewood facility, which is planning to produce close to half a million units per annum by 2026;
- Bentley – a premium car brand, based in Crewe, UK, and part of the Volkswagen Group, Bentley is targeting full electrification of its product range, putting priority on sustainability while setting new benchmarks in performance and luxury;
- Wrightbus – one of Europe's leading bus manufacturers, based in Ballymena, UK. Wrightbus produces world leading electric and hydrogen buses, serving customers across the continent with a focus on sustainability and decarbonisation;
- British Geological Survey (BGS) – a world-leading geological survey and global geoscience organisation, focused on public-good science for government and research to understand earth and environmental processes. BGS is the UK's premier provider of objective and authoritative geoscientific and critical minerals data;
- GKN Powder Metallurgy (GKN) – GKN delivers precision-engineered permanent magnet solutions for electric vehicles (EVs), enhancing efficiency, performance, and sustainability. GKN's advanced magnetic materials support electric drivetrains, motors, and energy systems, optimising power density and reducing energy loss. GKN provided a Letter of Support for the project and has worked with Ford, LCM and Ionic Technologies as part of the Climates program; and
- Vacuumschmelze (VAC) – a leading global manufacturer of advanced magnetic solutions, rare-earth permanent magnets and inductive components that contribute to global decarbonisation. VAC provided a Letter of Support for the project and has worked with LCM and Ionic Technologies as part of the REEvaluate project within the Climates II program.

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CirculaREEconomy brings together industry leaders across each stage of the UK's growing REE circular economy. Magnet manufacturing will be performed by partner organisations on a subcontractor basis, working in partnership with the collaborators and OEMs to ensure magnet composition and performance capability is achieved.

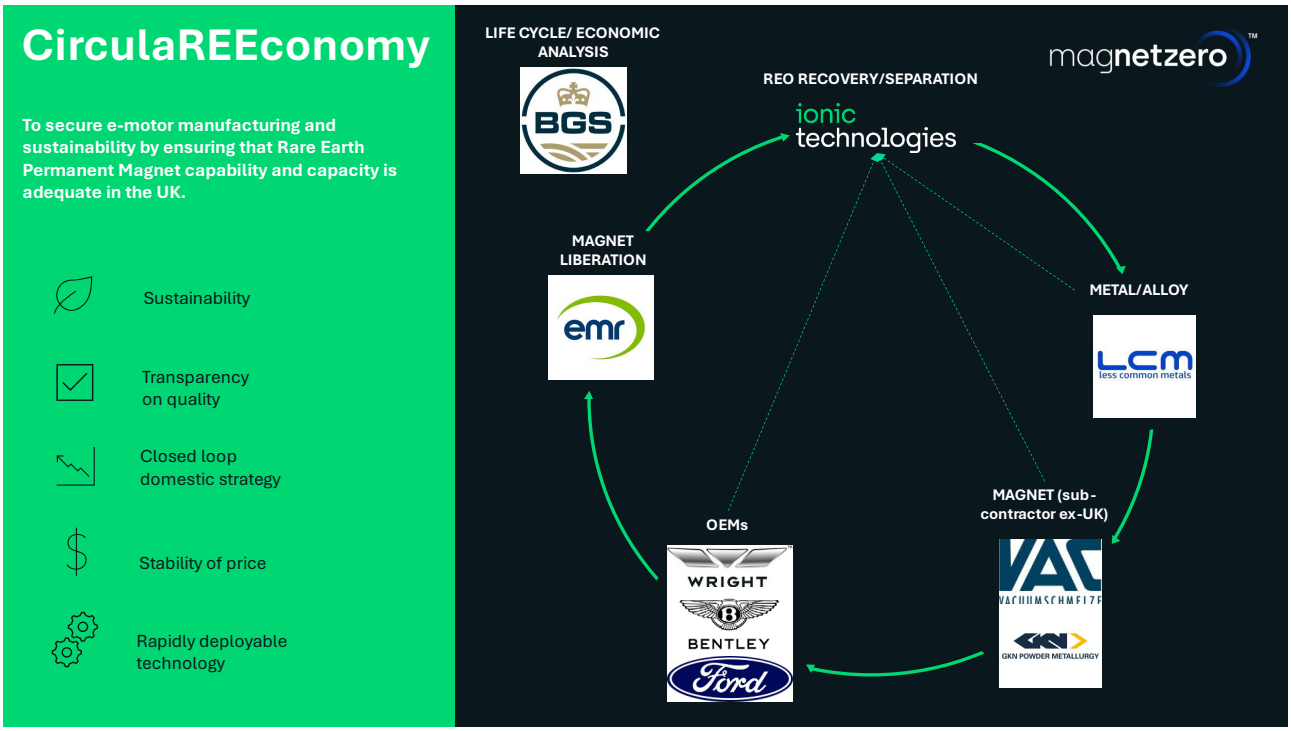

Figure 1: "CirculaREEconomy" supply chain initiative back by the Advanced Propulsion Centre in £11 million program

Critical Circular Technology Advancement

Each partner in the ground-breaking project will conduct innovative work to promote circularity in the UK's e-motor manufacturing industry, with the project commencing on 1 August 2025. EMR will work in partnership with Ionic Technologies to develop an efficient route to recover critical materials from motors. EMR will aim to provide material compliant with Ionic Technologies' broad acceptance criteria for magnet feedstock, also seeking to create processes that enhance traceability.

Ionic Technologies will process material received from EMR into separated REOs by its proprietary long-loop hydrometallurgical recycling method. The business will broaden the range of feedstock proven to be compatible with its recycling technology and prepare for full commercialisation. Ionic Technologies will also develop processing routes for other REEs and preparatory work to aid metal making, as well as leading the overall project.

LCM will receive REOs from Ionic Technologies and seek to optimise the processes used for metal making and alloy manufacturing. The collaboration will work in partnership with magnet makers to manufacture on-specification magnets for Ford, Bentley and Wrightbus. These OEMs will deploy and test magnet performance and progress to offtake validation for the UK-based supply chain.

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BGS will work with all partners to quantify the CO_2 implications of a UK based circular supply chain, compared with conventional supply chains. Furthermore, it will seek to provide costing data to quantify the commercial opportunity of a UK-based supply chain.

Ionic Technologies has shown the potential of its made-in-Belfast patented technology to enhance the sustainability of the rare earth supply chain, with a peer-reviewed Product Carbon Footprint Study showing emission reductions of up to 61% compared to the existing REO supply chain sourced from primary (mine) supply (refer ASX release 13 March 2025).

Figure 2: Left: collaborating organisations meeting at Ford's Halewood e-motor manufacturing plant; Centre: Thomas Kelly, (Ionic Technologies) (left) meets Mike Hogan (Business Development Manager EMR) at the Houses of Parliament, UK; Right: Thomas Kelly with Evi Petavratzi (Principal Mineral Commodity Specialist, British Geological Survey) at British Geological Survey, Keyworth, UK.

Figure 3: UK Government stakeholders in a recent visit to Ionic Technologies' Demonstration Plant in Belfast, UK.

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UK Automotive Sector Opportunity

Facilitated by the APC, the UK Government's DRIVE35 Collaborative funding represents a commitment to accelerate the development of low-carbon technology in the UK, safeguarding and creating jobs and supporting investment in cutting-edge R&D.

The investment funds projects that implement new propulsion technologies and processes within the automotive sector (including passenger car, bus, off-highway and heavy-duty), projects that:

- Build UK capability in emerging net-zero propulsion technologies;
- Accelerate the transition of the UK automotive supply chain;
- De-risk investment in manufacturing and scale-up; and
- Improve competitiveness by utilising digital tools and techniques.

The CirculaREEconomy project demonstrates strategic alignment with the objectives of the funding and was a leading electric drivetrain orientated submission. The Collaborate competition supports late-stage R&D activities, promoting commercial application and fast-tracking products to market, while providing offtake validation.

Through the DRIVE35 initiative, the UK Government is committing £2.5 billion of automotive capital and R&D funding to 2030, with the Collaborate competition significant both to this scheme, and the APC's goal of developing a high-value end-to-end electrified automotive supply chain in the UK. Ionic Technologies is further engaging with the APC on accessing Automotive Transformation funding to support development of a first commercial plant in Belfast, UK.

In the automotive industry alone, the APC anticipates over 2,000 tonnes of magnets per annum will be required for e-motors in the next 10 years, a figure that is 10 times larger when including European demand.

Government Backing for Ionic Technologies

Ionic Technologies' Belfast plant was the first producer of recycled, individually separated magnet REOs in the Western world, with the Company moving rapidly to commercialise rare earth separation, refining, and recycling. Ionic Technologies is now producing individually separated quantities of magnet rare earths oxides – Neodymium Oxide (Nd_2O_3), Didymium Oxide ($(NdPr)_2O_3$), Dysprosium Oxide (Dy_2O_3) and Terbium Oxide (Tb_4O_7) at its Belfast demonstration facility. Ionic Technologies has previously produced high purity, separated REOs to LCM, as part of another strategic project with Ford and LCM (refer ASX release 12 September 2023).

The UK Government has again backed Ionic Technologies as a producer of REE products from recycling that are suitable for EV motors and drivetrain technology in the UK. This is acknowledged in its E-motors value chain Insight Report and in a recent Financial Times article about the business.

The Collaborate funded project, facilitated by the APC and funded by the UK Government, underwent a stringent and competitive appraisal process and scored highly with APC assessors, in part due to strong alignment with scope for designing, developing, and manufacturing new automotive

technologies to support a zero-emission future. The project also seeks to address strategic challenges posed by a UK-only REE permanent magnet supply chain.

Figure 4: Ionic Technologies staff pictured with Demonstration production batches of REOs

Mr Harrison added: *"The UK currently imports around 90% of its rare earth metals, creating significant supply vulnerabilities and economic dependence, and this funding is a much-needed step forward in addressing this critical vulnerability to the UK defence, manufacturing and renewables sectors.*

"Our magnet recycling technology enables an alternative supply chain to start to be created, via low capital development, that can be scalable and responsive to demand, and developed in the backyard of Western governments, providing customers both security of supply and transparency in both environmental footprint and cost base independent of price manipulation.

"As we saw with recent developments in the United States, changes are now occurring in the rare earth sector, and we believe our magnet recycling technology can be a big enabler in creating near term resilient rare earth capacity in the West."

APC CEO, Mr Ian Constance said: *"This funding award aligns perfectly with our commitment to transform the automotive sector through innovative zero-emission and CAM vehicle technologies. By continuing to prioritise collaboration between industry, government, and academia, we can support research and development, vehicle innovation, and unlock capital investment in manufacturing plants and their wider supply chains."*

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Next Steps

IonicRE will commence the project officially on 1 August 2025 and work with partners to ensure that Work Packages are delivered on schedule.

IonicRE continues to engage with the APC concerning capital grant funding, which would have the potential to cornerstone the development of the Company's planned commercial plant in Belfast Harbour.

The appointment of a grant delivery officer as part of this process highlights the UK Government's continuing engagement with Ionic Technologies and its support for this new, strategically critical industry for Belfast, also fostering regional development, investment and skilled employment.

Discussions are continuing and the Company will update the market as these talks progress.

Status on Export Restrictions

China's April announcement of additional export restrictions on medium and heavy rare earths, including Dy and Tb, has resulted in a substantial increase of inbound requests for additional or excess Dy or Tb capacity available from Ionic Technologies, highlighting the urgent need for the development of an ex-China rare earth supply chain.

The Company is continuing to engage with various groups to determine mutually beneficial opportunities in developing new, secure and sustainable supply chains, with the benefit of Ionic Technologies' fast-track and low capex magnet recycling solution.

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

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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 99.5% rare earth oxide (REO).

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 REO.

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.

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

About Bentley

A Bentley provides both relaxation and excitement and represents a very personal journey. For its passengers, this means immersing themselves in a world of luxurious excellence. In this way, the brand represents its capabilities, its passion and the pride of its staff. In 1998 Bentley was acquired by the Volkswagen Group, immediately investing over £1 billion to upgrade the factory in Crewe, UK.

Bentley is creating a future driven by new technologies, materials, fuels and capabilities in the pursuit of an advanced, modern world. A world where sustainable methods are used to achieve the highest levels of luxury mobility. Bentley's Beyond100+ strategy describes how this future is to become reality and how the brand intends on becoming the leading manufacturer of luxury electric cars. Bentley, already leading the way in the luxury hybrid car sector, will consequently further cement this position by extending the lifecycle of PHEV models beyond 2030, to 2035.

More information is available at https://www.bentleymotors.com/en.html

About British Geological Survey (BGS)

The British Geological Survey is a world-leading geological survey and global geoscience organisation, focused on public-good science for government and research to understand earth and environmental processes.

British Geological Survey is the UK's premier provider of objective and authoritative geoscientific data, information and knowledge to help society to use its natural resources responsibly, manage environmental change and be resilient to environmental hazards.

Find out more at https://www.bgs.ac.uk

About European Metal Recycling (EMR)

European Metal Recycling (EMR) is a global leader in sustainable materials. EMR works with international automotive companies, government bodies and blue-chip companies, plus hundreds of businesses in industries such as demolition, construction and electronics, to turn their waste into a valuable resource.

By reusing the resources that exist in the machinery, appliances, and consumer products of today, EMR helps to protect the environment of tomorrow. EMR invests in cutting-edge technology, world-class research and has a dedicated team of recycling experts.

With facilities across the globe and a team of over 3,000 people, EMR operations put 10 million tonnes of material back into the supply chain annually.

For more information, please visit https://uk.emrgroup.com/about-us

About Ford Technologies

Ford Technologies Limited is a subsidiary of the Ford Motor Company. Ford Technologies Limited owns and operates a major Research & Development complex at Dunton, Essex, UK. Ford currently has four drive production facilities globally; the majority of EU production will come from its UK based Halewood facility which is planning to produce close to half a million units per annum by 2026.

Find out more at https://www.ford.co.uk/experience-ford/about-ford

About GKN Powder Metallurgy

GKN Powder Metallurgy delivers precision-engineered permanent magnet solutions for EVs, enhancing efficiency, performance, and sustainability. Their advanced magnetic materials support electric drivetrains, motors, and energy systems, optimising power density and reducing energy loss. With expertise in powder metallurgy and advanced manufacturing, GKN PM develops custom magnet solutions tailored to automotive applications.

GKN's high-performance magnets improve motor efficiency, torque, and battery range, supporting hybrid and battery-electric vehicles (HEVs and BEVs). By leveraging sustainable production processes, GKN help automakers meet energy efficiency and environmental goals, shaping the future of EV technology.

Find out more at https://www.gknpm.com/

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About Less Common Metals

Less Common Metals Ltd is a privately-owned company and world leader in the manufacture and supply of rare earth-based metals and alloys. Its main markets are the global permanent magnet industry, specialist master alloy consumers and producers of functional materials based on rare earth-containing alloys. With considerable experience in the production and characterisation of materials to tight compositional tolerances and controlled microstructures, LCM offers an innovative and highly flexible approach to a wide range of material requirements.

Find out more at https://lesscommonmetals.com/

About Vacuumschmelze

Vacuumschmelze (VAC) is a leading global producer of advanced magnetic solutions, rare earth permanent magnets, and inductive components. With extensive application know-how and over 100 years of experience in material science and product development, VAC designs and manufactures mission critical solutions for a wide variety of industries, including renewable energy, e-mobility, automotive, industrial automation, medical, aerospace and defence.

VAC's unique ability to develop and manufacture from base elements through final products enables us to provide customers optimal form factors and performance, generating best in class efficient solutions in an environmentally conscious manner. VAC is a portfolio company of Ara Partners, a global private equity firm that is decarbonising the industrial economy.

More information is available at www.vacuumschmelze.com

About Wrightbus

For over 75 years, Wrightbus has helped people reach their destinations all over the world. Wrightbus built iconic vehicles that have defined transport and added character to our cities and towns, including the StreetCar in Las Vegas and the New Routemaster in London. And now, after the successful launch of its groundbreaking zero emission product line it is carrying passengers into a cleaner future. Wrightbus remains the only British manufacturer that manufactures both single and double deck battery and fuel cell electric buses.

Together with Queens University Belfast, Wrightbus has the ability to carry out a range of academic-backed modelling analysis which is highly accurate, detailed and forms a key principle in the recommendation of the suggested battery capacity and vehicle performance. Under Jo Bamford's leadership, Wrightbus is embarking on a new trajectory of innovation and environmental awareness.

Just as with their Hydrogen bus, Wrightbus is applying new energy solutions to help vehicles meet their zero-emission targets. Wrightbus is also creating more green economy UK jobs across a UK centric supply chain for zero-emission buses.

More information is available at https://wrightbus.com/

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

- *IXR eyeing multiple magnet recycling plants in USA – 23 June 2025*
- *Viridion JV plans expansion into USA with REE refinery – 18 June 2025*
- *Viridion JV selected for Brazilian government REE funding – 13 June 2025*
- *Viridion JV delivers first magnet REOs to Brazil – 27 May 2025*
- *IonicRE inks MOU with EMR to create game-changing circular supply chain for rare earth magnets – 26 May 2025*
- *China export controls put spotlight on Makuutu heavy rare earths – 9 April 2025*
- *Peer review confirms up to 61% lower CO_2 emissions from Ionic Technologies' magnet recycling process – 13 March 2025*
- *Magnet recycling life cycle assessment indicates revolutionary 30-50% lower CO_2 footprint compared with existing global primary REO producers – 18 February 2025*
- *IonicRE signs MOU with Korea's DNA Link to spur international expansion – 13 February 2025*
- *LCA to show Ionic Technologies CO_2 footprint benefit – 5 February 2025*
- *UK government grant application lodged for magnet recycling plant – 5 December 2024*
- *Feasibility Study demonstrates profitable magnet REO business case – 18 November 2024*
- *Ionic Technologies secures UK funding for recycled rare earth permanent magnets partnership – 1 October 2024*
- *IXR and LCM advance rare earth supply chain collaboration – 27 May 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.

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