13 December 2022

REVIEW OF 2022, OUTLOOK FOR 2023

- **Focused on the development of the Makuutu Rare Earths Project in Uganda and to accelerate magnet recycling technology scale up at Ionic Technologies in Belfast**
- **To enable these developments, we have significantly increased our skilled workforce across all divisions within Uganda and Belfast, UK**
- **The awarding of the Environmental and Social Impact Assessment Certificate has been a major milestone in the development of the Makuutu Project**
- **Work programs continue in Australia and Uganda to de-risk the Makuutu Rare Earths Project, with finalisation of Mining Licence Application expected early in 2023**
- **Discussions initiated with partners in Rwenzori Rare Metals to increase ownership beyond 60% in Makuutu**
- **Downstream Refinery study nearing completion, expected to be finalised in Q1 2023, with the US as the preferred location for the facility**
- **Engagements continue with governments, government bodies, and potential strategic partners interested in the unique appeal of the Makuutu basket of magnet and heavy rare earths to feed new emerging supply chains**
- **Strong cash reserves, in excess of $20M[1] as we close out 2022, allowing for the delivery of work streams across the mining, refining and recycling programs**

The Board of **Ionic Rare Earths Limited** ("IonicRE" or the "Company") (ASX: IXR) is pleased to provide an update on the progress made across calendar year 2022, and an insight into the expected activities for H1 2023.

2022 has been a year of significant growth within IonicRE, as we have further advanced the Makuutu Rare Earths Project ("Makuutu" or "the Project") towards the finalisation of a Mining Licence Application (MLA) in Uganda, underpinned by a significant resource base upgrade and approval of our Environmental and Social Impact Assessment (ESIA).

[1] As at 30 September 2022

The Company finalised the acquisition of Seren Technologies Limited (now Ionic Technologies International Limited) and is now accelerating the scale up and verification of the technology prior to the potential commercialisation of magnet recycling in the near term.

Additionally, IonicRE has further defined the potential landscape and strategic appeal of a dedicated facility to separate and refine the Makuutu basket to magnet and heavy rare earth oxides (REO), to feed a growing demand from western end users and governments looking to establish new secure, sustainable and traceable supply chains to support net zero carbon technologies and defence demands.

Mr Tim Harrison, Managing Director of Ionic Rare Earths commented: *"I am very proud of the Company's achievements on reaching a number of significant milestones in 2022. These achievements position IonicRE to be an early mover and to significantly add value and capacity in developing the supply chain of critical magnet and heavy rare earth elements for use across key applications to enable the delivery of net zero carbon technologies."*

"Importantly, with the Board having stressed the importance of health and safety, we have developed strong policies and implemented strict procedures resulting in a very safe environment for our workforce, measured by no lost time incidents across our businesses in the last 12 months. The health, safety and wellbeing of our staff and communities we interact with is of utmost importance to us."

"Completing our maiden ESG baseline study was another success to celebrate this year. The Board and staff of IonicRE and subsidiary company Rwenzori Rare Metals are pleased with our maiden ESG rating of "BB". Processes to build on this initial rating were instigated immediately as we look to improve on our performance, and further develop our interaction with all stakeholders with care and diligence throughout our entire operation."

"Also of significance was the positive response from global institutions supporting the $30 million placement in April 2022 which has allowed us to accelerate the development of timeframes for the Makuutu Rare Earths Project in Uganda, acquire and establish magnet recycling in Belfast, and continue to work with potential partners interested in refining the unique magnet and heavy REOs found in the Makuutu basket."

"Further to our internal growth plans, we have continued to engage with governments, quasi government organisations, and potential strategic partners that are key to building the supply chain for the ever-increasing demand for rare earth elements. These activities have been carried out in parallel with driving the development our flagship mine at Makuutu in Uganda."

"We look forward to commissioning the Ionic Technologies magnet recycling demonstration plant in late Q1 2023, and first recycled magnet REOs produced at scale by the end of Q2 2023. With the production of these magnet REOs, we will be able to further collaborate in the sustainable, secure and traceable supply chain that in turn enables the making of metals, alloys and magnets for potential partners in the EV and wind turbine sectors."

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At Makuutu Rare Earths Project – Uganda

Makuutu is one of the world's largest ionic adsorption clay (IAC) hosted rare earth element (REE) deposits comprised of six licenses covering approximately 300 km^2 located 120 km east of Kampala in Uganda. The defined mineralisation stretches 37km long, situated near high quality infrastructure.

In March 2022, final assays were reported from a very successful, Phase 4 drill program completed in 2021. All 432 drill holes completed returned Total Rare Earth Oxides (TREO) grade above cut-off culminating in a near 70% increase in the global Mineral Resource Estimate reported in May (refer Table 1).

Further to the upgraded MRE, the Company announced in June 2022 an updated Exploration Target at Makuutu which provides significant longer-term opportunity to expand the footprint of the Project to a multi-generational, magnet and heavy rare earth producing asset.

In August 2022, the Company, via 51% owned Ugandan subsidiary Rwenzori Rare Metals Ltd (RRM), hosted two large public hearings at Makuutu with over 3,800 registered attendees demonstrating strong governmental and local stakeholder support. Further to this, several visits to the Project site from Ugandan ministers of parliament and other dignitary and government departments consolidated support for the development of Makuutu.

In September 2022, the Company initiated the early commencement of the MLA at Makuutu. The MLA has been prepared for the Makuutu central licence RL 1693, which is host to an Indicated Resource Estimate of 259 million tonnes at 740 ppm TREO-CeO_2 (refer Table 2). The Company is now finalising the remaining documentation in consultation with the Directorate of Geological Survey and Mines (DGSM) in Uganda.

Advice from Ugandan government representatives suggests the ML remains on track for award Q1 2023. Work programs continue in Australia and overseas evaluating the best methods for developing Makuutu across the six tenements, from mining, to optimised processing via extensive metallurgical programs and engineering studies. All these programs focus on de-risking the development.

Uganda's National Environmental Management Authority (NEMA) approved the Makuutu ESIA in October. This vote of confidence positions the Makuutu as Uganda's next mining development and will unlock unprecedented social and economic benefit through mineral development. Social benefits continue to accelerate across local communities in the Bugweri, Mayuge and Bugiri districts and includes employment, support programs and improved social services in one of the poorest parts of Uganda.

Growing and investing in the local workforce continues, in order to build capacity in our RRM team in Uganda as Makuutu develops. Development of the Proof of Concept (POC) Demonstration Plant at Makuutu to de-risk the Project execution through larger scale activity – mining, material handling, metallurgical processing and reconciliation – is a key focus in 2023. Also critical will be the production of significant quantities of mixed rare earth carbonate (MREC), required for evaluation by potential downstream strategic and supply chain partners, this will also provide samples for our own refinery flowsheet optimisation and evaluation activities.

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Additional drilling is expected to commence in H1 2023, once exploration EIS documents have been approved, to further evaluate exploration targets and to increase RL 00007 resource estimate confidence towards the next mineral licence application (MLA). Recently, the Company applied for the extension of the Retention Licence 00007, or the Makuutu western zone, as the next potential RL to progress to an MLA in late 2024.

Ionic Technologies – Belfast UK

Ionic Technologies ("IonicTech") has developed rare earth element separation and refining technology and applied this to the recovery and separation of individual rare earths from spent permanent magnets. The recently rebranded 100% owned subsidiary IonicTech (formerly Seren Technologies Ltd), based in Belfast UK, is focused on delivering results from the demonstration plant by mid-year 2023.

After completing the acquisition in April 2022, the business has been integrated into IonicRE with workstreams on certain company activities migrated across to Belfast, UK, where a new facility has been developed to house the growing team.

In September 2022, the UK government Advanced Propulsion Centre (APC), a non-profit organisation that facilitates funding to UK based research and development projects developing low-carbon emission powertrain technologies, awarded funding to IonicTech. The Automotive Transformation Fund Scale up Readiness Validation ("SuRV") program awarded a grant of £1.72 million (approximately A$2.9 million) to accelerate the development of a magnet recycling demonstration plant, with a view to developing domestic supply of magnet REOs in the UK.

IonicTech now has established a dedicated facility in Belfast, at the Titanic Quarter, to house the pilot and demonstration plants, plus provide a technical centre to continue to develop the intellectual property for the development of both magnet recycling and our own standalone refinery. The scale up of the technology remains on track following recent positive activities where appreciable amounts of high purity magnet REOs were produced which is seen as a key step for the Company in commercialising the technology with potential strategic partners.

Refinery Study – adding value through downstream supply chain

Over 2022, IonicRE has completed extensive metallurgical test work and process modelling to define a process flowsheet capable of separating the Makuutu basket into the full spectrum of REOs (plus scandium). Engineering activity is now in its final stages with expectation for initial reviews before the end of 2022, and finalisation of the study in early 2023.

IonicRE continued to initiate discussions and receive inputs from potential supply chain partners and other technology partners on further value addition beyond REOs, to metals, alloys and magnets plus other rare earth compounds to support the location trade-off study.

Engagements with government bodies continued over the year with very positive feedback on the unique appeal of IonicRE's basket from Makuutu. The Company has had significant interest from several government bodies, all interested in accessing sustainable and traceable supply of magnet and heavy rare earths into new emerging supply chains.

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IonicRE completed the initial location trade-off study with key input from potential supply chain partners. For several reasons, including the availability of low-cost power, and strategic supply chain appeal, the US has been selected as the preferred location for a dedicated refinery, with several sites visited in the US and preferred location identified.

The Company expects it will be able to update the market in Q1 2023 on the refinery study and selected location.

Supply Chain Engagement

Throughout 2022, the Company has been engaging with several groups interested in the development of Makuutu and magnet recycling and the potential unlock via a dedicated heavy rare earth separation facility in the US. Discussions have progressed positively and education on supply chain challenges remains a key activity with a number of potential end users.

Given the nature of the existing supply chain monopsony, and the desire to develop alternative downstream processing capability in metal, alloy and magnet production capability, IonicRE continues to explore ways in which it can help to facilitate emerging value addition.

The Company expects that 2023 will be a year when further progress will be made, mandated by increasing demand for key magnet and heavy rare earth elements.

Corporate

The Company was very pleased with the maiden assessment from Digbee ESG™ ("Digbee"), where an independent panel of globally recognised ESG experts awarded IonicRE an overall ESG rating of "BB" on both corporate and Makuutu Project related criteria. The assessment and report has provided a pathway for IonicRE to apply improvement mechanisms in relation to the pillars of Environmental, Social and Governance embedded within our Company, from Makuutu in Uganda to Ionic Technologies in Belfast, and within corporate IonicRE.

The oversubscribed Placement of $30 million, led by Canaccord Genuity (Australia) Limited as Global Bookrunner and Lead Manager, in conjunction with Sprott Capital Partners LP acting as Co-Manager was strongly supported from new, leading global institutions based out of Europe, North America, Asia and Australia, along with existing investors. The capital raise brought several leading institutions onto IonicRE's register.

The strong response from the market to the Placement reflects the potential of the Company's unique focus to become a vertically integrated and alternative supplier of magnet and heavy rare earths feeding into a trend of growing demand, increasingly supply constrained, and the ever-present strain of geopolitical tensions.

IonicRE has a strong cash balance as we finish 2022, which will enable the Company to initiate those activities we think will progress IonicRE to the next level of growth. Additionally, we expect that we will continue to build the teams that will deliver the programs in parallel over 2023.

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Authorised for release by the Board.

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Table 1: Makuutu Resource above 200ppm TREO-CeO2 Cut-off Grade (ASX : 3 May 2022)

Resource Classification	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc_2O_3 (ppm)
Indicated Resource	404	670	450	500	170	230	30
Inferred Resource	127	540	360	400	140	180	30
Total Resource	**532**	**640**	**430**	**480**	**160**	**220**	**30**

Rounding has been applied to 1Mt and 10ppm which may influence averaging calculation.
All REO are tabulated in announcement 3 May 2022 with formulas defining composition of (Light Rare Earth Oxides ("LREO"), HREO and Critical Rare Earth Oxides ("CREO").

Table 2: Mineral Resources by Area (ASX : 3 May 2022)

Classification	Indicated Resource			Inferred Resource			Total Resource		
Area	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)	Tonnes (millions)	TREO (ppm)	TREO-CeO_2 (ppm)
A				13	580	390	13	580	390
B				26	410	290	26	410	290
C	31	580	400	3	490	350	35	570	400
D				6	560	400	6	560	400
E				18	430	280	18	430	280
Central Zone	151	780	540	12	670	460	163	770	530
Central Zone East	59	750	490	12	650	430	72	730	480
F	18	630	420	7	590	400	25	620	410
G	9	750	500	5	710	450	14	730	480
H	6	800	550	7	680	480	13	740	510
I	129	540	350	19	530	350	148	540	350
Total Resource	**404**	**670**	**450**	**127**	**540**	**360**	**532**	**640**	**430**

Rounding has been applied to 1Mt and 10ppm which may influence averaging calculations. Highlighted rows providing Indicted Resource Estimate for MLA over RL 1693.

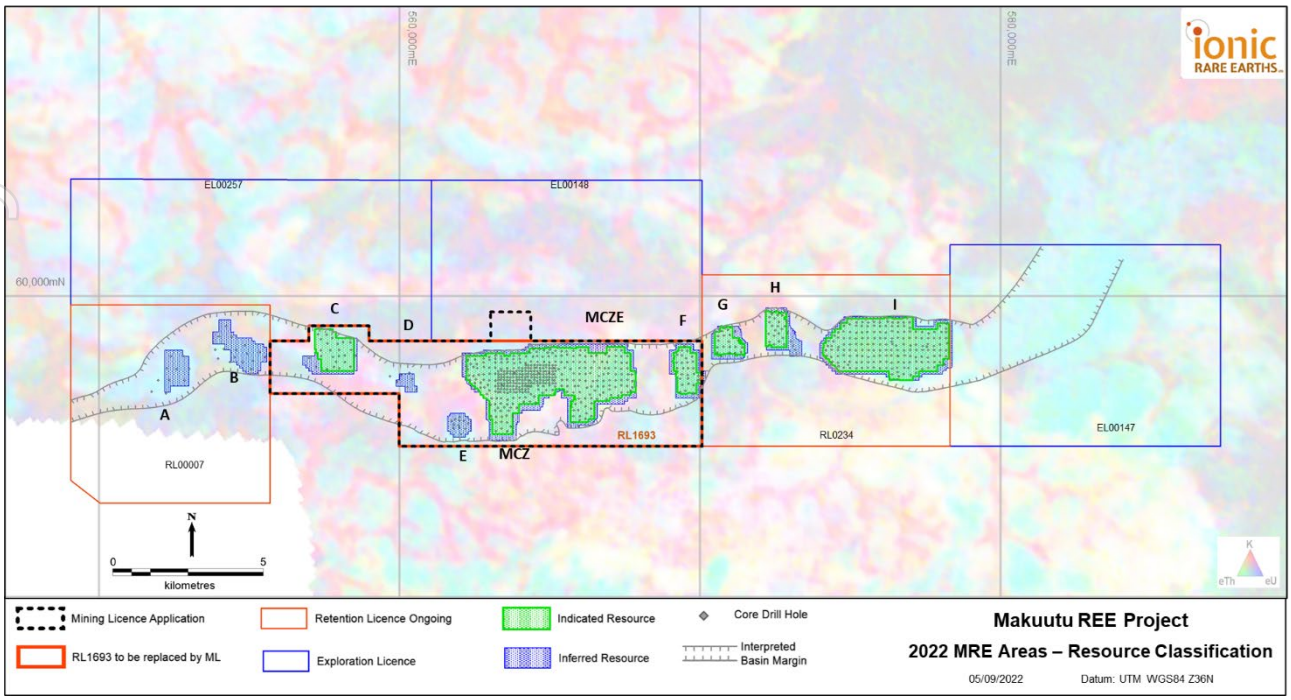

Figure 1: Makuutu Central Mining Licence Application area defined by orange border around RL 1693

About Ionic Rare Earths Ltd

Ionic Rare Earths Limited (ASX: IXR or "IonicRE") is focused on developing a sustainable and traceable supply of magnet and heavy rare earths for application to net zero carbon technologies, from its unique Makuutu asset in Uganda, and recycled end of life magnets through its 100% owned UK subsidiary, Ionic Technologies International Limited ("IonicTech").

IonicRE's flagship Makuutu Rare Earths Project in Uganda is a significant, long life, supplier of high-value magnet and heavy rare earths oxides (REO). Makuutu is an advanced-stage, ionic adsorption clay (IAC) hosted rare earth element (REE) project highlighted by near-surface mineralisation and significant exploration upside. The clay-hosted geology at Makuutu is similar to major IAC rare earths projects in southern China, which are responsible for the majority of global supply of low-cost rare earths, specifically the high value Heavy REOs (>95% originating from IAC). Metallurgical testing at Makuutu has demonstrated a proven ionic fraction, which provide multiple avenues for a low-CAPEX process route. Makuutu is well-supported by tier-one existing infrastructure which includes access to major highways, roads, power, water and a professional workforce. IonicRE announced a substantial 70% increase to the MRE at Makuutu in May 2022, with potential for a 50+ year life of mine (LOM).

IonicRE plans to become a vertically integrated magnet and heavy rare earths supply chain early mover. In August 2021, IonicRE announced plans to develop its own heavy rare earth refinery, or hub, to market its unique and high value magnet and heavy rare earths dominant basket (~73%). Now with the addition of Ionic Technologies, acquired in April 2022, a company with patented

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technology for traceable permanent magnet recycling, IonicRE aims to complete the circular economy of rare earths.

Competent Persons Statement

The information in this report that relates to Mineral Resources for the Makuutu Rare Earths deposit was first released to the ASX on 3 May 2022 and is available to view on www.asx.com.au. Ionic Rare Earths Limited confirms that it is not aware of any new information or data that materially affects information included in the relevant market announcement, and that all material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

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.

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