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PILOT PLANT SUCCESSFULLY COMMISSIONED FOR LONG-LOOP RECYCLING OF RARE EARTH MAGNETS

Highlights

- **Mkango Rare Earths UK has successfully commissioned a long-loop recycling pilot plant at Tyseley Energy Park in Birmingham, which processes NdFeB magnet scrap or swarf to produce rare earth carbonates and oxides via a chemical route**
- **Complements the short-loop recycling plant currently being commissioned by HyProMag and University of Birmingham also at Tyseley Energy Park, which processes NdFeB magnet scrap to produce rare earth alloys and magnets**
- **Both recycling processes are underpinned by the patented Hydrogen Processing of Magnet Scrap (HPMS) technology developed at University of Birmingham, which liberates NdFeB magnets from end-of-life scrap streams in a cost effective and energy efficient way**

London / Vancouver: July 1, 2024 – Mkango Resources Ltd. (AIM/TSX-V: MKA) (the “Company” or “Mkango”) is pleased to announce that Mkango Rare Earths UK (“Mkango UK”) has successfully commissioned a pilot plant designed to produce separated magnet rare earths (neodymium/praseodymium and dysprosium/terbium carbonates or oxides) via a long-loop recycling process. Mkango UK is 100% owned by Maginito Limited (“Maginito”), which is 79.4% owned by Mkango and 20.6% owned by CoTec Holdings (“CoTec”).

The long-loop pilot plant received 70% of its funding from the UKRI's Driving Electric Revolution Challenge, delivered by Innovate UK, as part of the grant-funded project “Secure Critical Rare Earth Magnets for the UK” (SCREAM). Project partners include HyProMag, Bowers & Wilkins, European Metal Recycling (EMR), GKN Automotive, Jaguar Land Rover, and the University of Birmingham.

William Dawes, Chief Executive of Mkango stated: *“This is a significant achievement for the Mkango UK team. We considered it key to develop this technical capability, given that some of the HPMS product not suitable for short-loop magnet manufacture and all swarf produced by HyProMag will require long loop chemical processing. This pilot plant enables us to determine the cost structure and carbon footprint of the baseline process, enabling the evaluation of different options for long-loop recycling on a commercial basis.”*

Nielson Beddoe, Processing Engineering Manager of Mkango UK stated: *“We’re very excited to have reached this major milestone. This is a credit to our excellent technical team in Birmingham and we are looking forward to the next steps as we progress through process optimization, scoping studies and evaluation of bolt-on technology enhancements. The development of the long-loop process enhances the technical flexibility to process different scrap streams, including swarf, and to produce a range of rare earth products. This strengthens ongoing customer engagement working closely with the HyProMag team.”*

Professor Allan Walton, Head of the Magnetic Materials Group at University of Birmingham and founding Director of HyProMag stated: *“We are excited to see this additional capability for long-loop chemical processing*

brought to Tyseley Energy Park with the support of the University of Birmingham. Commissioning of the short-loop recycling plant is gathering momentum following commissioning of the commercial scale magnet manufacturing presses in December last year, with infrastructure development starting in the coming weeks, and delivery of the powder processing plant and HPMS vessel expected in July and August, respectively.”

Rare earth magnets play a key role in clean energy technologies including electric vehicles and wind turbine generators, and they are also a key component in electronic devices including mobile phones, hard disk drives and loudspeakers. The UK has no domestic source of primary rare earths. The development of domestic sources of recycled rare earths via HPMS, a homegrown technology, is a significant opportunity for the UK to fast-track the development of sustainable and competitive rare earth magnet production.

Both long-loop and short-loop recycling technologies are underpinned by the patented HPMS technology developed at University of Birmingham, which liberates magnets from end-of-life scrap streams in a cost effective and energy efficient way to produce a recycled NdFeB alloy powder, which is manufactured into a magnet (via the short loop process) or into a rare earth carbonate or oxide (via the long loop chemical process).

Optimisation of long-loop pilot operations is underway, targeting near-term pilot scale production of the first 50kg batch of rare earth carbonates and oxides, in parallel with completion of scoping studies and evaluation of options to advance long loop recycling via stand-alone development, joint venture or other commercial arrangements. The long-loop recycling route is used to process NdFeB HPMS powder not suitable for short-loop recycling or for the processing of magnet swarf (i.e. the powder produced from grinding and finishing magnets).

In parallel, commissioning of the commercial scale short-loop magnet recycling plant by University of Birmingham and HyProMag (main industrial partner and exclusive HPMS licensee) is underway.

HyProMag is also commercialising HPMS recycling technology in Germany and United States, with commercial production targeted for 2025 and 2026, respectively.

HPMS technology is underpinned by approximately US\$100 million of research and development funding, and has major competitive advantages versus other rare earth magnet recycling technologies, which are largely focused on chemical processes but do not solve the challenges of liberating magnets from end-of-life scrap streams – HPMS provides the solution.

HyProMag’s HPMS recycling technology was selected by the Minerals Security Partnership (“MSP”) for support as one of its key projects. The technology was selected because the MSP determined its strong potential to contribute towards the development of responsible critical mineral supply chains.

The MSP was formed in 2022 by 14 governments and aims to ensure adequate supplies of minerals such as rare earths to meet net zero-carbon goals. It aims to support public and private sector investments building diverse, secure, and responsible global critical minerals supply chains.

About Mkango

Mkango is listed on the AIM and the TSX-V. Mkango’s corporate strategy is to become a market leader in the production of recycled rare earth magnets, alloys and oxides, through its interest in Maginito Limited (“Maginito”), which is owned 79.4 per cent by Mkango and 20.6 per cent by CoTec, and to develop new sustainable sources of neodymium, praseodymium, dysprosium and terbium to supply accelerating demand from electric vehicles, wind turbines and other clean energy technologies.

Maginito holds a 100 per cent interest in HyProMag and a 90 per cent direct and indirect interest (assuming conversion of Maginito’s convertible loan) in HyProMag GmbH, focused on short loop rare earth magnet recycling in the UK and Germany, respectively, and a 100 per cent interest in Mkango Rare Earths UK Ltd (“Mkango UK”), focused on long loop rare earth magnet recycling in the UK via a chemical route.

Maginito and CoTec are also rolling out HyProMag’s recycling technology into the United States via the 50/50 owned HyProMag USA LLC joint venture company.

Mkango also owns the advanced stage Songwe Hill rare earths project and an extensive rare earths, uranium, tantalum, niobium, rutile, nickel and cobalt exploration portfolio in Malawi, and the Pulawy rare earths separation project in Poland. Discussions with the Government of Malawi in relation to the Mining Development Agreement for Songwe Hill are ongoing.

For more information, please visit www.mkango.ca

Market Abuse Regulation (MAR) Disclosure

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014 ('MAR') which has been incorporated into UK law by the European Union (Withdrawal) Act 2018. Upon the publication of this announcement via Regulatory Information Service, this inside information is now considered to be in the public domain.

Cautionary Note Regarding Forward-Looking Statements

This news release contains forward-looking statements (within the meaning of that term under applicable securities laws) with respect to Mkango. Generally, forward looking statements can be identified by the use of words such as “targeted”, “plans”, “expects” or “is expected to”, “scheduled”, “estimates” “intends”, “anticipates”, “believes”, or variations of such words and phrases, or statements that certain actions, events or results “can”, “may”, “could”, “would”, “should”, “might” or “will”, occur or be achieved, or the negative connotations thereof. Readers are cautioned not to place undue reliance on forward-looking statements, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur, which may cause actual performance and results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. Such factors and risks include, without limiting the foregoing, the availability of (or delays in obtaining) financing to develop the various recycling plants in the UK, Germany, governmental action and other market effects on global demand and pricing for the metals and associated downstream products for which Mkango is researching and developing, , the ability to scale the HPMS and chemical recycling technologies to commercial scale, competitors having greater financial capability and effective competing technologies in the recycling and separation business of Maginito, availability of scrap supplies for recycling activities, government regulation (including the impact of environmental and other regulations) on and the economics in relation to recycling and the development of the various recycling plants of Maginito and future investments in the United States pursuant to the cooperation agreement between Maginito and CoTec, the outcome and timing of the completion of the feasibility studies, cost overruns, complexities in building and operating the plants, and the positive results of feasibility studies on the various proposed aspects of Maginito’s activities. The forward-looking statements contained in this news release are made as of the date of this news release. Except as required by law, the Company disclaims any intention and assume no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Additionally, the Company undertakes no obligation to comment on the expectations of, or statements made by, third parties in respect of the matters discussed above.

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