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MKANGO ANNOUNCES SUCCESSFUL COMPLETION OF GROUNDBREAKING PROJECT BY HYPROMAG, EUROPEAN METAL RECYCLING AND UNIVERSITY OF BIRMINGHAM TO RECYCLE RARE EARTH MAGNETS FROM LOUDSPEAKERS

Highlights

- **Successful completion of groundbreaking project to recycle rare earth magnets from loudspeakers in vehicles and flat screen TVs, led by HyProMag Limited ("HyProMag"), European Metal Recycling Limited ("EMR") and University of Birmingham ("UoB"), funded via a grant from the Industrial Strategy Challenge Fund, delivered by UK Research and Innovation ("UKRI")**
- **The recycling process is underpinned by hydrogen processing of magnet scrap ("HPMS") technology, originally developed within the Magnetic Materials Group at UoB and subsequently licenced to HyProMag**
- **The quantity, properties, economics and suitability of loudspeaker magnets for recycling was confirmed in the project, with the recycled magnets produced having comparable magnetic properties to the initial starting magnets**
- **This highly encouraging result highlights that HPMS can be used to create a new sustainable and low energy impact feedstock, which would otherwise be lost to landfill, for the commercial manufacture of rare earth magnets for the UK supply chain, and provides a strong platform to scale up production**
- **HyProMag, together with its strong network of partnerships, access to Intellectual Property and longstanding experience in the sector, has a significant opportunity to unlock the supply chain for recycling of rare earth magnets from a diverse range of sources, including electric vehicles, wind turbines and electronic devices**

London / Vancouver: September 30, 2021 - Mkango Resources Ltd. (AIM/TSX-V: MKA) (the "Company" or "Mkango") is pleased to announce that HyProMag Limited ("HyProMag") and partners, European Metal Recycling Limited ("EMR") and University of Birmingham ("UoB") have successfully completed the previously announced REAP project ("Rare-Earth Extraction from Audio Products") (the "Project").

Mkango's subsidiary, Maginito Limited ("Maginito"), holds a 25 per cent equity interest in HyProMag, with an option to increase its interest up to 49 per cent. Maginito has the first right to supply primary production, if required for blending with recycled production from HyProMag, as well as product offtake and marketing rights.

Rare earth magnets play a key role in clean energy technologies including electric vehicles and wind turbine generators, but they are also a key component in electronic devices including mobile phones, hard disk drives and loudspeakers. Loudspeakers account for approximately 20 per cent of the current market for rare earth

magnets, according to Adamas Intelligence, and therefore represent a significant opportunity for rare earth magnet recycling.

The UK has no domestic source of primary rare earths. The development of domestic sources of recycled rare earths via HPMS (Hydrogen Processing of Magnet Scrap), a homegrown technology, is a significant opportunity for the UK to fast-track the development of sustainable and competitive rare earth magnet production. The short loop recycling processes which are being scaled up by HyProMag will have a significant environmental benefit, requiring 88 per cent less energy compared to conventional production of magnets from primary sources.

William Dawes, Chief Executive of Mkango stated: *"This is a significant milestone for HyProMag, University of Birmingham and European Metal Recycling, demonstrating another potential source of both feedstock and route to market for recycled rare earth magnets. Recycling is a key component of Mkango's "mine, refine, recycle" strategy via its strategic interest in HyProMag, and will become an increasingly important part of the rare earth supply chain in the UK, Europe and elsewhere. HyProMag is well positioned to unlock that supply chain with access to the technology, expertise and network of partnerships to make it happen, and Mkango looks forward to supporting HyProMag as it scales up to commercial production."*

Nick Mann, Operations General Manager of HyProMag stated: *"HyProMag is very pleased to have successfully completed this groundbreaking project, which has identified a useful and accessible source of end of life magnets that can be collected, extracted and remanufactured on a commercially viable basis. As demand and therefore price of NdFeB magnets continues to rise, the need to capture waste material for recycling becomes imperative for economic as well as environmental reasons. REAP further advances the novel techniques required to recycle rare earth magnets from audio products, which account for around 20 per cent of the NdFeB market each year. HyProMag looks forward to developing these techniques alongside EMR with a view to further scale up and commercialisation."*

Fundamental to the REAP Project is the patented HPMS process for extracting and demagnetising neodymium iron boron ("NdFeB") alloy powders from magnets embedded in scrap and redundant equipment, originally developed within the Magnetic Materials Group at the UoB and subsequently licenced to HyProMag.

The other Project partner, EMR, is a global leader in metal recycling, operating at 150 locations around the world, and the largest automotive recycler in the UK.

EMR pre-processed automotive and flat screen TV loudspeaker scrap to provide a feed of scrap components containing NdFeB magnets to HyProMag. HyProMag used the HPMS process in conjunction with the UoB to extract the magnets as a demagnetised alloy powder, which was then used in the remanufacture of magnets.

The REAP Project

The aim of REAP was to build on previous knowledge of recycling of NdFeB magnets from hard disk drives, using HPMS, and to investigate a new scrap stream from loudspeakers, specifically from end of life vehicles ("ELV") and flat screen TVs ("FSTS").

EMR performed a comprehensive assessment of both ELV and FSTS scrap, encompassing extraction, characterisation of components, degree of pre-processing and potential for automation.

Meanwhile, HyProMag and UoB provided analysis of the extracted magnets, with a particular focus on determining the overall recyclability and market potential of the ELV and FSTS sectors, both as a viable feedstock of NdFeB and also as a potential route-to-market. ELV scrap showed a relatively low quantity of NdFeB containing components (approximately 5 per cent) and given the low quantity of NdFeB found in each of these products, it is clear that more focus should be placed on hybrid and electric vehicles rather than internal combustion engine vehicles. With the increase in electric vehicles and general rare earth usage, it is fair to assume that the potential for capturing NdFeB from the ELV sector will increase significantly with time.

The FSTS sector showed significant promise for recycling, with approximately 85 per cent of the products containing NdFeB. REAP confirmed the quantity of scrap available from the FSTS market, the commercial viability,

the suitability of material for HPMS and the properties of the magnets in this sector, and provides a strong platform to initiate access to the wider loudspeaker market in the future.

While some variation does exist within both the ELV and FSTS sectors, the average magnet grade remains reasonably consistent. Following extraction, the magnets were taken through the HPMS process and the resultant liberated powder was analysed to confirm the feasibility of the FSTS sector as feedstock.

The liberated powder was chemically characterised, purified, and re-sintered into a new magnet with minor additions of virgin rare-earth hydride material. The re-sintered magnets have comparable magnetic properties to the initial starting magnet. This promising result highlights that the HPMS process can be used to create a new feedstock for recycled magnet making which is currently lost to landfill.

About HyProMag

The Magnetic Materials Group within the School of Metallurgy and Materials at the UoB has been active in the field of rare earth alloys and processing of permanent magnets using hydrogen for over 40 years. Originated by Professor Rex Harris, the hydrogen decrepitation method, which is used to reduce NdFeB alloys to a powder, is now ubiquitously employed in worldwide magnet processing.

In a further development, the MMG patented a process for extracting and demagnetising NdFeB powders from magnets embedded in redundant equipment using hydrogen in a process called HPMS (Hydrogen Processing of Magnet Scrap). This patent and related intellectual property is at the core of HyProMag's business. The MMG continues to develop new research and development opportunities, cooperates widely in Europe, including a major EU project, SusMagPro, which is also focused on recycling of magnets. The directors of HyProMag all provide their expertise to the MMG and there is potential for HyProMag to gain possible future access to new intellectual property.

HyProMag is also a partner in the Innovate UK grant funded project, "Rare-Earth Recycling for E-Machines" ("RaRE") together with UoB, Advanced Electric Machines Research Limited, Bentley Motors Limited, Intelligent Lifecycle Solutions Limited and Unipart Powertrain Applications Limited.

RaRE will for the first time establish an end to end supply chain to incorporate recycled rare earth magnets into electric vehicles, whereby recycled magnets will be built into an electric motor to ultimately support the development of a commercial versatile motor suite.

HyProMag's strategy is to establish a recycling facility for NdFeB magnets at Tyseley in Birmingham to provide a sustainable solution for the supply of NdFeB magnets and alloy powders for a wide range of markets including, for example, automotive and electronics. A number of product options are being evaluated including hydrogen decrepitated (HD) demagnetised powders suitable for magnet producers, alloy ingot remelted from HD powders suitable for alloy feed or magnet production, anisotropic alloy powders (HDDR) for bonded magnets and sintered NdFeB magnets as required by the RaRE project for automotive applications.

The founding directors of HyProMag, comprising Professor Emeritus Rex Harris, former Head of the MMG, Professor Allan Walton, current Head of the MMG, and two Honorary Fellows, Dr John Speight and Mr David Kennedy, are leading world experts in the field of rare earth magnetic materials, alloys and hydrogen technology, and have significant industry experience. Following the investment by Maginito, HyProMag appointed William Dawes, a Director of Maginito and Chief Executive Officer of Mkango, to the Board of HyProMag.

For more information, please visit https://hypromag.com/

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 ('RIS'), this inside information is now considered to be in the public domain.

About Mkango Resources Limited

Mkango's corporate strategy is to develop new sustainable primary and secondary sources of neodymium, praseodymium, dysprosium and terbium to supply accelerating demand from electric vehicles, wind turbines and other clean technologies. This integrated Mine, Refine, Recycle strategy differentiates Mkango from its peers, uniquely positioning the Company in the rare earths sector.

Mkango is developing Songwe Hill in Malawi with a Feasibility Study targeted for completion in Q1 2022. Malawi is known as "The Warm Heart of Africa", a stable democracy with existing road, rail and power infrastructure, and new infrastructure developments underway.

In parallel, Mkango recently announced that Mkango and Grupa Azoty PULAWY, Poland's leading chemical company and the second largest manufacturer of nitrogen and compound fertilizers in the European Union, have agreed to work together towards development of a rare earth Separation Plant at Pulawy in Poland. The Separation Plant will process the purified mixed rare earth carbonate produced at Songwe.

Through its subsidiary Maginito (www.maginito.com), Mkango is also developing green technology opportunities in the rare earths supply chain, encompassing neodymium (NdFeB) magnet recycling as well as innovative rare earth alloy, magnet, and separation technologies. Maginito holds a 25% interest in UK rare earth (NdFeB) magnet recycler, HyProMag (www.hypromag.com) with an option to increase its interest to 49%.

Mkango also has an extensive exploration portfolio in Malawi, including the Mchinji rutile discovery, for which assay results are pending, in addition to the Thambani uranium-tantalum-niobium-zircon project and Chimimbe nickel-cobalt project.

For more information, please visit www.mkango.ca

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, its business, HyProMag, the Separation Plant and Songwe. Generally, forward looking statements can be identified by the use of words such as “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, technical and commercial risks in scaling up HyProMag’s business to commercial production, governmental action relating to COVID-19, COVID-19 and other market effects on global demand and pricing for the metals and associated downstream products for which Mkango is exploring, researching and developing, factors relating the development of the Separation Plant, including the outcome and timing of the completion of the feasibility studies, cost overruns, complexities in building and operating the Separation Plant, changes in economics and government regulation, the positive results of a feasibility study on Songwe Hill and delays in obtaining financing or governmental approvals for, and the impact of environmental and other regulations relating to, Songwe Hill and the Separation Plant. 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 assumes 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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