

Lofdal: A globally significant heavy rare earth deposit

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Namibia Critical Metals, together with its strategic partner, JOGMEC, is rapidly accelerating development of its flagship Lofdal heavy rare earth deposit in Namibia.

Namibia Critical Metals Inc. (TSXV:NMI OTCQB:NMREF) is developing the **Tier-1 heavy rare earth project, Lofdal**, which is a major deposit of the heavy rare earth metals dysprosium and terbium.

Demand for these **critical metals** used in permanent magnets for **electric vehicles**, wind turbines and other electronics is driven by innovations linked to energy and technology transformations.

The geopolitical risks associated with sourcing many of these metals have become a repeated concern for manufacturers and end users. Namibia is a proven and stable mining jurisdiction. The Lofdal project is fully permitted with a 25-year Mining License and is under a Joint Venture Agreement with the Japan Organization for Metals and Energy Security (JOGMEC).



About heavy rare earths

Dysprosium and terbium, alongside neodymium and praseodymium (NdPr), are critical metals required to make permanent magnets for EV motors. Historically, China has had a stronghold on the heavy rare earths market. Japan is ahead of other Western economies in terms of limiting that overwhelming dependence on China.

Still, North America and Europe are starting to catch up in the scramble to wean off from Chinese supply. Lofdal is a mainly dysprosium and terbium deposit and one of only two xenotime-type heavy rare earth deposits under development in the world, as far as we are aware.

Strong partnership

In 2020, Namibia Critical Metals entered a transformational transaction with the Japan Organization for Metals and Energy Security (JOGMEC), a state agency with a multi-billion dollar annual budget and a mandate to secure the supply of natural resources for Japanese industry. A decade ago, JOGMEC did a JV with a little-known light rare earth Australian explorer that is now one of the largest rare earth companies in the world, Lynas Rare Earths. After funding Lynas with over US\$300m to date to secure a supply of light rare earths, JOGMEC has turned its eyes to Lofdal as a potential long-term supplier of dysprosium and terbium. Japan is the biggest consumer of dysprosium after China.



Under the JV agreement, JOGMEC can fund C\$20m in exploration and development, with the right to earn a 50% interest in Lofdal. JOGMEC can also purchase another 1% for a controlling stake, at which stage NCMI can either participate at 44% or dilute to a carried working interest of no less than 21%. Besides securing project financing, possibly with no further dilution for our shareholders, through this transaction, we are also receiving an operator fee that covers many of our overheads.

As of this date, JOGMEC has secured an initial interest of 40% in the project by meeting the \$10m expenditure requirement for Term 1 and Term 2. JOGMEC has committed additional funds to the ongoing exploration and development programme for Term 3, and the total committed funding for the project now totals C\$14,541,000 through 31 March 2025.

The Company is currently completing a corporate restructuring to facilitate JOGMEC's holding of its initial 40% interest in the Lofdal project as they move into Term 3 of the agreement.

Darrin Campbell, CEO of Namibia Critical Metals, said: "Our joint venture with JOGMEC has delivered tremendous results with a six-fold increase in our resource, securing a 25-year mining licence and delivering a very robust Preliminary Economic Assessment in November 2022 for a much larger planned mining operation and we work towards delivering a Pre-Feasibility Study in late 2024. We firmly believe that Lofdal will be a globally significant source of heavy rare earths."

Darrin explained: "Most rare earth projects contain mainly light rare earths, meaning that they can produce little or negligible amounts of dysprosium and terbium," pointing out that the quantity of heavy rare earth metals the Lofdal Project can produce is a real competitive advantage.

Another advantage is the project's actual location. One of the biggest challenges for the rare earth industry is China's continued stranglehold and dominance in the supply and processing of natural resources. The geopolitical risks associated with sourcing many of these metals have become a repeated concern for manufacturers and end users.

By contrast, Namibia is a stable mining jurisdiction that supports and recognises the importance of mining to the country. Darrin said: "There is little mining activity in north-western Namibia, and the discovery of an economic deposit in this region would have significant economic benefits for the local population. We have established excellent relationships with all levels of government, as well as with the wider community in which we work."



Impressions from the handover of school uniforms at Primary Schools in Khorixas and Fransfontein

Project milestones

In 2020, the company published an impressive increase to its 2012 maiden resource with the filing of an updated NI 43-101 Resource Estimate. A very valid criticism in the past was that the project was too small, with a resource of only six million tonnes and a life of mine of seven years. These early criticisms have been completely dispelled: After a significant drilling campaign in 2020, we increased the size of our resource from 6 MT to an impressive 53 MT, with 4.7 million kilogrammes of contained dysprosium and 725,000kg of terbium.

In October 2022, a robust Preliminary Economic Assessment (PEA) was filed, incorporating the new larger resource and significant investment in processing and beneficiation. The PEA showed an increased mine life from seven years to 16 years and an after-tax NPV of USD\$391m.

In 2023, the company completed an 11,000m in-fill drilling campaign, significantly increasing the resource. The updated NI 43-101 Mineral Resource Estimate, announced on 9 April 2024, shows another 38% increase in contained dysprosium and a 39% increase in contained terbium in the Inferred resources.

Darrin stated: “We are very pleased with the continued success of our development approach at Lofdal. With just under 11,000m of drilling last year, we have increased the overall contained rare earth tonnage by an impressive 37%. The Measured and Indicated resource shells at Lofdal 2B and four contain over 4,500 tonnes of dysprosium oxide and over 690 tonnes of terbium oxide, which clearly establishes Lofdal as a globally significant heavy rare earth deposit. The updated resource will be incorporated into our Pre-Feasibility Study for ‘Lofdal 2B-4’ currently underway and expected to be completed in Q3 2024.”



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ESG Activities

Darrin affirms: “We’ve always put a major focus on local employment and supporting the communities in which we work; we have a very strong ESG and Corporate Outreach Programme in Namibia.” Social projects include support for a local orphanage and the recent establishment of an early learners’ programme to support children’s education.

The Company expanded its ‘Early Learner’s Assistance Program’ with the start of the 2023 school year. The Company handed over 200 school uniforms and backpacks to five primary schools situated around the Lofdal project, four schools in Khorixas and one in Fransfontein. The handover ceremonies were accompanied by the co-ordinator of the Early Learner’s Assistance Program from the Ministry of Education, representatives from the Traditional Authority, Conservancies, and the company.

Darrin Campbell stated: “I am extremely proud of the work our team has done in the communities surrounding our project in Namibia. We have been very involved in supporting our communities for over a decade with ongoing financial support for a local orphanage in Khorixas, providing drilled water wells for local farmers near Lofdal and now the start of our Early Learner’s Assistance Program. We have modelled this fantastic programme after the programme that was created by our corporate shareholder, Bannerman Energy, a few years ago, for which they were awarded this year’s Mining Indaba ESG Forum Award for Community Engagement.”

As a result of these and other efforts our team has made over the years to engage with our communities, NCMI and the Lofdal Project were recently elected as CSR Best Practices by the Namibian Association of Community-Based Natural Resource Management (NACSO).

*Please note, this article will also appear in the 18th edition of our **quarterly publication.***

