

# A lithium leader

**By JOE WALSH**

MANAGING DIRECTOR, LEPIDICO



**JOE WALSH** is a resources industry executive, mining engineer and geophysicist with over twenty five years' experience working for mining companies and investment banks in mining related roles. He was the General Manager Corporate Development with PanAust and was instrumental in the evolution of PanAust from an explorer in 2004 to a US\$2-billion, ASX 100 multi-mine copper and gold company. He also has extensive equity capital market experience and has been involved with the technical and economic evaluation of many mining assets and companies around the world.

As the CEO of Lepidico Ltd, I strongly believe that developing a lithium industry in Namibia will complement the global lithium market with much needed new sources of raw material supply and bring significant benefits to the country. At Lepidico, we have been developing innovative technologies for the sustainable extraction of lithium and other critical minerals from lithium bearing mica ores. Our plan is founded on the redevelopment of several brownfield lithium mines near Karibib in Namibia, with ground work planned to start later this year. This operation includes two open pit mines with a collective life of 19 years currently, with the potential to both expand output and extend life, coupled with a new mineral concentrator. Initially, the beneficiated mineral concentrate will be bagged and transported to Walvis Bay for export to Abu Dhabi. Here a dedicated chemical processing plant will convert the concentrate to a suite of saleable products including lithium hydroxide, caesium and rubidium compounds, sulphate of potash, amorphous silica and a gypsum residue. Lithium, caesium and rubidium are all on the US Government's Critical Minerals List.

Lithium demand forecasts have evolved rapidly over recent years with several commentators including the

US Government's Department of Energy predicting demand to exceed 3 million tonnes of lithium carbonate equivalent (LCE) by 2030.

At Lepidico, we have developed unique and patented processes for extracting lithium and other valuable metals from certain mica minerals. These technologies, L-Max® and LOH-Max®, have industry leading sustainability credentials. The processes use a series of chemical reactions in a novel flowsheet to separate and concentrate the lithium and other metals, resulting in a high-purity lithium product. This process is not only environmentally friendly, with planned zero solid process waste, but is also cost competitive with other forms of lithium production and is energy efficient, as no high temperature processing is required.

The hydro-metallurgical processes also have the potential to significantly reduce the environmental impact of lithium production. Traditional hard rock mining and processing can be energy intensive, detrimental to the natural environment and result in significant greenhouse gas emissions. In contrast, the hydro-metallurgical processes are designed to be highly efficient and environmentally friendly, using, where possible, renewable energy sources to power the process, while minimising waste and emissions,



Ore from the Karibib mine on the way for processing

particularly when green hydrogen is employed.

Developing a lithium industry in Namibia using the hydro-metallurgical processes would have significant benefits for the country's economy. This is being evaluated as part of Lepidico's Phase 2 development study. Namibia has historically been reliant on the mining and agriculture industries, and the development of a lithium chemical industry would provide much-needed diversification of the country's economy. The creation of new employment and opportunities for skills development and training would assist in building a stronger more skilled workforce while generating significant revenue, helping to boost the country's overall economic growth. Development of domestic natural gas and green hydrogen industries would be significant enablers for new lithium chemical conversion facilities.

Lithium is a critical component in the production of batteries for electric vehicles and energy storage, and the demand for lithium is expected to grow significantly in the coming years as these industries continue to expand. By developing its own lithium resources, Namibia could become a significant supplier of lithium minerals and potentially chemicals to these industries, helping to meet the growing demand for this critical metal.

At Lepidico, we are committed to working with local communities and stakeholders to ensure that the development of a lithium industry in Namibia is undertaken responsibly and sustainably. This includes minimising the impact on the environment and surrounding communities, and ensuring that local people have access to the associated economic and social

benefits from the operations. Lepidico's development will also result in considerable indirect job creation that will boost associated services industries and logistics in the region. This in turn will amplify employment opportunities for the surrounding communities. Our Social value creation programs are aligned with the Namibian National Development Plan (NDP5), the Sustainable Development Goals and developed in partnership with the community, to ensure shared value creation and ownership. In terms of enterprise development, Lepidico has already implemented several micro-finance projects that provide sustained income mostly for women entrepreneurs, augmented with business registration support to ensure participation in the marketplace beyond the mine.

The health sector is identified as another area for support. We are currently providing the community at Otjimbingwe with an emergency maternity unit, a need that was identified by the community. We continue to work with the Tsoaxudaman Traditional Authority and their Community Trust as we jointly explore innovative ways for social and environmental enhancement in the areas of education, heritage preservation, health, water and biodiversity conservation.

In conclusion, developing new mines producing much needed minerals for the global energy transition represents an essential first step for developing the lithium industry in Namibia. Lepidico is committed to evaluating the deployment of its proprietary process technologies in Namibia with the objective of bringing further benefits to the country and its people, and the global lithium market through participation in the green energy revolution. E

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Lepidico geologists at the drilling station logging drill chips