

Patent for Recovery of Graphite from Recycled Batteries

Research Breakthrough Supporting Battery Circular Economy and Sustainability

Key Highlights

- Patent application with IP Australia includes recycling application
- Significant opportunity and value-add for EcoGraf™ purification process
- World Bank Group 'Minerals for Climate Action' report highlights recycling, and re-use of minerals will play a significant role to support the transition to renewable energy

EcoGraf Limited (EcoGraf or the Company) (ASX: EGR) is pleased to announce the Company has lodged a new patent application with IP Australia (an agency of the Department of Industry, Innovation and Science) over the Company's EcoGraf™ proprietary purification process, to include the recovery of high purity graphite from recycled lithium-ion battery material known as 'black mass' and to incorporate improvements to optimise the battery graphite purification process flowsheet.

Black mass is the residual material remaining after hydrometallurgical processes have recovered the high value metals. Presently the black mass is considered waste and is reporting as landfill, which is a practice that is now inconsistent with environmental and sustainability objectives of major electric vehicle and battery manufacturers.

Successful application of the Company's EcoGraf™ purification process provides an opportunity to support and participate in the recycling industry to reduce battery waste, with the objective of reusing the recovered graphite back into the battery supply chain.

The recovered graphite from black mass is a composite of both natural and synthetic graphite, which provides the opportunity to pursue higher value synthetic graphite markets and broader applications within the industrial graphite markets.

The Company is receiving increasing interest in the EcoGraf™ recycling application as electric vehicle and lithium-ion battery manufacturers' look to establish recycling operations targeting zero waste batteries and improve the sustainability of their manufacturing chains.



These industries are establishing recycling programs and supply chain partnerships in an effort to reduce the environmental impact of electric vehicle batteries and are developing a circular economy for lithium-ion batteries.

On the 11 May, World Bank Group released a 'Minerals for Climate Action' report that highlights the role that recycling and re-use of minerals will play in meeting increasing mineral demand in the future.

The report states that battery graphite is:

- forecast to comprise 53.8% of the total volume of future mineral demand for energy applications and estimates that more than 3 billion tonnes of battery materials will be needed to transition to renewable energy (refer figure 1 below).
- a 'High-Impact Mineral' due to the growth in its future demand and its critical role in energy storage technologies.

<http://pubdocs.worldbank.org/en/961711588875536384/Minerals-for-Climate-Action-The-Mineral-Intensity-of-the-Clean-Energy-Transition.pdf>

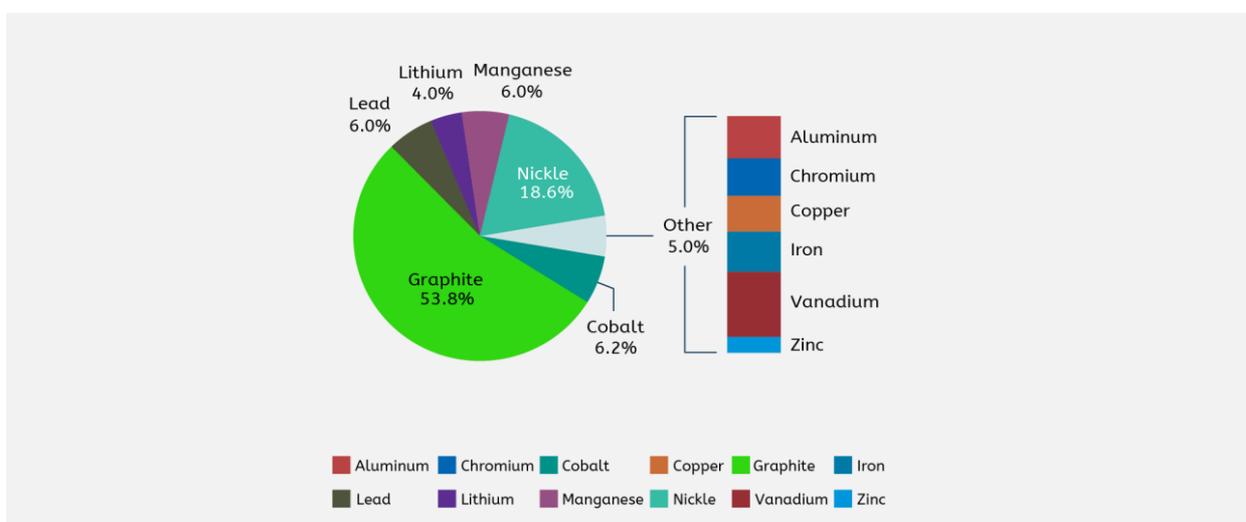


Figure 1 - Share of Mineral Demand for Energy Storage (Source: World bank 'Minerals for Climate Change')

This announcement is authorised for release by Andrew Spinks, Managing Director.

For further information, please contact:

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About EcoGraf

Founded on a commitment to innovation and sustainability, EcoGraf is building a vertically integrated business to produce high purity graphite for the lithium-ion battery market.

The new state-of-the-art processing facility in Western Australia will manufacture spherical graphite products for export to Asia, Europe and North America using a superior, environmentally responsible purification technology to provide customers with sustainably produced, high performance battery anode graphite. In time the battery graphite production base will be expanded to include additional facilities in Europe and North America to support the global transition to clean, renewable energy in the coming decade.

To complement the battery graphite operations, EcoGraf is also developing the TanzGraphite natural flake graphite business, commencing with the Epanko Graphite Project, which will supply additional feedstock for the spherical graphite processing facilities and provide customers with a long term supply of high quality graphite products for industrial applications such as refractories, recarburisers and lubricants.



A video fly-through of this new facility is available online at the following link:
<https://www.youtube.com/watch?v=sJyCHFzf4HE>

