

Independent ISO-Compliant LCA Study Confirms CO₂ Advantages of EcoGraf HFfree™ Purification

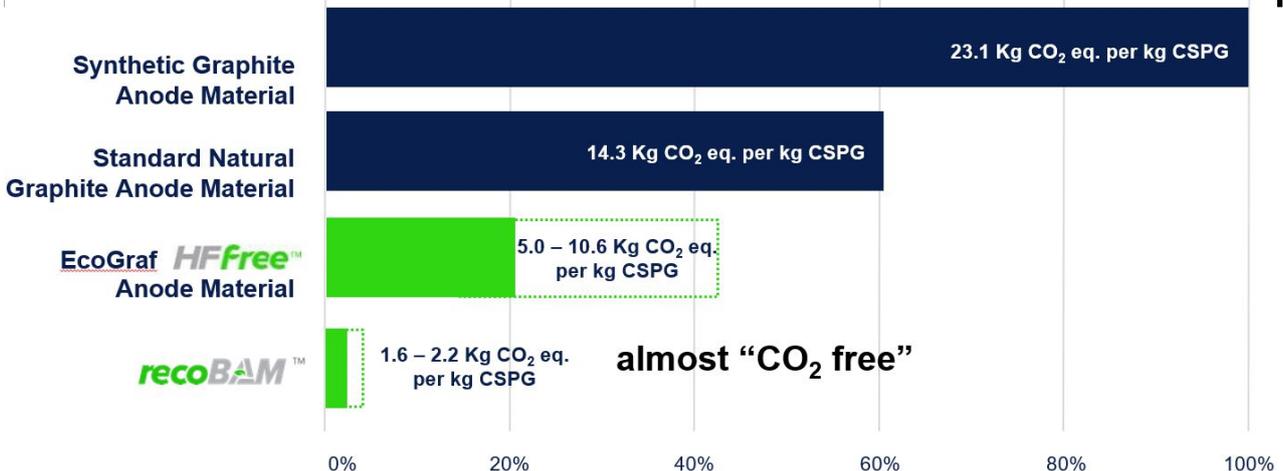
HFfree Purification, Anode Recycling and Renewable Energy Eliminate >92% of CO₂ Emissions Compared to Existing Battery Anode Material

EcoGraf Limited (EcoGraf or the Company) (ASX: EGR; FSE: FMK; OTCQX: ECGFF) is pleased to report the global warming potential (GWP) results of the independent ISO Life Cycle Assessment (LCA) for its HFfree Battery Anode Materials. This LCA is a cradle-to-gate study that assesses projected environmental impacts, including global warming impacts associated with product supply chains, a key requirement for global battery and electric vehicle manufacturers.

Key findings from the study include:

- EcoGraf HFfree™ battery anode material produced with renewable energy has a global warming potential (GWP) of up to 2.8 and 4.6 times lower than the GWP of operational Chinese natural and synthetic graphite materials
- HFfree recycling of lithium-ion battery anodes provides a significant environmental benefit, with an almost zero or “CO₂ free” footprint of approximately 1.6kg to 2.2kg CO₂ eq. per kg EcoGraf RecoBAM™
- Potential to increase recycling lithium-ion battery anode through blending of EcoGraf RecoBAM™ with EcoGraf HFfree™ battery anode materials hdBAM and superBAM
- Compelling opportunity to reduce CO₂ emissions in the battery supply chain through HFfree purification, recycling, and increased use of renewable energy
- EcoGraf engaging with multiple parties on the development of RecoBAM™ recycled anode material products to improve supply chain sustainability and lower battery costs
- LCA results support the industry transition to greater use of natural graphite in battery anodes and a reduction in high CO₂ emission synthetic graphite

EcoGraf HFfree™ Global Warming Potential vs Existing Synthetic Supply (%)



EcoGraf has commissioned an independent ISO 14040:2006 and 14044:2006 standard LCA assessment of its vertically integrated HFfree battery anode materials activities, that included an evaluation of production locations including a number of other Asian and European sites, as well as the benefits of HFfree recycling of anode materials from production scrap and end of life batteries. The GWP results have undergone a third-party ISO-compliant critical panel review, allowing to communicate comparative assertions to the public.

The LCA assessment was undertaken by an internationally recognised sustainability and life cycle assessment consulting and technology firm based in the United Kingdom, that also advises leading battery and electric vehicle manufacturers. Evaluation processes were completed in accordance with International Organization for Standardisation (ISO) requirements, based on natural flake graphite from the Epanko Graphite Project, EcoGraf HFfree™ purification process and for a coatings comparison, an industry standard anode coating.

Results from the LCA study indicates that the use of EcoGraf HFfree™ process eliminates approximately 26% of CO₂ emissions from battery anode material production processes compared to operational production routes from China and when combined with clean, renewable energy this benefit is extended to a CO₂ reduction of up to 65%.

Adoption of EcoGraf HFfree™ recycling to recover and re-use anode material provides the most significant environmental benefit, reducing CO₂ emissions from the production of battery anode material by over 92% to deliver an almost “CO₂ free” graphite anode material.

This step-change in reducing CO₂ emissions has the potential to fundamentally alter the supply chain for battery anode materials and supports EcoGraf’s development of its RecoBAM™ product, comprised of recycled anode production scrap and end-of-life battery anode. The Company has undertaken extensive testing on the recycling and re-use of these materials in the lithium-ion battery, including the potential for RecoBAM™ to be blended with the Company’s hdBAM™ and SuperBAM™ products to lower anode material costs, reduce the CO₂ footprint of lithium-ion batteries and assist customers to achieve closed-loop manufacturing processes.

On 14 June 2022 EcoGraf reported to the ASX the results of an initial program completed by a European anode recycling specialist Anna Vanderbruggen at the Helmholtz Institute in Germany. The research program demonstrated the electrochemical performance of the obtained graphite using EcoGraf HFfree™ purification process matches that of new commercial anode graphite.

The anode recycling research has been awarded the prestigious European EIT Raw Materials Change Awards category that is co-funded by the European Union. The award was presented in Brussels by Eva Kaili the Vice President of the European Parliament.

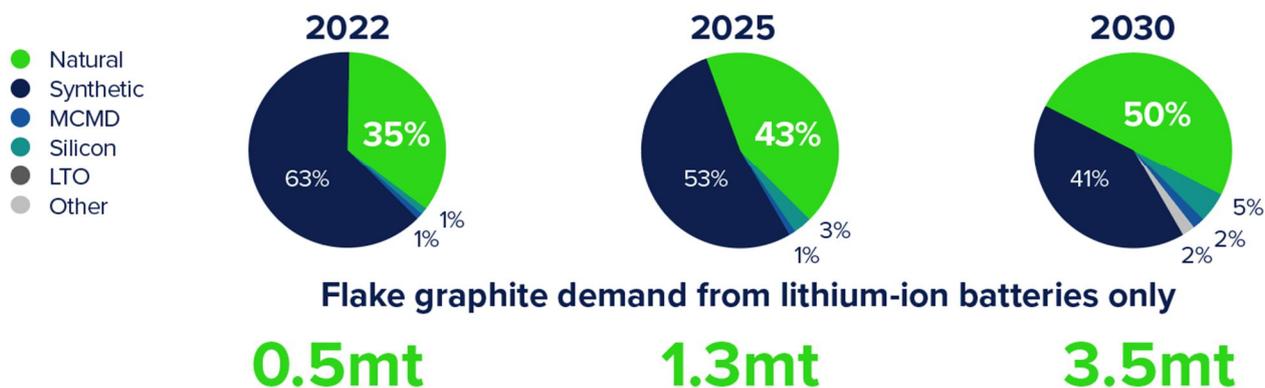


(Reference: <https://eitrawmaterials.eu/eit-rawmaterials-nominee-wins-prestigious-pan-european-award/>)

The results from the Life Cycle Assessment and Helmholtz Institute research program support the recent industry move towards increasing the proportion of natural graphite in the battery anode due to the use of fossil fuel inputs and energy intensive manufacturing processes in the production of synthetic graphite.

This is forecast to grow from 35% to 50% by 2030 and further underpins the increase in demand for natural graphite and battery anode material from the global transition to clean, electric energy.

Flake Graphite Demand and Anode Material Split



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

For further information, please contact:

INVESTORS

Andrew Spinks
 Managing Director
 T: +61 8 6424 9002

MEDIA

Michael Vaughan
 Fivemark Partners
 T: +61 422 602 720

About EcoGraf

EcoGraf is building a vertically integrated battery anode materials business to produce high purity graphite products for the lithium-ion battery and advanced manufacturing markets. Over US\$30 million has been invested to date to create a highly attractive mining and mineral processing graphite business.

In Tanzania, the Company is developing the **TanzGraphite** natural flake graphite business, commencing with the Epanko Graphite Project, to provide a long-term, scalable supply of feedstock for the EcoGraf™ battery anode material processing facilities, together with high quality large flake graphite products for industrial applications.

Using a superior, environmentally responsible EcoGraf HFfree™ purification technology, the Company plans to produce high performance battery anode material to support electric vehicle, battery and anode manufacturers in Asia, Europe and North American as the world transitions to clean, renewable energy. In addition, EcoGraf's breakthrough recovery of battery anode material using its EcoGraf™ purification process will enable battery supply chain customers to reduce their CO₂ emissions and lower battery costs.

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