Battery Electrochemical Results
Results demonstrate opportunity to increase product sales into the Lithium-ion battery market

EcoGraf Limited (EcoGraf or the Company) (ASX: EGR) is pleased to announce the battery electrochemical results for its preferred feed materials from the recently completed benchmarking programme for the proposed EcoGraf™ battery graphite facility in Kwinana, Western Australia.

The electrochemical testwork was undertaken to determine the electrochemical performance of each feed material to provide increased product intelligence and performance.

The testwork was carried out at a leading German Research Institute which specialises and supports the major battery and electric vehicle manufacturers. Each battery spherical graphite (SpG15) product sample was configured and developed under identical conditions which included the same electrode composition, cell configuration and electrolyte.

The results obtained provide meaningful data points and trends for each feed material source.

Key findings include:

- Feed materials perform differently with some sources performing better under various conditions which provides the ability to enhance product material performance.
- Increase product sales by blending feed sources from matching electrochemical performance.
- Support additional parallel and downstream value-added opportunities.

Demand for a diversified and responsibly produced battery graphite supply is increasing from leading Europe, North East Asia and US supply chain customers. EcoGraf™ battery graphite products is positioning as leading supply alternative to existing supply from China.

The company is well advanced with customer engagements which is supported by the company’s recent milestone agreement with Germany’s blue-chip industrial group thyssenkrupp Materials Trading for a long-term commercial agreement for the sale of Company’s battery graphite products.

The Company is also assessing further feed materials for a range of customers and will include evaluation of Australian graphite deposits to support the local minerals industry.
The electrode results for the four selected feed materials is displayed in the chart below. Measurements included charge and irreversible capacity loss which provided the data to analyse the electrochemical performance of each material within a lithium-ion battery.

Rate capability tests were undertaken to analyse a range of different charge (C-rate) conditions. C-rate is a measure of the rate at which a battery is charged relative to its maximum capacity. A 1C rate means that the charge current will charge the entire battery in 1 hour (60 minutes), 0.2C means complete charging is made during 5 hours (60minutes/0.2 = 5 hours) and 5C means that complete charging was made in 12 minutes (60 minutes/5 = 12 minutes).

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

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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.

In addition, the Company’s breakthrough recovery of graphite from recycled batteries using its EcoGraft™ process will enable the recycling industry to reduce battery waste and use recycled graphite to improve battery lifecycle efficiency.

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.

EcoGraf, a unique vertically integrated graphite business, positioned for the future of clean energy.

A video fly-through of this new facility is available online at the following link: https://www.ecograf.com.au/#home-video