

# Innovative Lithium-ion Battery Coatings Program Commenced

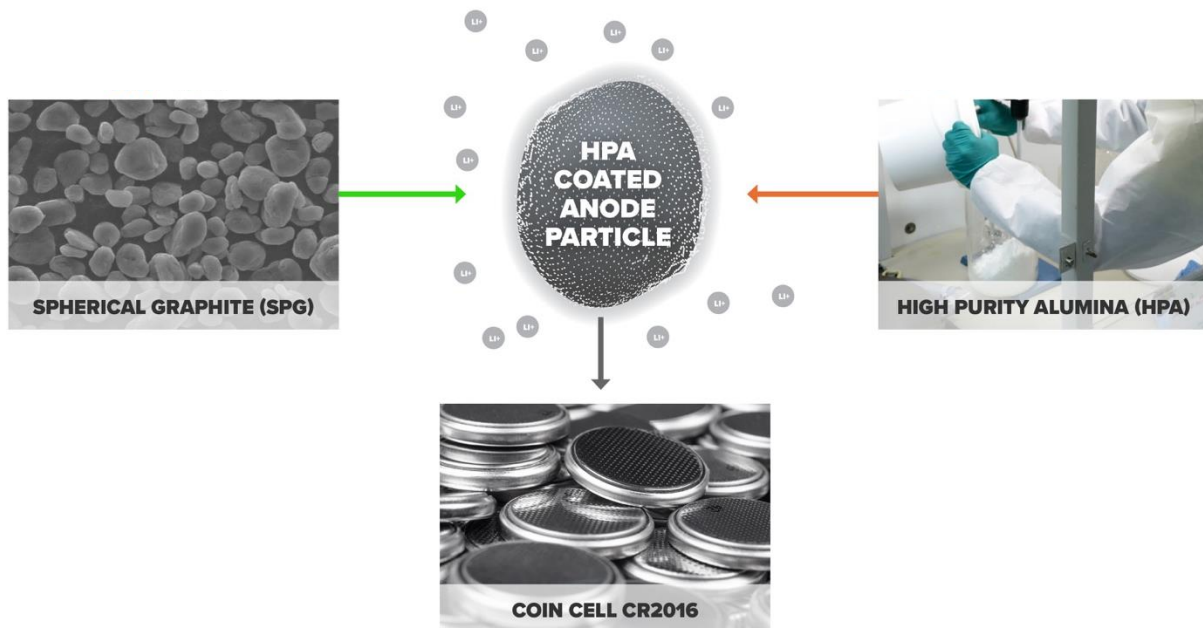
## SIGNIFICANT MARKET OPPORTUNITY IN BATTERY MARKET

Diversified battery anode materials company EcoGraf Limited (**EcoGraf** or the **Company**) (ASX: **EGR**; FSE: **FMK**; OTCQX: **ECGFF**) is pleased to announce with FYI Resources Limited (ASX: **FYI**) its program to develop an enhanced High Purity Alumina (**HPA**) anode coatings material with EcoGraf high density battery anode material.

The aim of the program is to develop an enhanced coatings material that will improve battery performance. The innovative technical program is being undertaken in a leading US commercial battery material research facility using EcoGraf's spherical graphite (**SPG**) and FYI's high purity nanoparticle HPA material.

The program will provide comparative assessment of the electrochemical performances against industry standard coated SPG with EcoGraf coated SPG and enhanced HPA coated SPG in CR2016 coin cells.

The coated anode material is a major active anode material (AAM) used in Lithium-ion anode cell manufacturing and is a significant value addition that is complementary for both companies' developments in Australia.

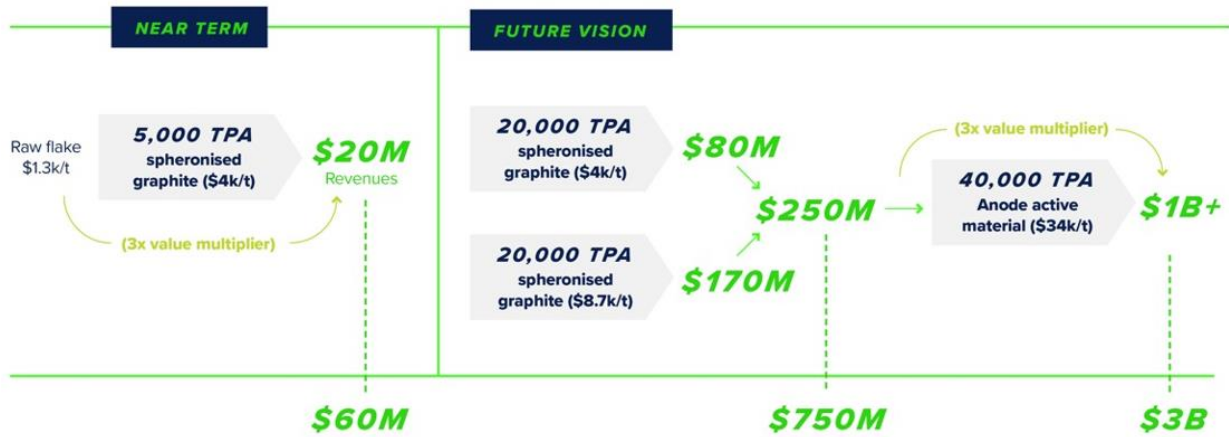


The sales price reported by Benchmark Mineral Intelligence for coated anode (subject to the specification) ranges between US\$6,000 to US \$10,000 per tonne, with demand forecast to increase 30%pa driven by the transition to low carbon emission technologies.

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The development of value-added battery materials is consistent with the Federal Governments critical and battery 'modern manufacturing strategy' and Western Australia's 'future battery industry strategy'.

The economic impact of developing active anode material in Australia is significant. The indirect economic benefits from battery material manufacturing is estimated to be 3 times higher than goods sold at all stages of the value chain (refer figure<sup>1</sup>).



<sup>1</sup>Figure after CSIRO. Dr Jerad Ford, Mission Lead, Critical Energy Metals recent webinar outlining the future vision and value multiplier of battery cell manufacturing benefit to Australia.

### Enhanced HPA Anode Coatings Program

The technical program will commence with characterisation of key properties of EcoGraf's purified SPG and FYI's nano HPA powder as raw materials for the active anode material in lithium-ion battery system.

This will be used to formulate and prepare solvent-compatible dispersion of HPA nano powders of various particle sizes to be applied as ultra-thin HPA onto the pitch coated SPG as enhanced active anode material.

The pitch coated SPG and enhanced HPA doped coated SPG will be applied to copper substrates to create a negative electrode for incorporation into CR2016 coin cells for electrochemical performance and cycling tests.

The program is expected to take 3 months and the program includes scope to perform long-term cycling of the best formulation of coated anode in both half-cell and full cells (100 cycles).

This announcement is authorised for release by Board of EcoGraf Limited.

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## About EcoGraf

EcoGraf is building a diversified battery anode material 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 two highly attractive, development ready graphite businesses.

The first new state-of-the-art **EcoGraf** processing facility in Western Australia will manufacture spherical graphite products for export to Asia, Europe and North America using a superior, environmentally responsible HF<sub>free</sub> purification technology to provide customers with sustainably produced high performance battery anode material. Subsequently, the battery graphite production base will be expanded to include additional processing facilities in Europe and North America to support the global transition to clean, renewable energy in the coming decade and the rapid growth in battery materials.

In addition, the Company's breakthrough recovery of carbon anode material from recycled batteries using its EcoGraf™ process will enable the recycling industry to reduce battery waste and use recycled carbon anode material to improve battery lifecycle efficiency.

To complement these battery graphite operations, the Company is also advancing the **TanzGraphite** natural flake graphite business, with development of the Epanko Graphite Project, which will supply additional feedstock for the battery anode material 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.ecograf.com.au/#home-video>

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