ASX Release / 13 August 2025

HF*free* Delivers Industry-Leading Low Cost and Stage 1 NPV of US$282m (A$433m)

EcoGraf HF*free*® Technology Positioned to Provide the Lithium-ion Battery Market with a Scalable Cost-Competitive Alternative

EcoGraf Limited (“**EcoGraf**” or “**the Company**”) (ASX: **EGR**; FSE: **FMK**) is pleased to announce the results of its extensive Product Qualification Facility (**PQF**) testwork and analysis, with strong economic returns forecast for a commercial scale EcoGraf HF*free*® purification facility (**Purification Facility**) at an initial production capacity of 25,000 tonnes per annum (**tpa**). These programs have delivered a breakthrough in cost efficiency and further strengthened the competitive advantage of EcoGraf HF*free*® purification technology to produce battery anode material (**BAM**) for the lithium-ion battery (**LiB**) and smart technology markets.

Key findings

- **Process design breakthroughs and optimisations delivered significant process efficiencies, and cost savings, including reductions in reagent consumption, improved chemical recycling and reduced water treatment and waste disposal costs**
- **Results show that the EcoGraf HF*free*® process has a significant competitive advantage over competitors in process cost, quality and sustainability[1,2]**
  - Forecast process operating cost for initial 25,000tpa Purification Facility reduced by 25% to US$478/t compared to July 2024 estimate (refer ASX announcement dated 11 July 2024)[2]
  - Industry benchmarking comparisons show process costs are 34% lower than HF purification processes[2] and considerably lower than the other known processes (refer pages 7 and 8)
  - Process delivers a quality product with ‘four nines’ or 4N purity (99.99% carbon)
  - Use of readily available reagents makes the process suitable for implementation in major battery manufacturing hubs in Europe, North America and Asia
  - Eco-friendly nature of process has minimal waste and low carbon footprint
  - Anode recycling capability enhanced through purification cost reductions
- **Strong financial metrics for an initial 25,000tpa Purification Facility[2] based on capital and operating costs for a US location**
  - Initial capital investment, including contingency of US$95m
  - Pre-tax NPV_{10} of US$282m and IRR of 42%
  - Annual EBITDA of US$42m
- **European location being pursued with a strong focus on Germany and financial metrics expected to be similar to a US Purification Facility**
- **EcoGraf HF*free*® competitive advantage positions the Company to supply growing ex-China anode demand, supported by EU legislation and US tariffs**
- **Government grant funding discussions in EU and US, with positive feedback from EU and US Department of Defence white paper submission for US$76.3m award funding[3]**
- **Global ex-China anode material pricing expected to increase following proposed US tariffs of up to 160% on graphite from China**

Managing Director, Mr Andrew Spinks stated *"Following extensive process development over the last 4 years, this is a major milestone achievement for our customers, shareholders and Tanzanian developments. It demonstrates the compelling value proposition of linking the Company's upstream Tanzanian graphite developments with the EcoGraf HFfree® purification facilities to provide a vertically integrated business which will enable customers to reduce their dependence on existing graphite supply chains."*

Overview

Following the decision in September 2022 to focus on a single-phase commercial scale Purification Facility development, delivering faster ramp-up, construction schedule efficiency, economies of scale and utilisation in multiple market positions, a Product Qualification Facility was designed and then commissioned in 2024 to continue optimisation at a pilot scale and to run purification production trials in a continuous operation[4,5].

This work program incorporated the process technology developed from previous EcoGraf studies and has resulted in a breakthrough in process efficiency and significant reductions in purification cost. Extensive testing and analysis has been undertaken in conjunction with leading Australian and international laboratories and engineering specialists to refine the EcoGraf HF*free*® purification flowsheet using data from the Product Qualification Facility and the Company is confident that further cost reductions will be achievable through its on-going product sample programs.

The Company intends to produce up to 300,000tpa of flake graphite at its Epanko Graphite Project in Tanzania using low-cost, green hydro energy and plans to build the purification facilities in the major battery manufacturing centres across Europe, North America and Asia, using its patented technology[6].

Global trade and critical minerals legislation introduced over the last 2 years is resulting in demand from North American, South Korean, Japanese and European battery manufacturers for more diversified graphite supply chains. As a result, the Company is ideally positioned to establish a scalable, cost competitive and eco-friendly battery graphite business that meets this increasing requirement of lithium-ion battery manufacturers for new and environmentally responsible supply chains.

The PQF programs have confirmed the effectiveness of the EcoGraf HF*free*® process on a continuously operating basis and delivered significant optimisations of the Company's proprietary purification flowsheet. These operating efficiencies have led to a further 25% reduction in purification cost to US$478/t from those reported in July 2024[2,8] and based on an initial operating capacity of 25,000tpa.

The savings have been delivered through reductions in reagent consumption at various stages of the process, resulting in reduced volumes of waste and lower waste disposal costs. The predominant cost drivers are the efficiency of reagent consumption and solid waste management.

Capital and Operating Cost Summary

***Table 1**: Capital estimate for a 25,000tpa Purification Facility based on a US location*

Capital	USD
Plant & Equipment Costs	$34m
Other Direct Costs	$31m
Indirect Costs	$20m
Contingency	$10m
Total Installed Cost	**$95m**

Notes for Table 1: Indirect Costs refer to engineering, procurement, construction, management, labour and owner's costs.

***Table 2**: Operating estimate for purification process based on a US location*

Initial operating capacity	25,000tpa
Days	365
Utilisation (%)	85

Annual average operating costs following the initial commissioning and ramp-up period

Item	USD
Utilities & Reagents	$146/t
Labour	$274/t
Maintenance	$58/t
Total Purification Cost	**$478/t**

Key Financial Metrics

***Table 3**: Initial US Purification Facility producing 25,000tpa based on a nominal 31-year operation*

Capital cost	Pre-tax NPV_{10}	IRR	Annual EBITDA
US$95m	**US$282m**	**42%**	**US$42m**

The updated capital cost estimate for the initial 25,000tpa Purification Facility is based on analysis undertaken on established lithium battery manufacturing regions which are serviced by existing transport, water and power infrastructure. This analysis was conducted for the Company by a leading metallurgical group in Australia specialising in consulting and operational support for resource projects worldwide.

Key equipment quotations have been obtained from suppliers and engineering and construction service providers in Asia, Europe and Australia. The total estimated cost to construct a Purification Facility with an initial capacity of 25,000tpa (including a 12% contingency) is US$95m, with economies of scale identified as production is expanded to meet the forecast growth in lithium battery demand.

The initial 25,000tpa Purification Facility provides a pay-back period of less than 4 years, with the potential for future savings from the use of renewable energy supplies and processing refinements expected from commercial scale operations.

These positive achievements complement the environmental benefits already demonstrated and the recent technical success of EcoGraf HF*free*® proprietary purification achieving 4N 99.99% Carbon which results in the reduction of total impurity levels to less than 100 ppm[9].

EcoGraf HF*free*® Process Flowsheet

EcoGraf HF*free*® proprietary purification is a multi-step chemical process using precise conditions and steps to remove impurities. Each step is conducted in a manner to preserve the important physical and chemical properties of natural graphite specified by battery manufacturers.

As part of the PQF program over the past 16 months, variations of the flow sheet design were trialled continuously to determine the impacts of each stage and the equipment materials of construction on achieving the target product specifications.

During this phase operating cost reduction and product quality were a key focus, with significant success in lowering reagent use and water treatment and waste disposal costs. Improvements were also achieved through flowsheet optimisation, equipment selection and materials used, with equipment selections and materials of construction demonstrating effective performance and operating reliability during production campaigns at the PQF.

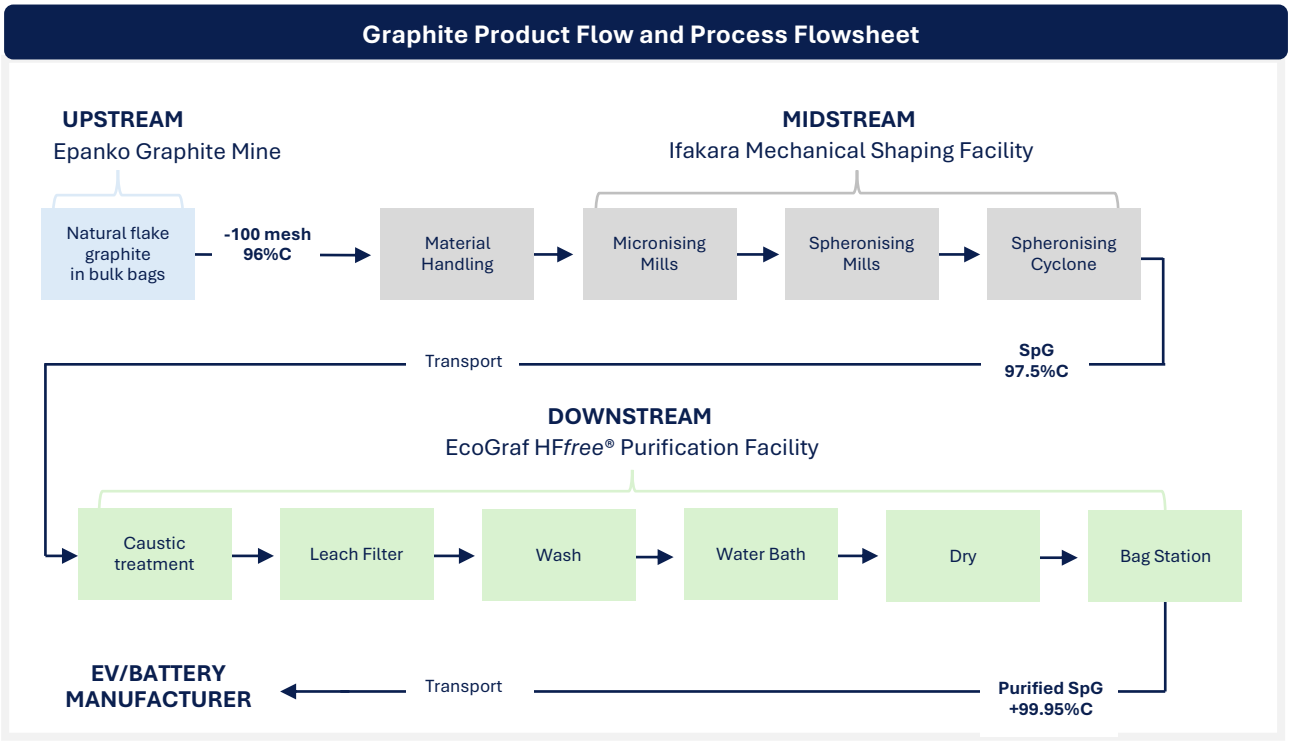
The PQF is jointly funded through the Commonwealth Government's A$48.9 million Critical Minerals Development Program, which is supporting Australian battery minerals processing capability[5].

Launch Video of Product Qualification Facility:

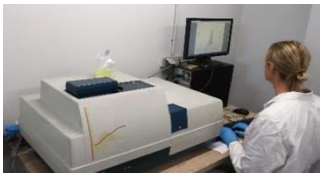
Watch an overview of the EcoGraf PQF

https://tinyurl.com/3vtn6dus

The figure below illustrates a simplified overview of the product flow and process flowsheet.



EcoGraf HF*free*® Battery Anode Material Development History



2015
- Battery graphite scoping study completed

2016
- 200 tonne Epanko bulk sample battery material test work
- Battery graphite feasibility and engineering studies commenced with GR Engineering
- Battery graphite produced in commercial facility in Asia

2017
- Product testing and endorsement Commences
- EcoGraf™ process developed in Australia and Germany
- Preliminary feasibility study completed, EcoGraf™ provisional patent lodged

2018
- German pilot plant optimisation program commenced
- German optimisation and feedstock testing completed
- EcoGraf™ international patent lodged

2019
- Engineering studies completed on Asian EcoGraf™ facility
- Engineering study completed on Australian EcoGraf™ facility
- EcoGraf™ feedstock benchmarking program

2020
- Technical cooperation commenced with Future Battery Industries CRC
- EcoGraf™ provisional patent lodged for recycling applications
- Agreement signed with Thyssenkrupp for EcoGraf™ SpG and fines
- Strategic Agreement with South Korean Battery Recycler

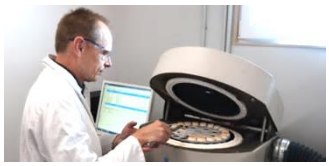
2021
- Major Project Status Approved by Australian Government
- EcoGraf evaluates industrial sites in Sweden
- International Patent Examiner confirms EcoGraf™ process novel and inventive
- POSCO and EcoGraf enter into Battery Anode Material Agreement

2022
- Australian Government conditionally approves US$40M loan
- German research confirms recycled graphite performance
- Independent LCA study
- US purification facility location study
- Single phase development strategy

2023
- POSCO Cooperation Agreement
- US patent granted
- TZ mechanical shaping study
- Australian Product Qualification Facility
- Strategic Collaboration with VinES for BAM Facility

2024
- Collaboration agreement with BASF on anode recycling
- EcoGraf HF*free*™ product qualification facility commissioned
- Propriety purification achieves 99.99%C

2025
- PQF Delivers HF*free* Cost Competitiveness
- Australian Patent Granted
- Successful PQF Operational Campaign
- SPG Specification Milestone & Patent accepted by IP Australia
- Engineering Study Completed for Midstream Development
- Positive feedback on U.S. DoD White paper submission



Granted Patents and Submissions

Patent protection is an important step for the commercialisation of EcoGraf HF*free*® technology, providing protection in the key battery manufacturing markets for our customers and shareholders.

As disclosed in the Company's June 2025 Quarterly Activities Report, EcoGraf has been granted Patents in Australia, the US, South Africa and EAF (Tanzania, Mozambique and Namibia).

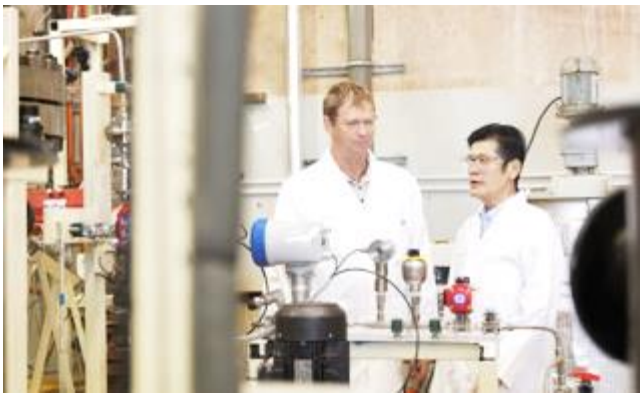
Additional patent applications have been made by EcoGraf in other potential purification processing locations, including Europe, India, Malaysia, South Korea, Vietnam and Canada. The Company has received notice on 11 August from IP Australia that the first Australian Patent is proceeding to grant.

Table 4: EcoGraf Patent Summary

Item	Reference	Status
1. Method of Producing Purified Graphite		
Australia	2021261902	Accepted
Tanzania, Mozambique and Namibia	AP/P/2022/013753	Granted
USA	11,702,342 (17/626425)	Granted
South Africa		Accepted
Europe, India, Malaysia, South Korea, Vietnam		Under Examination
2. Improved Method of Producing Purified Graphite		
Australia	2022387279	Granted
Canada		Filed

In addition to the above, the Company has also recently submitted its third Patent application to provide further coverage and protection based on the latest developments.

Images of Product Qualification Facility (PQF)



Benchmarking Comparison of Graphite Purification Methods

The updated benchmarking evaluation program was initially conducted for the Company by a global engineering and construction consultancy and involved a rigorous assessment of industry purification processes, capital and operating costs and associated risks in the US where a number of competing purification processes are being adopted for proposed developments. Refer announcement dated 11 July 2024[2] for additional information.

The following table presents an updated assessment of EcoGraf HF*free*® purification in comparison to the other graphite purification methods. It excludes by-products, assumes a US operating location and an 85% plant utilisation, with all historic cost data escalated to 2025. The comparison shows that the EcoGraf HF*free*® purification process cost is 34% lower than the hydrofluoric acid (HF) method and considerably lower than the other known methods.

***Table 5**: Operating cost comparison for a 25,000tpa purification facility based on a US location*

	High Temperature Chlorination Purification	Ultra-High Temperature Purification	Hydrofluoric Acid Purification (China Method)	EcoGraf HF*free*® Purification
Operating Costs (US$/t)	954	1005	721	**478**

Consideration of factors such as scale-up risk, process design and economic viability were used as part of the benchmarking process to assess the feasibility of alternative purification methods.

In the case of the thermal processing methods, to ensure an equivalent comparison, the feed rate of flake graphite was adjusted to offset recovery losses during the sizing and shaping process, which are incurred in the preparation of feedstock for the HF and EcoGraf HF*free*® hydrometallurgical methods. These methods assume the feed has already undergone sizing, while the ultra-high temperature purification options assume flake graphite is fed directly to the process, since the fluid bed reactors typically require larger particle sizes to ensure fluidisation.

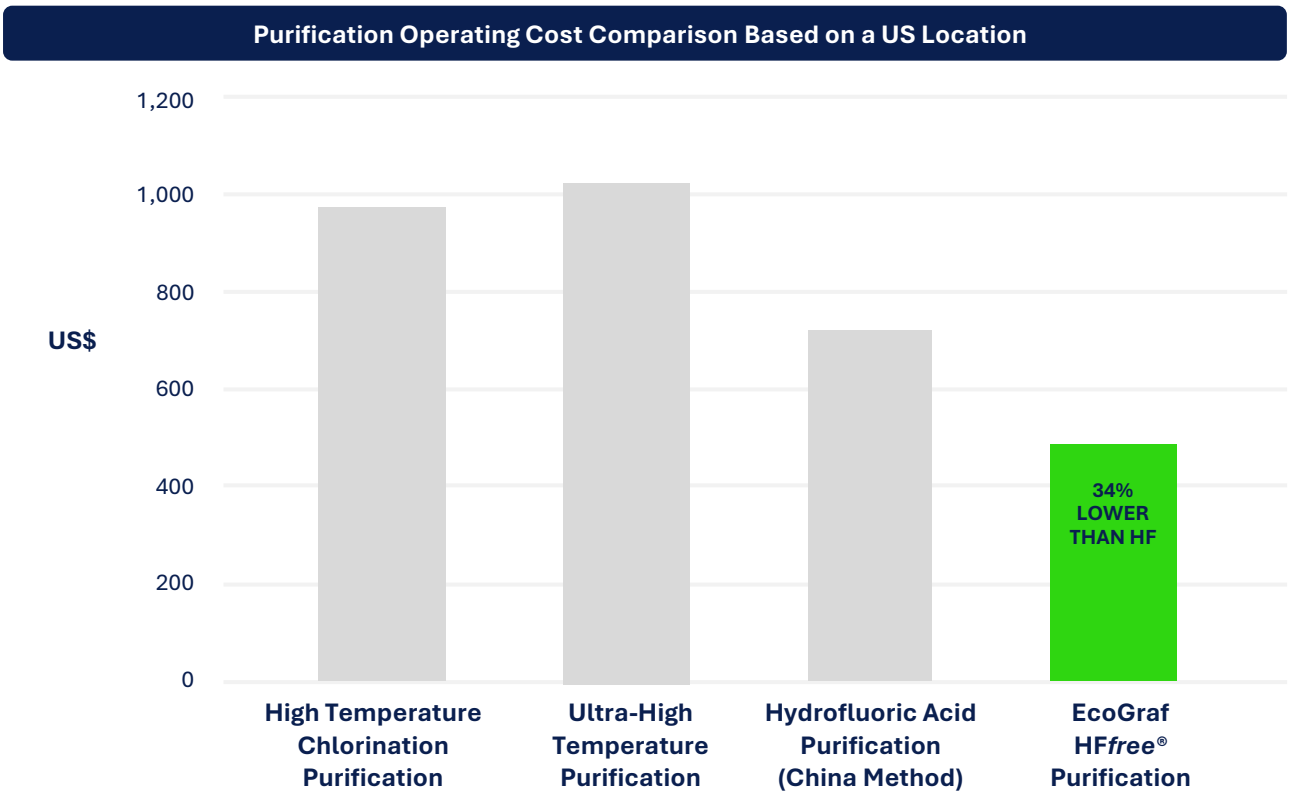


Table 6: Description of alternative purification process evaluated in the benchmarking program

Hydrofluoric Acid (China Method) 	*Technology developed by Chinese producers using hydrofluoric acid (HF). HF is a highly toxic and corrosive chemical, known as the 'China Method', which is the dominant purification process used by Chinese companies. The method is effective for treating Chinese graphite given the high level of impurities, in particular silica. The requirement for treatment of the resulting wastewater is very high, with significant expenditures for environmental protection and health and safety. Many countries ban HF or restrict its usage which will limit it use and scalability.*
High Temperature Chlorination	*A roast method using chlorine gas to create a chemical reaction, causing the impurities in the graphite to undergo a chlorination reaction. The resulting tail gas is difficult to deal with and the cost is high with chlorine gas posing environmental and safety risks.*
Ultra-High Temperature Purification	*Involves heating graphite to 2700°C or more to reach the lower boiling point of the impurities, so that they take the lead in gasification and are removed. This process is very costly and only considered suitable for small batch production volumes.*

Graphite Pricing

The Company has adopted a conservative long-term pricing model that is based on discussions with anode and battery manufacturers in Asia and an assessment of various global forecasts for energy, electric battery and electric vehicle (EV) growth rates over the next 10-20 years.

Over the last 15 years, the price of purified spherical graphite (SpG) used in lithium-ion batteries has typically ranged from US$3,000 to US$9,500 per tonne, with individual product pricing determined by specific factors such as purity, particle size distribution, tap density, charging capacity, lifecycle performance and market application.

Table 7: Pricing assumptions

	Pricing
Purified Spherical Graphite (SpG)	US$4,500/t
Unpurified fines by-product	US$675/t

Pricing is forecast to increase as a result of global government policy initiatives to encourage new, sustainable critical minerals supply chains and to introduce market protection and improve pricing transparency.

In July 2025 the US Department of Commerce announced that it will impose a preliminary anti-dumping duty of 93.5% on anode-grade graphite imported from China into the US. This is to counter the "dumping" of graphite at artificially low prices and will apply to graphite with a minimum carbon content of 90%.

This measure is in addition to preliminary countervailing duties announced in May 2025 by the Commerce Department for Chinese anode grade graphite, which according to Bloomberg[12] will result in an effective total tariff of 160%, subject to final determinations on the countervailing duty in September 2025 and the antidumping duty in December 2025.

These tariffs, which exclude additional US trade protection measures (a 25% tariff on natural graphite effective January 2026 and reciprocal tariffs on Chinese imports) are expected to provide strong support for increased long-term graphite prices.

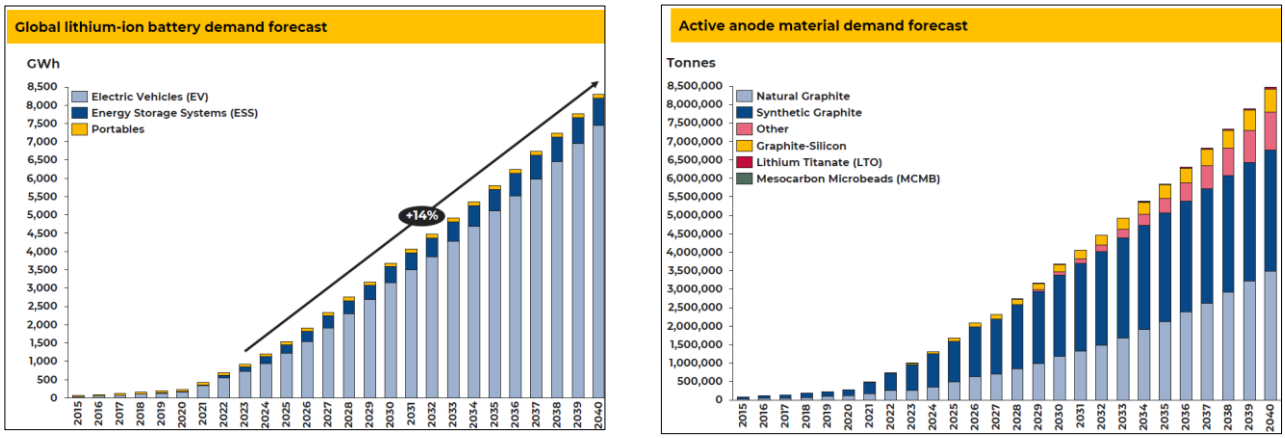
The US Department of Defence has also signalled that the US Government is prepared to take direct steps to support new critical mineral supply chains. In July 2025 it agreed a US$550m debt and equity investment in rare earths company MP Materials, that is accompanied by a 10-year floor price commitment 83% above prevailing prices.

Graphite Demand

Demand for natural battery graphite is increasing strongly, driven by the rapid expansion of lithium-ion batteries used in EVs and energy storage systems in North America, Europe and Asia.

As electrification accelerates across the transport and energy sectors, lithium batteries are becoming central to this transition, placing increasing strategic importance on developing new technologies and sustainable supply channels.

Lithium-ion battery and graphite active anode material forecast demand to 2040:

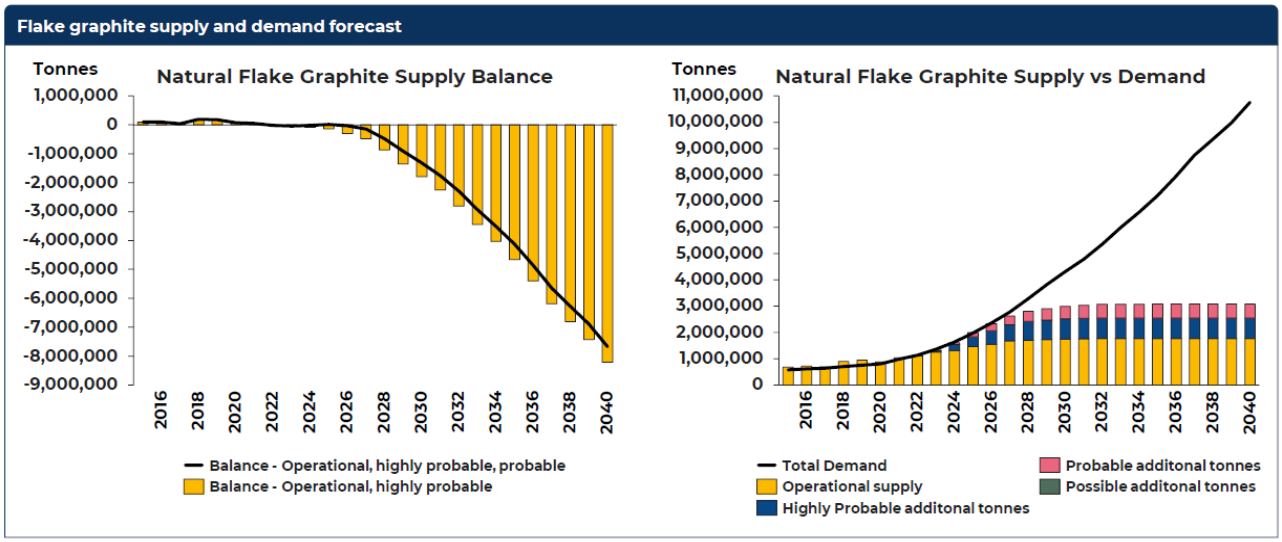


Source: Benchmark Mineral Intelligence, 2024

Global graphite demand is forecast to overtake projected supply from 2026 due to:

- graphite required for lithium battery e-mobility and clean energy storage applications;
- an increased proportion of natural graphite used in lithium battery anodes; and
- growing supply chain security issues (geopolitical tensions, Chinese export controls, trade tariffs).

As a result, a shortfall in the natural flake graphite market is expected in the second half of this decade.



Source: Benchmark Mineral Intelligence, 2024

Graphite will play a pivotal role in supporting global decarbonisation objectives and the scaling of clean energy technologies.

EcoGraf's HF*free*® Process Advantages

EcoGraf purification technology testwork commenced in 2016, developing a highly effective chemical process to remove impurities from natural graphite and carbon materials to achieve the product physical and chemical properties that are required by leading automotive and lithium-ion battery manufacturers.

In addition to the EcoGraf HF*free*® cost benefits, the chart below summarises the other favourable and important advantages of the process, which include scalability and its application for battery anode recycling. The Company has successfully demonstrated its purification application to anode recycling in a number of testwork programs for battery market participants and the process will support greater battery recycling and strengthening of the lithium battery circular economy.

The Company considers that EcoGraf HF*free*® ease of scalability is a major consideration to cater to increasing demand for anode material over the coming decades.

EcoGraf's HF*free*® Process Advantages

Anode Recycling Capability

EcoGraf anode recycling capability supports EU and US requirements for lithium-ion battery recycling and the Company is pleased to be working with BASF and SungEel Hitech Ltd.

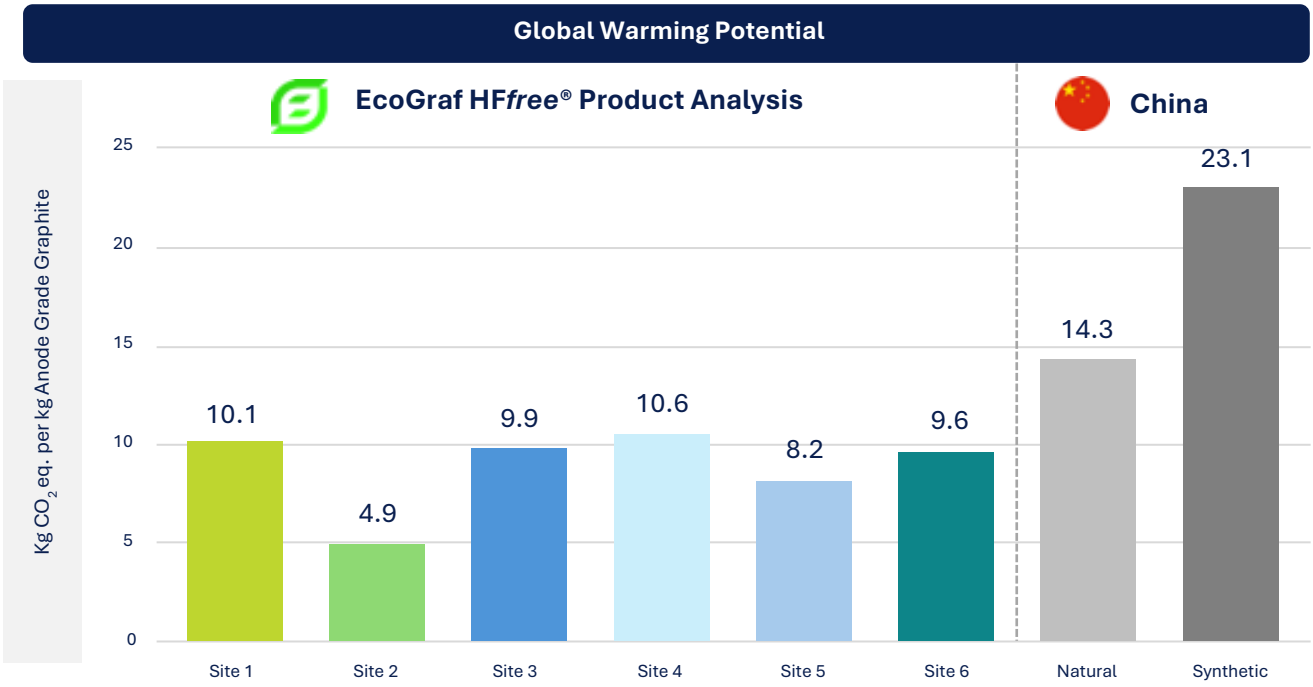
The Company is successfully applying its Ecograf HF*free*® purification technology to anode recycling which will assist the global battery industry to achieve greater battery recycling and transition to closed-loop manufacturing efficiencies.

Testing has demonstrated the structure and morphology of the recycled graphite are essentially unchanged compared to pristine commercial anode-grade graphite and the EcoGraf HF*free*® recovered graphite at 99.95% carbon matches the properties of the brand-new commercial natural anode graphite[10].

An independent ISO Life Cycle Assessment (LCA) that assesses projected environmental impacts for purified spherical graphite has demonstrated that products produced via EcoGraf HF*free*® anode recycling contain an almost zero or "CO_2 free" footprint when compared to synthetic graphite, which is currently the major anode component and which is produced via a high temperature, fossil fuel-based, carbon intensive manufacturing process[11].

Independent ISO-Compliant LCA Study

The Company commissioned an independent ISO 14040:2006 and 14044:2006 standard Life Cycle Assessment (LCA) assessment of its vertically integrated EcoGraf HF*free*® battery anode materials as a direct comparison to Chinese natural and synthetic supply[11].



Source: Internal LCA Update 2025 and based LCA Study Confirms Advantages of EcoGraf HF*free*® Purification (October 2022)

The assessment includes the positive impact of mechanical shaping in Tanzania and the evaluation of various EcoGraf HF*free*® Purification Facility locations, compared to Chinese natural and synthetic graphite supplies.

Since the initial assessment and report, the Company has reviewed a further 2 sites, with the LCA assessment undertaken by an internationally recognised sustainability and life cycle assessment consulting firm that also advises leading battery and EV manufacturers.

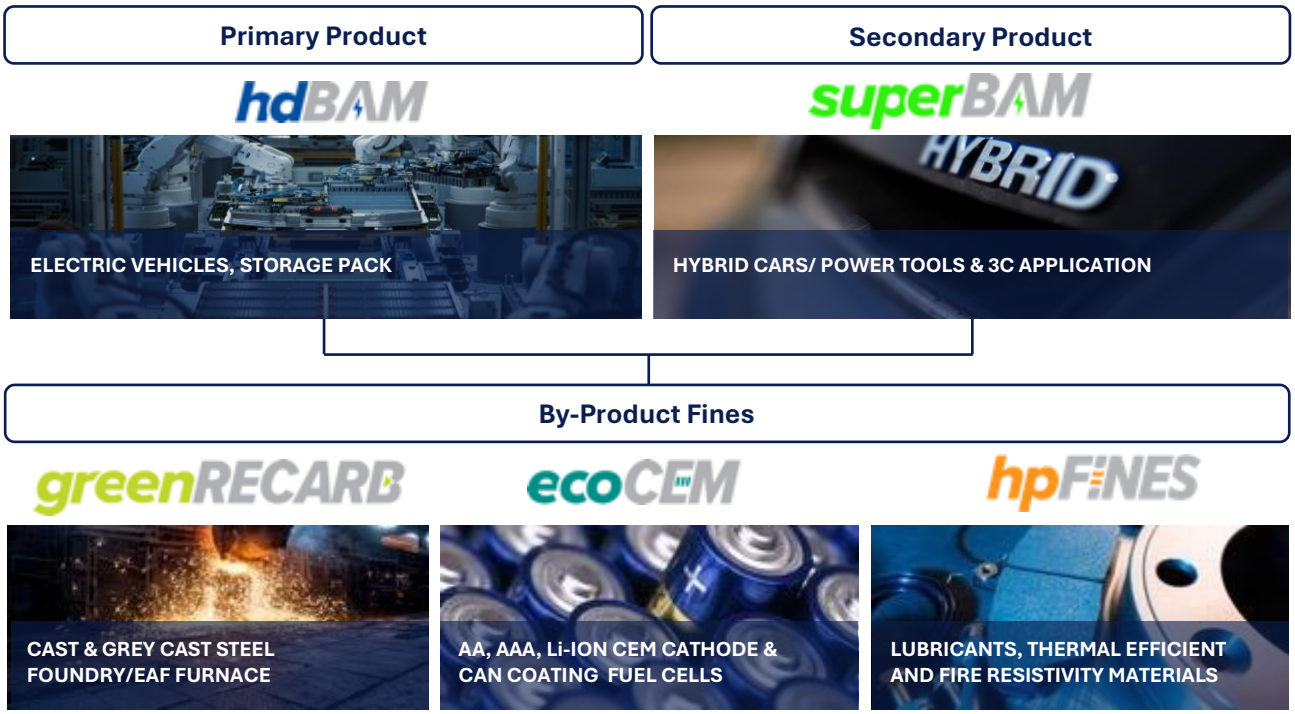
Product Development

The Company has adopted a zero-waste operating strategy for its EcoGraf HF*free*® purification to further support the sustainability and value addition of its products.

In conjunction with its downstream development and production of purified spherical graphite, an extensive international product development program is being undertaken for the by-product fines that are generated from the manufacture of EcoGraf HF*free*® high density battery anode material (hdBAM) and ultra-fine superBAM products for battery anode markets.

The Company is also working to advance potential support from the European Commission for the proposed value-addition of these products in Tanzania and Europe.

EcoGraf Product Development Summary



EcoGraf Product Trademarks

Item	Status
Primary Product	
hdBAM	Registered
By-Product Fines	
GreenRECARB	Registered
EcoCEM	Registered
hpFINES	Registered
Recycled Blended Product	
RecoBAM	Registered

Strong ESG Commitment

EcoGraf remains committed to the highest standards in terms of environment, social and governance responsibility, including developing and implementing planning frameworks that are aligned with the following:

- IFC Performance Standards;
- Equator Principles IV;
- Global Industry Standard on Tailings Management;
- Sustainable Development Goals;
- Global Reporting Initiative Standards; and
- Initiative for Responsible Mining Associations Standards.

Importance of Natural Flake Graphite in LiB Anode Cell Manufacturing

The outlook for natural flake graphite continues to strengthen relative to synthetic alternatives, largely due to sustainability, cost and supply chain diversification considerations. Natural flake graphite benefits from a significantly lower environmental impact, particularly in terms of energy use and emissions during production. As the battery industry seeks to reduce its carbon footprint, these factors are becoming increasingly critical.

Natural flake graphite also offers cost advantages, both in terms of raw material extraction and processing. While synthetic graphite remains dominant in certain applications, natural graphite is closing the performance gap through continued technological improvements. This shift is reinforced by mounting pressure on supply chains, particularly as China, currently the leading supplier, implements tighter controls on graphite exports.

As a result, market dynamics are evolving in favour of natural graphite, supported by growing investments in diversified and localised production. The trend reflects a broader industry focus on environmental performance, cost optimisations and long-term supply chain security.

The percentage of natural graphite in anode cells is expected to increase in coming years, a trend that is consistent with the Company's feedback from battery anode manufacturers.

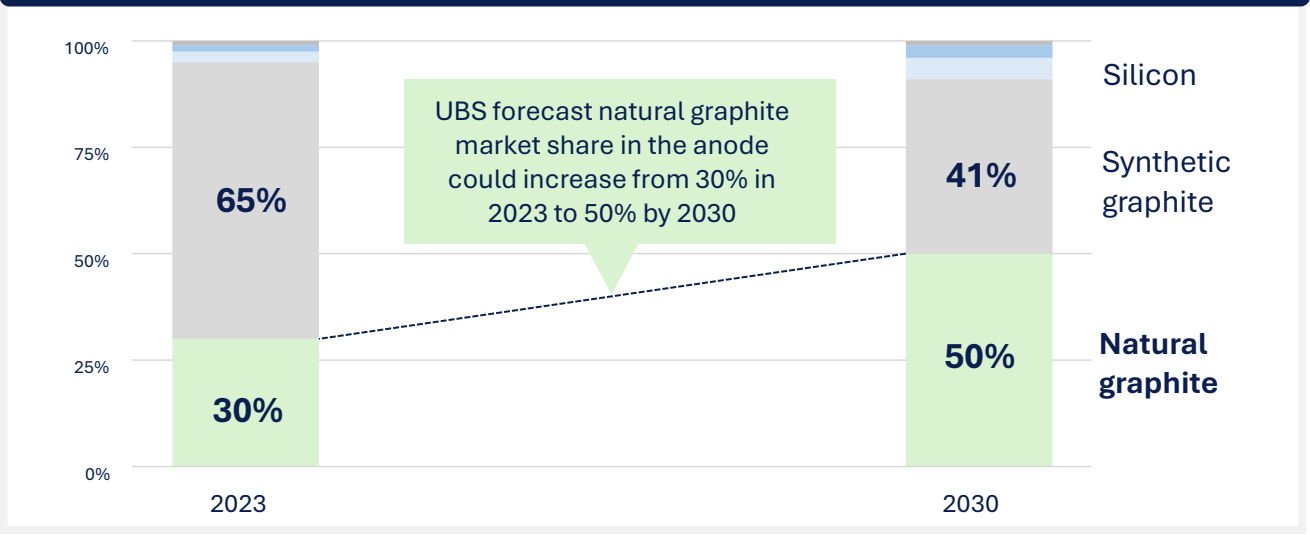
Anode Material Shift to Natural Graphite

Analysis by UBS[13] indicates a significant increase in natural graphite demand, driven primarily by the rising use of natural graphite in electric vehicle (EV) batteries. The report anticipates a 6x increase in natural graphite demand by 2030, with a shift in battery anode material towards a higher proportion of natural graphite (from about 30% currently to 50% by 2030). This growth is expected to be fuelled by a projected 5x increase in EV sales and larger battery sizes.

Emerging battery cathode technologies such as sodium (Na) and LFP (lithium, iron and phosphorus) will use similar volumes of anode material in lithium-ion batteries as current chemistries, underpinning long-term demand for graphite by the battery sector.

The use of silicon in battery anodes is expected to increase over the next 5 years with the target level of ~9-10% not expected to impact graphite use and demand.

Natural Graphite in Lithium-ion Batteries



Source: UBS Report 2024

There are three known natural graphite forms, however 'flake graphite' is the key raw material used in lithium-ion anode cell manufacturing. The Company expects the future importance of natural graphite concentrate grades for the battery market to follow a similar hierarchy to industrial markets in which higher concentrate grades command a premium to lower grade products.

Graphite Forms

Natural Graphite | **Synthetic Graphite**

Vein

Lump, Sri Lanka. Vein graphite

Only known occurrence of vein graphite.

Niche markets utilise this graphite with ~10ktpa global demand

Amorphous

Micro-crystalline Graphite (no crystalline structure)

Typically, deposits are high grade (> 20% C). Currently not used in battery anode market

High CO_2 polluting and market demand largely replaced by flake graphite

Flake

Macro-crystalline Graphite, disseminated flake *In Proterozoic rocks*

Natural graphite hierarchy: Higher grade concentrates replace lower grade markets

- 85-90% C and 90-92% C now replaced by >94% C

Synthetic

Man-made form of graphite using calcined petroleum coke, tar, pitch or other carbon raw materials.

Little crossover between natural and synthetic graphite industries as they are very different in nature.

Natural Flake Graphite and Synthetic are major raw materials in anode cell manufacturing

Flake graphite is an industrial mineral and developing graphite deposits requires consideration of a significant number of feasibility impacts that determine operating competitiveness, many of which are determined by the natural geological features of the graphite resource. Each graphite deposit is unique, with many deposits unsuitable for commercial development.

Feedstock for Downstream Purification Facilities

The Company's Epanko deposit is the largest development ready Mineral Resource in Africa and provides a low-cost, long-term and scalable natural graphite feedstock for the Company's downstream developments.

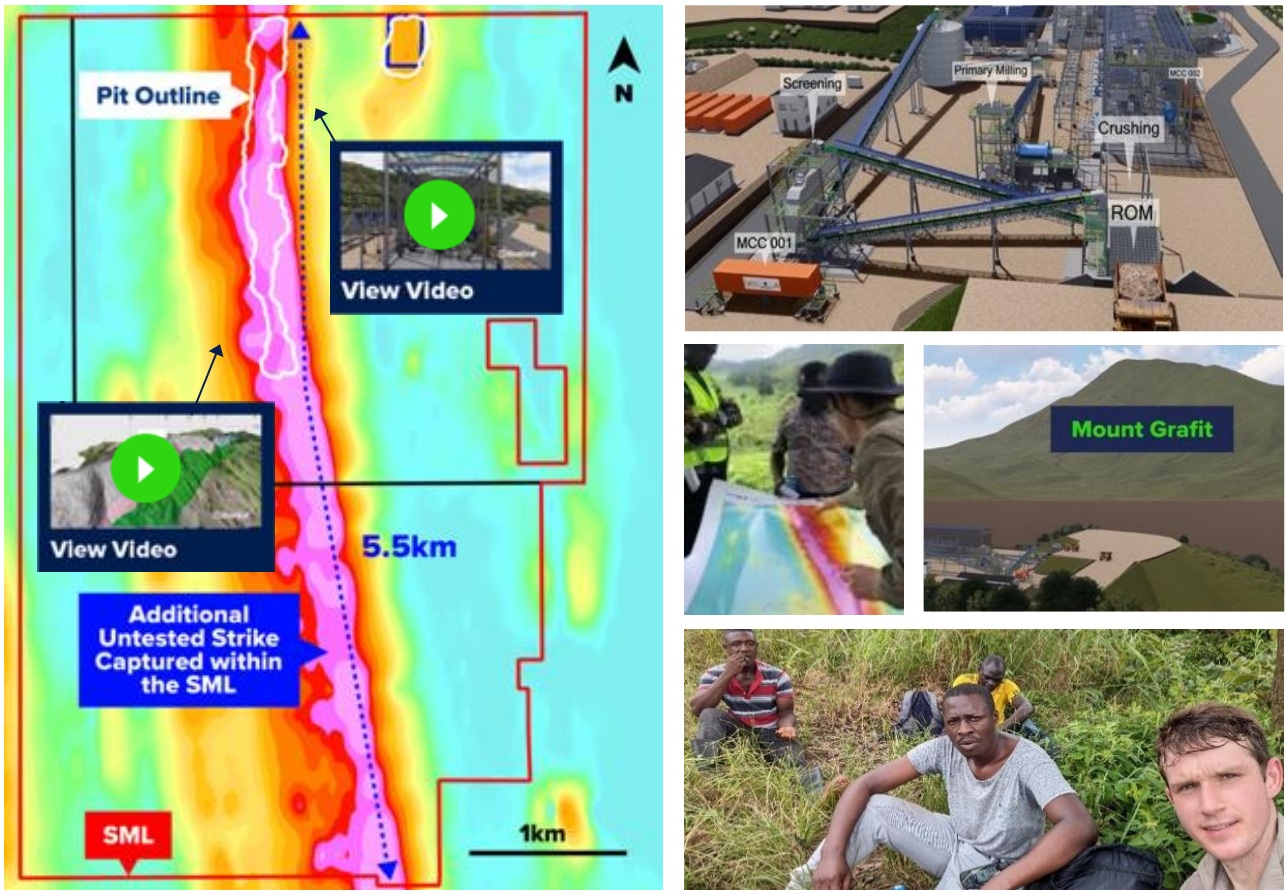
One of the most important Epanko attributes is its high concentrate grades (96-98%C) that will provide long-term competitive advantages, primarily due to less effort and cost required to remove the remaining impurities and in turn delivering ESG advantages.

Epanko Project Advantages for Lithium-ion Battery Market

82% Ore Reserve Classified Proven	**94.7%** Process Recovery	**96% - 98%** Concentrate Grade	**8.8% TGC** Ore Reserve Grade	**200m** Average thickness of deposit
0.3 : 1 Strip Ratio - Amount of Waste to Ore	**83,000t** Per Metre Strike	**290Mt** Total Mineral Resource Estimate	**21Mt** Contained Graphite	**63%** Flake Size distribution >150 µm

Planned expansion of the Epanko Graphite Project's initial 73,000tpa Stage 1 development to 300,000tpa will support the expected increase in natural graphite demand for the battery anode market[6]. The feedstock for the Company's downstream developments will be sourced from its substantial Mineral Resource base of 290Mt[6].

Epanko Mine, Processing Facility and Mount Grafit Expansion Potential



Source: Reference Company reports

Advantage of EcoGraf HF*free*® BAM over Chinese Supply

Epanko feedstock cost advantage is due to the geological setting of the deposit. Since graphite is a product of regional and local metamorphism (temperature and pressure) and the sediments in which the carbon rich material is deposited, each deposit is unique and different. The following table provides a comparison of the key technical differences between the Heilongjiang province in China that currently dominates the supply of global graphite feedstock and Epanko's feedstock.

***Table 8**: Comparison of China vs Epanko Graphite Feedstock*

	Heilongjang Feedstock	Epanko Feedstock	
Feedstock (-100 mesh size fraction) carbon grade	90%-94%	96-98%	**Epanko high grade concentrates** require less impurities to be removed
Silica content of Ore	30-40%	10-20%	**Epanko higher SpG yield (60%)** Chinese graphite intercalated with the mineral muscovite and with high silica content results in lower yields (30-40%)
Metamorphic Gradient of Graphite Rich Rocks	Greenschist-Granulite Facies	Eclogite-Granulite facies	**Epanko** has undergone the **highest pressure and temperature,** providing a **higher crystalline graphite**

Source: Reference Company internal reports and geological studies

At present China dominates the production of purified spherical graphite using hydrofluoric acid as the processing technology on -100mesh feedstock from the Heilongjang region.

The mineralogy associated with the graphite determines the residual impurity levels, which are critical for many industrial uses. The major proportion of gangue (or deleterious) minerals in graphite concentrates are silicon-containing minerals, oxides of aluminium and iron, as well as other compounds. These are undesirable/deleterious for lithium-ion battery anode manufacture and need to be removed to acceptable levels through purification and the cleaner the feedstock the lower the processing cost.

China Market and Export Licensing Controls

China currently dominates the graphite and anode material sector with nearly 80% of the global production of flake graphite originating from the Heilongjiang province, together with almost 100% of graphite purification using the hydrofluoric acid method. China's dominance is increasingly recognised as a risk to the expansion of graphite markets for high-purity industrial and defence applications, requiring global government action to support new, more sustainable critical minerals supply chains.

China's Ministry of Commerce has implemented tighter export controls on dual-use technologies and critical minerals, which includes graphite. These measures involve a more rigorous licensing system and export control, adversely impacting electric vehicle and lithium battery manufacturer reliance on Chinese products[14].

As a result, China's graphite products are being subjected to more stringent reviews and controls, which are expected to significantly impact its future graphite exports to Europe and the US. These controls will result in the development of new ex-China supply chains and the importance of viable long-term alternate supply chains that are cost-competitive and eco-friendly is critical to global electric vehicle and battery manufacturers.

EcoGraf's Multi-Hub Development Strategy

The Company's strategy is to locate its purification facilities in North America, Europe and Asia-Pacific regions to support localised demand outside of China and to meet the increasing demand for battery anode material.

The natural graphite for these facilities will be sourced from the Company's Epanko Graphite Project in Tanzania where the Company has mandated KfW IPEX-Bank to arrange a senior debt facility of up to US$105 million under Germany's Untied Loan Guarantee program for the construction of the Epanko stage 1 mine, initially producing 73,000tpa of flake graphite. The Company has recently finalised a substantial environmental and social planning program to support the financing and development of Epanko and is currently completing the independent technical engineers' program.

The Company intends to value-add the fines natural graphite from Epanko to produce unpurified spherical graphite in Tanzania using low-cost, green hydro energy. The recently completed Independent Engineering Study for its TanzGraphite Mechanical Shaping Facility demonstrated a low processing cost of US$419 per tonne cost, which confirms significant power and transport efficiencies[7].

Customer demand is expected to significantly grow from 2027 in Europe and North America, supported by increasing EU and US Government legislation to encourage new sustainable graphite supply chains.

The Company is actively securing sales partnerships, financial support and also evaluating locations to develop its downstream projects in the key ex-China battery manufacturing markets. The progress of current activities is summarised below:

US MARKET

The US market is currently the second largest market for raw material demand for anode cell manufacturing and the recently announced tariffs are creating increasing opportunities for price competitive supply channels to be developed.

The Company is evaluating potential sites in the US following completion of an independent site location study by a leading North American engineering firm.

These efforts are supported by a tier-1 major battery manufacturer in the US, with positive feedback recently received from the US Department of Defence for the Company's White Paper submission seeking up to US$76.3m Award Funding for developing an EcoGraf HF*free*® Purification Facility in the US.[3]

EU MARKET

EcoGraf's graphite developments are recognised by the EU Commission as key for the establishment of new, long-term and sustainable battery mineral supply chains for European industry.

The EU Critical Raw Material Act aims to support greater cell manufacturing from raw materials in the region and the Company has been in discussion with the emerging battery manufacturers and existing supply chain participants within Europe.

The EU is exploring options for assisting the Company to accelerate its developments. This follows positive meetings in Brussels and at Epanko in Tanzania, where the Company provided a progress update on its vertically integrated graphite developments at the EU Priority Projects Showcase organised as part of EU Critical Raw Materials Facility policy initiatives.

The Company has engaged a leading consultancy to support its evaluation of a number of prospective locations for EcoGraf HF*free*® Purification Facilities, with a strong focus on Germany.

Germany is preparing to launch a €100 billion ($116 billion) investment fund to help secure strategic sectors such as defense, energy and critical raw materials[15].

ASIA MARKET (EX-CHINA)

Currently the largest producer of anode material and a leading region for raw material demand. The Company is working with its partners and a range of potential new customers to support the development of downstream purification plans in this market.

EcoGraf is engaging with battery market participants in South Korea, Japan, Malaysia and Vietnam, which are key markets that require additional downstream production capacity to support anode supplies for global battery markets.

EcoGraf's HF*free*® supply chain underscores its HF*free*® purified spherical graphite as one of the lowest cost supplies of high purity battery anode material that will enable customers to reduce their reliance on existing battery anode graphite supply chains.

EcoGraf HF*free*® Vertically Integrated Battery Anode Materials Competitive and Cost Benefits[5]

UPSTREAM

- ✓ High Ore Grade
- ✓ High Processing Recoveries
- ✓ High Concentrate Grade
- ✓ Low Mining Strip Ratio
- ✓ Low Energy Cost

MIDSTREAM

- ✓ High Yields
- ✓ Low Energy Cost
- ✓ Reduced transport cost (removal of 40% fines)

DOWNSTREAM

- ✓ Low Cost Chemicals
- ✓ Minimal waste products
- ✓ Logistic efficiency
- ✓ Processing cost advantage

RECYCLING

- ✓ Low Cost Chemicals
- ✓ Minimal waste products
- ✓ High Processing Recoveries
- ✓ Increased value from reuse of production anode materials

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

For further information, please contact:

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Notes and References

For additional information, please view the following ASX announcements released by the Company and/or external sources:

1. Announcement dated 17 April 2019 and titled EcoGraf Study Delivers Downstream Development
2. Announcement dated 11 July 2024 and titled Study Confirms EcoGraf HF*free*® Process Cost Advantages
3. Announcement dated 14 July 2025 and titled Positive Feedback on U.S. Department of Defense Submission
4. Announcement dated 29 September 2022 and titled EcoGraf Expands BAM Facility Development Plans
5. Announcement dated 03 October 2023 and titled Australian Product Qualification Facility
6. Announcement dated 25 July 2024 and titled Updated Epanko Ore Reserve
7. Announcement dated 24 March 2025 and titled Engineering Study Completed for Midstream Development
8. Announcement dated 17 July 2024 and titled Production Qualification Facility Successfully Commissioned
9. Announcement dated 9 April 2024 and titled Proprietary Purification Achieves 4N 99.99% Carbon
10. Announcement dated 27 February 2024 and titled German Research Confirms Recycled Graphite Performance
11. Announcement dated 20 October 2022 and titled LCA Study Confirms Advantages of EcoGraf HF*free*® Purification
12. https://www.bloomberg.com/news/articles/2025-07-17/us-set-to-impose-93-5-tariff-on-key-battery-material-from-china?embedded-checkout=true
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Forward looking statements

Various statements in this announcement constitute statements relating to intentions, future acts and events. Such statements are generally classified as "forward looking statements" and involve known and unknown risks, uncertainties and other important factors that could cause those future acts, events and circumstances to differ materially from what is presented or implicitly portrayed herein. The Company gives no assurances that the anticipated results, performance or achievements expressed or implied in these forward-looking statements will be achieved.

Production targets and financial information

Production targets and forecast financial information derived from the production targets, included in this report is extracted from ASX announcements dated 21 June 2017, 28 April 2023 and 25 July 2024, available at www.ecograf.com.au and www.asx.com.au. The Company confirms that all material assumptions underpinning the production targets and forecast financial information derived from the production targets set out in the announcements released on 21 June 2017, 28 April 2023 and 25 July 2024 continue to apply and have not materially changed. The production targets referred to in this report are based on the updated Epanko Reserve (25 July 2024 announcement) which is comprised of 82% Measured Resources and 18% Indicated Resources for an initial 18-year life of mine. The Measured Resources and Indicated Resources underpinning the production target have been prepared by a competent person in accordance with the requirements in Appendix 5A (JORC Code). The Company has not used Inferred Mineral Resources as part of the production target. The Study includes some Inferred Resources which are mined incidentally with the Measured and Indicated Resources and treated as waste for scheduling purposes.

Competent Person Statement

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr. David Williams and Mr. David Drabble. Mr. David Williams is a full-time employee of ERM and is a Member of the Australian Institute of Geoscientists (#4176)(RPGeo). Mr. David Drabble is a full-time employee of EcoGraf Ltd and is a Member of the Australasian Institute of Mining and Metallurgy (#307348). Mr David Williams and Mr David Drabble have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The information in this report that relates to the Ore Reserve has been compiled by Mr Steve O'Grady. Mr O'Grady, who is a Member of the Australasian Institute of Mining and Metallurgy (#201545), is a fulltime employee of Intermine Engineering and produced the Mining Reserve estimate based on data and geological information supplied by Mr Williams. Mr O'Grady has sufficient experience that is relevant to the estimation, assessment, evaluation and economic extraction of Ore Reserve that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and all material assumptions and technical parameters underpinning the estimates, including production targets and forecast financial information derived from the production targets in the relevant market announcement continue to apply and have not materially changed.

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 graphite business which includes:

- Epanko Graphite Mine in Tanzania;
- Mechanical Shaping Facility in Tanzania;
- EcoGraf HF*free*® Purification Facilities located in close proximity to the electric vehicle, battery and anode manufacturers; and
- EcoGraf HF*free*® Purification technology to support battery anode recycling.

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 EcoGraf® battery anode material processing facilities, together with high quality large flake graphite products for specialised industrial applications.

In addition, the Company is undertaking planning for its Mechanical Shaping Facility in Tanzania, which will process natural flake graphite into spherical graphite (SpG). This mechanical micronising and spheronising is the first step in the conversion of high-quality flake graphite concentrate into battery grade anode material used in the production of lithium-ion batteries.

Using its environmentally superior EcoGraf HF*free*® purification technology, the Company will upgrade the SPG to produce 99.95%C high performance battery anode material to supply electric vehicle, battery and anode manufacturers in Asia, Europe and North America.

Battery recycling is critical to improving supply chain sustainability and the Company's successful application of the EcoGraf HF*free*® purification process to recycle battery anode material provides it with a unique ability to support customers to reduce CO_2 emissions and lower battery costs.

Follow EcoGraf on LinkedIn, X, Facebook and YouTube or sign up to the Company's mailing list for the latest announcements, media releases and market news.

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