EcoGraf Limited: Epanko Expansion Supports EcoGraf HFfree® Downstream Facilities

12.11.2025 | DGAP

Staged Expansion to 390,000 tpa to become Africa's Largest Planned Graphite Producer

EcoGraf Limited ("EcoGraf" or "the Company") (ASX: EGR; FSE: FMK) is pleased to announce the Epanko Graphite Project Expansion Study (Epanko Expansion Study) examined the potential to expand production to support the Company's strategy of developing its commercial scale EcoGraf HFfree® purification facilities in the global lithium-ion battery manufacturing hubs in Europe, North America and Asia.

The Expansion Study follows the recent breakthrough in cost efficiency of EcoGraf's HFfree® purification technology to produce battery anode material (BAM) (refer HFfree Delivers Industry-Leading Low Cost announcement dated 13 August 2025).

Key findings

- Epanko Expansion Study evaluated staged production expansion based on the existing Mineral Resource, following initial stage 1 production of 73,000 tpa[1] via three stages to 130,000 tpa, 260,000 tpa and 390,000 tpa of natural flake graphite
- Staged ramp-up to 390,000 tpa within 10 years, driven by rising global battery anode demand from new global supply chains
- Expansion stages fully covered under the current single Special Mining Licence (SML) and continuous Epanko orebody
- Positions Epanko to become Africa's largest planned graphite producer, with future expansions tied to downstream HFfree® purification facilities in the US, Germany and Europe to meet growing EV and lithium-ion battery demand
- Fine graphite concentrate from the staged expansion will be shaped at the Company's Tanzanian value-addition Midstream Facility, then purified at global HFfree® sites, supporting its multi-hub growth strategy[2]
- Strong financial metrics for a single and initial 25,000 tpa Purification Facility based on capital and operating costs for a US location[2]
  -Initial capital investment (including contingency) of US$95m
  -Pre-tax NPV_{10} of US$282m and IRR of 42 %
  -Annual EBITDA of US$42m
  -Process Operating Cost of US$478/t
- A comparable purification facility is planned for Europe, with Germany as the primary focus. Preliminary engineering indicates lower capital costs and a slight increase in operating costs compared to the US facility, resulting in similar financial metrics
- 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]
- EcoGraf's HFfree® integrated, end-to-end operation will deliver one of the lowest-cost, high-quality, and sustainable solutions, leveraging off its high-quality graphite

The Epanko Expansion Study aligns with the Company's strategy to establish its HFfree purification facilities in Europe, North America and Asia to meet growing battery anode demand outside China.

Natural graphite for these facilities will come from the Epanko Project (Project) in Tanzania, where KfW IPEX-Bank is arranging up to US$105 million in senior debt under Germany's Untied Loan Guarantee program for Stage 1 construction, targeting 73,000 tpa of flake graphite[1]. Completion of the Independent Engineer's Report, a key milestone in the financing process, is expected shortly.

The Epanko Expansion Study undertaken by independent consultants, IMO Metallurgy and Metallurgist Services, assesses growth beyond the initial 73,000 tpa Stage 1 plan, based on, and leveraging of, the existing Mineral Resources (refer Minerals Resource Estimate on page 6) and shared infrastructure to optimise costs. Three additional stages are proposed, each starting with three years of oxide-only processing

for higher throughput, followed by blended oxide and fresh material in later years.

EcoGraf's HFfree® integrated, end-to-end operation will deliver one of the lowest-cost, high-quality, and sustainable solutions, leveraging off its high-quality graphite feedstock.

The processing plant expansion pathway can be undertaken via three additional expansion phases following completion of the initial 73,000 tpa Stage 1 Project, giving a total production of 390,000 tonne of concentrate per year[4].

- Stage 2 - Duplication of the Stage 1 plant at the current location;
- Stage 3 - A 130,000 tpa plant at a location at the southern end of the Western Ore Body; and
- Stage 4 - A duplication of the Stage 3 plant in the same location.

Duplication of the Stage 1 plant allows for common units, spare parts redundancy and provides for simplified training processes.

The staged expansion will be developed over the initial 10 years of the mine based on the current Measured and Indicated Mineral Resource (M&I) tonnes. This initial 10-years of production, in which Epanko would ramp up to 390,000 tpa, is sourced exclusively from M&I tonnes, with further M&I tonnes available for the potential sustained production, at these levels. Beyond this, the Project has significant Resource exploration potential, aimed at sustaining the expanded production for a multi-generational operation. This comes in the form of the conversion of existing Inferred Mineral Resources and along strike Resource extension, which is discussed further on page 6.

The table below outlines the proposed additional three stages for combined production of 390,000 tpa:

	Production Scenario	
	Individual	Cumulative
Stage 1	73 ktpa	73 ktpa
Stage 2	73 ktpa	130 ktpa
Stage 3	130 ktpa	260 ktpa
Stage 4	130 ktpa	390 ktpa

Notes for Table: Stage 1 and 2 production capacity based on oxide material throughput, which reduces to 65 ktpa once processing fresh material, hence differences in cumulative totals and the sum of stages.

Engineering studies have shown that the Epanko valley has the capacity to store a tailings volume of up to eight times the capacity required for the Project development.[1]

Bagged graphite product will be transported on flatbed trucks from site to Ifakara approximately 70 km away. Trucks will haul directly to the port of Dar es Salaam for Stage 1, and Stages 2 onwards would require railing of the concentrate from Ifakara to the port.

The Stage 1 and Stage 2 plants are each able to process 850,000 tpa of oxide Ore. The plants each consist of a crushing and screening circuit, a fine Ore storage area, a grinding area, a flotation area, concentrate filtering and washing, concentrate handling and storage, reagent mixing and distribution, tailings handling, power distribution and water storage and reticulation. The Stage 2 concentrate filtering and washing, concentrate handling and storage, reagent mixing and distribution will be conducted at the Stage 1 plant's section with sufficient space to be provided to construct these unit operations as required.

Concentrate slurry from Stages 3 and 4 will be pumped via a pipeline to the Stage 1 plant which will provide space for the concentrate filtering and washing plus concentrate handling and storage to be conducted. This will provide a single point for dried concentrate loading and dispatch to be conducted and reduce the

requirement for extra dried concentrate transport infrastructure to be constructed for Stages 3 and 4.

Project Advantages and Further Potential

One of the most important Epanko deposit attributes is its high concentrate grade (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.

The hierarchy of the graphite market is that higher concentrate carbon grades will displace and replace lower carbon grade in the market. Supply chain pressures will also push producers toward premium grades for cost efficiency, ESG compliance and sustainability.

Expansion of the Epanko Graphite Project to 390,000 tpa will help meet rising natural graphite demand for battery anodes but also other markets given graphite is deemed the major raw material in the transition to clean energy. The Expansion Study is positioned to provide confidence to EV and Battery OEM's of a long-term alternative supply and support its multi-hub downstream development strategy.

Epanko Current Mineral Resource Estimate

Mineral Resource Estimate (MRE) for the Epanko Deposit >5.5 % TGC (refer 127 % Increase in the Epanko Mineral Resource dated 11 March 2024).

JORC Classification	Tonnage (Mt)	Grade (%TGC)	Contained Graphite (Kt)
Measured	32.3	7.8	2,500
Indicated	55.7	7.5	4,200
Measured + Indicated	88.0	7.6	6,710
Inferred	202.8	7.2	14,310
Total	290.8	7.2	21,010

Notes for Table: Tonnage figures contained within Table 1 have been rounded to nearest 100,000. % TGC grades are rounded to 1 decimal figure. Abbreviations used: Mt = 1,000,000 tonnes, Kt = 1,000 tonnes. Rounding errors may occur in tables.

The Company's large Mineral Resource estimate that includes substantial Measured and Indicated Resource classifications, provides sufficient material to support this planned level of expansion, and subsequent generation of feedstock for downstream developments. Global graphite demand is expected to outpace supply from 2026, driven by:

- Graphite use in lithium-ion batteries for e-mobility and energy storage
- Higher proportion of natural graphite in battery anodes
- Supply chain security concerns (geopolitical tensions, Chinese export controls, tariffs)

Additionally, global graphite demand is anticipated to expand in the second half of the decade across Europe, the U.S., and Asia (excluding China).

Mineral Resource Expansion Potential
Beyond the existing Mineral Resource, significant potential for Resource expansion exists in the southern extension of the Western Zone. Here, there is 2 km of untested strike extension within the SML, which, based on geophysical surveys and geological mapping, holds potential for the continuation of the mineralisation defined in the first 3.5 km strike length of the Western Zone. Trenching work in 2023, over the

peak of Mount Grafit, which marks the transition into the untested area, revealed the area to host some of the highest graphite grades seen from the Project (refer 127 % Increase in the Epanko Mineral Resource dated 11 March 2024):

- MHT26 23 m at 20.79 % TGC from 0 m
- MHT24 33 m at 19.69 % TGC from 30 m

The elevated topography of the area may be due to a localised area of more intense metamorphism, which can in turn produce higher grade, lower impurity and more crystalline graphite mineralisation. This area remains untested by drilling, and, based on correlation between trenching and drilling elsewhere on the Project, it holds the potential to host a significant body of high-grade mineralisation which could provide further optimisation and expansion opportunities.

Advantage of EcoGraf HFfree® BAM over Chinese Supply
Epanko's feedstock cost advantage stems from its unique geological setting. Graphite forms through regional and local metamorphism, meaning each deposit differs based on temperature, pressure, and host sediments. The table below compares key technical characteristics of Epanko's feedstock with those from China's Heilongjiang province, which currently dominates global supply.

Table: Comparison of China vs Epanko Graphite Feedstock

	Heilongjiang Feedstock	Epanko Feedstock	
Feedstock (-100 mesh size fraction) carbon grade	90 %-94 %	96-98 %	Epanko high grade concentrate
Silica content of Ore	30-40 %	10-20 %	Epanko higher SpG yield (60 % Chinese graphite intercalated w the mineral muscovite and with (30-40 %)
Metamorphic Gradient of Graphite Rich Rocks	Greenschist-Granulite Facies	Eclogite-Granulite facies	Epanko has undergone the hig

Source: Reference Company internal reports and geological studies

EcoGraf's HFfree® supply chain will provide a new superior quality and high-purity battery anode material, providing customers reduced reliance on lower-quality traditional graphite supply chains.

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

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

The information and production target presented in this announcement is based on a study of the potential for expansion at the Epanko Graphite Project (Epanko Expansion Study) completed by IMO Metallurgy and Metallurgist Services.

The Mineral Resource estimates underpinning the Epanko Expansion Study have been prepared by a Competent Person in accordance with the requirements in Appendix 5A of the JORC Code 2012 (refer 11 March 2024 announcement) and the Company confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The initial 10-years of production, which is defined in this report, in which Epanko would ramp up to 390,000 tpa, is sourced exclusively from Measured and Indicated Mineral Resource and in line with the Company's initial 18-year life of mine plan (refer 25 July 2024 announcement).

Competent Person Statement - Mineral Resources

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.

Ore Reserves

The Company confirms that it is not aware of any new information or data that materially affects the information included in the announcement dated 25 July 2024 and, that all material assumptions and technical parameters underpinning the Company's Ore Reserves in that 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 HFfree® Purification Facilities located in close proximity to the electric vehicle, battery and anode manufacturers; and

• EcoGraf HFfree® 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 HFfree® 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 HFfree® 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.

APPENDIX 2 JORC TABLE 1

JORC Table 1 Section 1 - Sampling Techniques and Data

Criteria	JORC Code explanation
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, c measurement tools appropriate to the minerals under investigation handheld XRF instruments, etc.). These examples should not be t sampling. Include reference to measures taken to ensure sample representiv measurement tools or systems used. Aspects of the determination of mineralisation that are Material to In cases where 'industry standard' work has been done this would circulation drilling was used to obtain 1 m samples from which 3 k for fire assay'). In other cases, more explanation may be required, has inherent sampling problems. Unusual commodities or mineral warrant disclosure of detailed information.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary details (e.g. core diameter, triple or standard tube, depth of diamo whether core is oriented and if so, by what method, etc.).
Drill sample recovery	Method of recording and assessing core and chip sample recover Measures taken to maximise sample recovery and ensure represe Whether a relationship exists between sample recovery and grade occurred due to preferential loss/gain of fine/coarse material.

Logging	Whether core and chip samples have been geologically and geote support appropriate Mineral Resource estimation, mining studies a Whether logging is qualitative or quantitative in nature. Core (or co The total length and percentage of the relevant intersections logge
Subsampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core ta If non-core, whether riffled, tube sampled, rotary split, etc. and wh For all sample types, the nature, quality and appropriateness of th Quality control procedures adopted for all subsampling stages to m Measures taken to ensure that the sampling is representative of th instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the mat
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and labor technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, the analysis including instrument make and model, reading times, derivation, etc. Nature of quality control procedures adopted (e.g. standards, blan and whether acceptable levels of accuracy (i.e. lack of bias) and p
Verification of sampling and assaying	The verification of significant intersections by either independent o The use of twinned holes. Documentation of primary data, data entry procedures, data verifi electronic) protocols. Discuss any adjustment to assay data.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar an workings and other locations used in Mineral Resource estimation Specification of the grid system used. Quality and adequacy of topographic control.

Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish continuity appropriate for the Mineral Resource and Ore Reserve applied. Whether sample compositing has been applied.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientati considered to have introduced a sampling bias, this should be ass
Sample security	The measures taken to ensure sample security.
Audits or reviews	The results of any audits or reviews of sampling techniques and d

JORC 2012 Table 1 Section 2 - Reporting of Exploration Results

Criteria	JORC Code explanation
Mineral tenement and land tenure status	Type, reference name/number, location and ownersh parties such as joint ventures, partnerships, overridin wilderness or national park and environmental setting The security of the tenure held at the time of reportin licence to operate in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by oth
Geology	Deposit type, geological setting and style of mineralis
Drillhole Information	A summary of all information material to the understa the following information for all Material drillholes: ● easting and northing of the drillhole collar ● elevation or RL (Reduced Level - elevation abo ● dip and azimuth of the hole ● downhole length and interception depth ● hole length. If the exclusion of this information is justified on the b exclusion does not detract from the understanding of explain why this is the case.
Data aggregation methods	In reporting Exploration Results, weighting averaging truncations (e.g. cutting of high grades) and cut-off g Where aggregate intercepts incorporate short lengths results, the procedure used for such aggregation sho aggregations should be shown in detail. The assumptions used for any reporting of metal equ
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the r If the geometry of the mineralisation with respect to t reported. If it is not known and only the downhole lengths are r (e.g. 'downhole length, true width not known').
Diagrams	Appropriate maps and sections (with scales) and tab significant discovery being reported These should inc locations and appropriate sectional views.

Balanced reporting	Where comprehensive reporting of all Exploration Re low and high grades and/or widths should be practice
Other substantive exploration data	Other exploration data, if meaningful and material, sh geological observations; geophysical survey results; method of treatment; metallurgical test results; bulk d characteristics; potential deleterious or contaminating
Further work	The nature and scale of planned further work (e.g. te large-scale step-out drilling). Diagrams clearly highlighting the areas of possible ex and future drilling areas, provided this information is

JORC 2012 Table 1 Section 3 - Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation
Database integrity	Measures taken to ensure that data has not been corrupted by, for exampl between its initial collection and its use for Mineral Resource estimation pu Data validation procedures used.
Site visits	Comment on any site visits undertaken by the Competent Person and the If no site visits have been undertaken indicate why this is the case.

Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretati Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estima The use of geology in guiding and controlling Mineral Resource estimation The factors affecting continuity both of grade and geology.
Dimensions	The extent and variability of the Mineral Resource expressed as length (alo width, and depth below surface to the upper and lower limits of the Mineral

Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and treatment of extreme grade values, domaining, interpolation parameters an extrapolation from data points. If a computer assisted estimation method w computer software and parameters used. The availability of check estimates, previous estimates and/or mine produc Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of econom acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the ave search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the res Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of m use of reconciliation data if available.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moistur determination of the moisture content.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining d applicable, external) mining dilution. It is always necessary as part of the p prospects for eventual economic extraction to consider potential mining me regarding mining methods and parameters when estimating Mineral Resou Where this is the case, this should be reported with an explanation of the b made.

Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenabili of the process of determining reasonable prospects for eventual economic metallurgical methods, but the assumptions regarding metallurgical treatm made when reporting Mineral Resources may not always be rigorous. Whe reported with an explanation of the basis of the metallurgical assumptions
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposa part of the process of determining reasonable prospects for eventual econ potential environmental impacts of the mining and processing operation. W determination of potential environmental impacts, particularly for a greenfie well advanced, the status of early consideration of these potential environ Where these aspects have not been considered this should be reported wi environmental assumptions made.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumption used, whether wet or dry, the frequency of the measurements, the nature, samples. The bulk density for bulk material must have been measured by methods t spaces (vugs, porosity, etc.), moisture and differences between rock and a Discuss assumptions for bulk density estimates used in the evaluation pro

Classification	The basis for the classification of the Mineral Resources into varying confi Whether appropriate account has been taken of all relevant factors (i.e. rel estimations, reliability of input data, confidence in continuity of geology and and distribution of the data). Whether the result appropriately reflects the Competent Person's view of t
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence lev estimate using an approach or procedure deemed appropriate by the Com application of statistical or geostatistical procedures to quantify the relative stated confidence limits, or, if such an approach is not deemed appropriate factors that could affect the relative accuracy and confidence of the estima The statement should specify whether it relates to global or local estimates tonnages, which should be relevant to technical and economic evaluation. assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate shou data, where available.

[1] Refer ASX announcement dated 28 April 2023

[2] Refer ASX announcement dated 13 August 2025

[3] Refer ASX announcement dated 14 July 2025

[4] The phased expansion had been initially anticipated to be up to 300,000 tpa, refer ASX announcements dated 28 April 2023 and 11 March 2024