

8 June 2021

ASX Announcement

BLACKEARTH SIGNS MOU TO JOINTLY DEVELOP EXPANDABLE GRAPHITE PLANT

Highlights

- BlackEarth has signed a Memorandum of Understanding ("MOU") with India based Company, Metachem Manufacturing Company Pvt. Ltd. ("Metachem"), to commence plant construction and the production of Expandable Graphite
- Metachem is a prominent and leading producer of Expandable Graphite and other downstream products with 20 years production experience and sales in to Europe, Asia and the USA
- BlackEarth and Metachem are to invest in a new processing facility to meet demand from European based groups with LuxCarbon to assist with product sales to Tier 1 buyers in Europe
- Demand for Expandable Graphite continues to grow with current and future pricing projections in the range of US\$2,800 - US\$3,500 (*note 1*)
- BlackEarth and Metachem to conclude a JV within 90 days and fast track development to commence production within 9 - 10 months
- BlackEarth and Metachem committed to additional plant developments in the high growth markets of Europe and Asia
- Development will position BlackEarth as the First Producer of commercial levels of Expandable Graphite listed on ASX
- Plan for JV complements the existing India and Australia strong and productive bilateral partnership.

BlackEarth Managing Director, Tom Revy, commented:

"This is a ground breaking agreement between two Companies committed to the growth and development of this important high value commodity to fuel the world wide demand for downstream graphite products. The BEM Executive team have been in discussions with the Directors of Metachem for some time now and we are impressed with their professionalism, technical expertise and market presence in the world's largest democracy.

This planned production site complements our other interests in the USA and Europe, and further positions BlackEarth as a leading provider of graphite concentrate and a range of down stream graphite products over the forthcoming decades. Our partner in Europe (LuxCarbon) will play an instrumental role in this development as we, with their support, plan to sell this highly valued product to a range of existing and new buyers in developing and growth markets throughout Europe.

Both Companies are already working toward concluding an operational Joint Venture agreement within the next few months".

About the MOU

BlackEarth Minerals NL ("BlackEarth") and Metachem have signed a Non-Binding MOU, to commence plant construction and the production of Expandable Graphite, with the intention to complete and sign an operational Joint Venture ("JV") agreement within a maximum of 180 days. The Parties are working toward executing the JV agreement, following a period of due diligence and discussions, within 90 days.

Other key elements of the MOU are –

1. BlackEarth are to source, in conjunction with their Sales and Marketing partner LuxCarbon, high quality graphite concentrate for treatment for the new expandable graphite plant
2. Following completion of its own plant, BlackEarth will provide large and jumbo flake graphite to the JV
3. Each JV partner proposes a 50/50 equity and profit share arrangement with CAPEX estimated to be US\$3.5m in total
4. BlackEarth and LuxCarbon to provide end user and product technical advice to the Metachem operational team
5. BlackEarth and LuxCarbon will manage sales, marketing and the growth of sales worldwide.
6. Estimated initial production to be 2,000tpa growing to 4,000tpa, with plans to develop other plants in Europe and other strategic locations.
7. BlackEarth estimates Gross JV Revenue of US\$6.25m initially, growing to over US\$13m upon production ramp up to 4,000t pa
8. Production sites have been identified and appropriate economic, social and environmental conditions have initially been assessed as highly favourable.
9. The production site is within the Indian Special Economic Zone ("SEZ") which offers a range of economic, taxation and other concessions which adds substantially to the projects valuation.

Demand for Expandable Graphite Growth and Projections

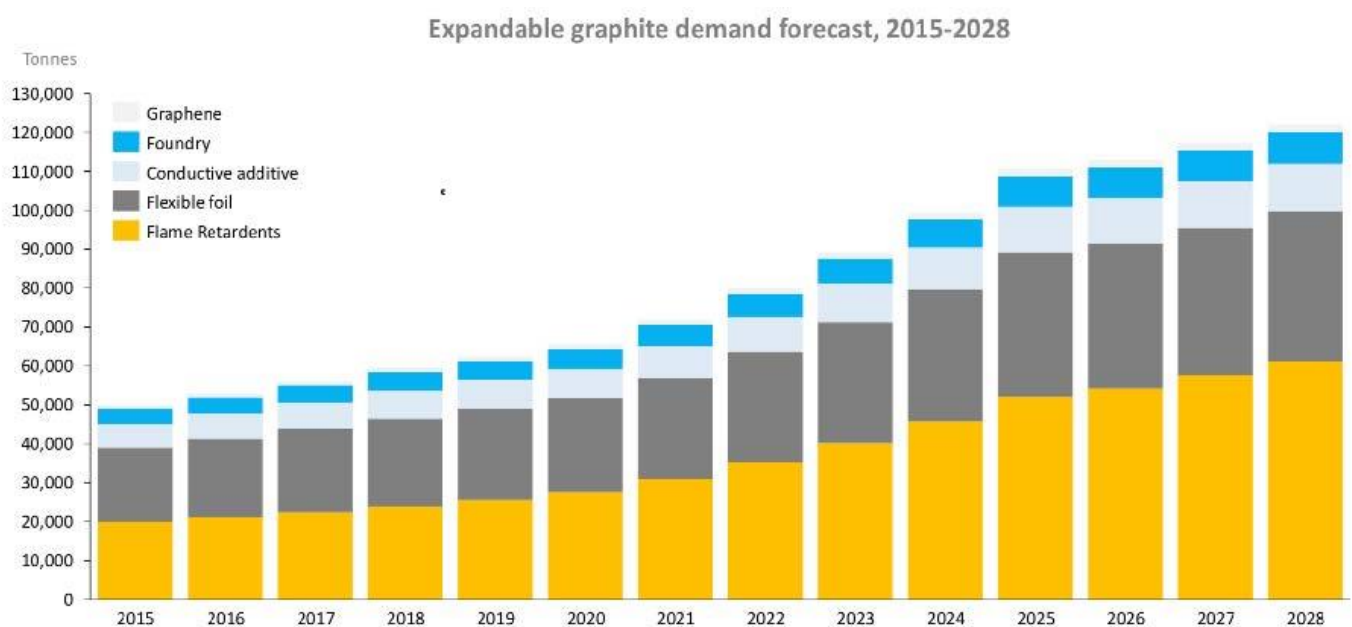


Figure 1 – Expandable Graphite demand and growth – Source:- Benchmark Mineral Intelligence

About and the application of Expandable Graphite

Expandable graphite is a form of intercalated graphite and is produced by a process in which an intercalant material is inserted in between graphene layers of generally coarse flake graphite in a process referred to as 'exfoliation'. Subsequent heating of the intercalated material causes the intercalant material (expandable graphite) to expand and drive the graphene layers of the graphite apart and thus create expanded graphite.

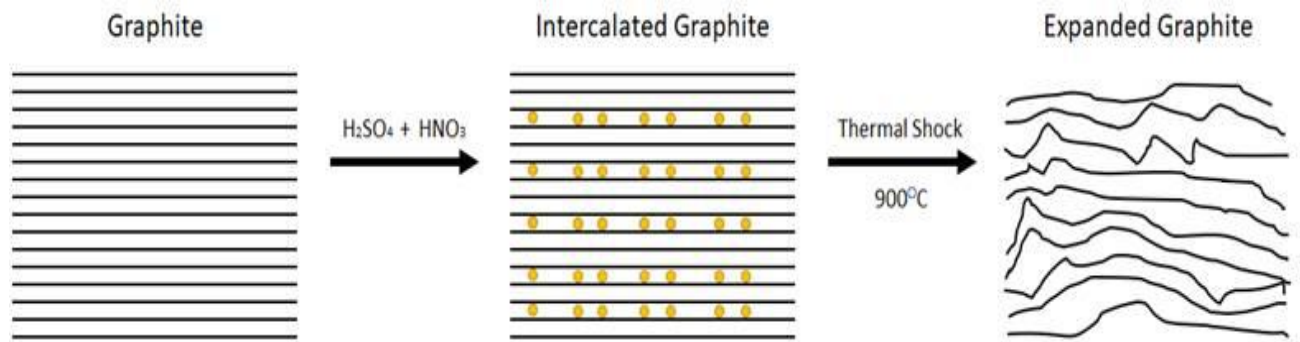


Figure 2 – Expandable Graphite expansion process

When treated, graphite flakes split apart and increase in volume by up to 300 times. This “expanded graphite” can be pressed into sheets and used for heat and fire protection in applications ranging from building materials to consumer electronics and fuel cells.

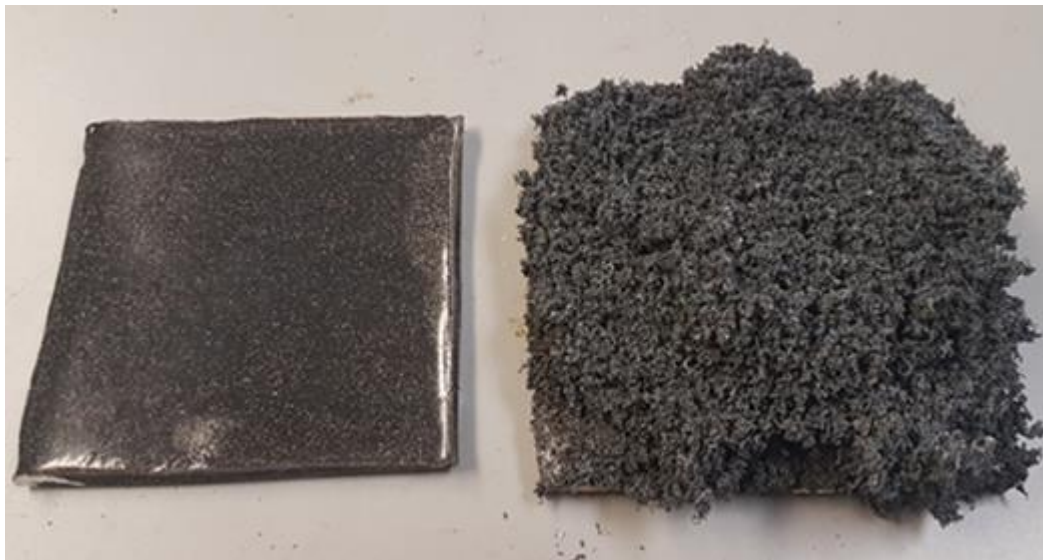


Figure 3 – Graphite from a Concentrate form to Expanded Graphite

Approximately 35% of expandable graphite production is processed into fire retardants. This is the single biggest end market for expandable graphite. The remaining product is processed into flexible graphite which is the precursor to a number of end products such as graphite foils for use in the **automotive, EV and alternative energy sectors**.

In addition to fire resistant building materials, expanded graphite is an important pre-cursor for the manufacture of flexible graphite foils and papers which provide very light weight heat dispersion and shielding properties. The low density expanded graphite is rolled and compressed into thin flexible sheets which provide high heat, corrosion and compression resistance. Graphite foils are incorporated in many mobile electrical devices to safely disperse heat away from the battery source.

Rapid demand growth is also forecast due to the increasing use of high energy density batteries in mobile devices.

The applications for expandable graphite arise from its chemical stability, nontoxicity, and ability to expand in a consistent way when exposed to heat. In flame retardants expandable graphite creates a protective layer that protects a given material from fire for an extended period. Oxygen is also withdrawn from the air during expansion, making the air inert. Consequently, expandable graphite has many applications in the construction industry, and also in furniture and textiles, and anywhere where there is a pronounced fire risk.

Demand for Expandable Graphite Growth – Flame Retardent Projections

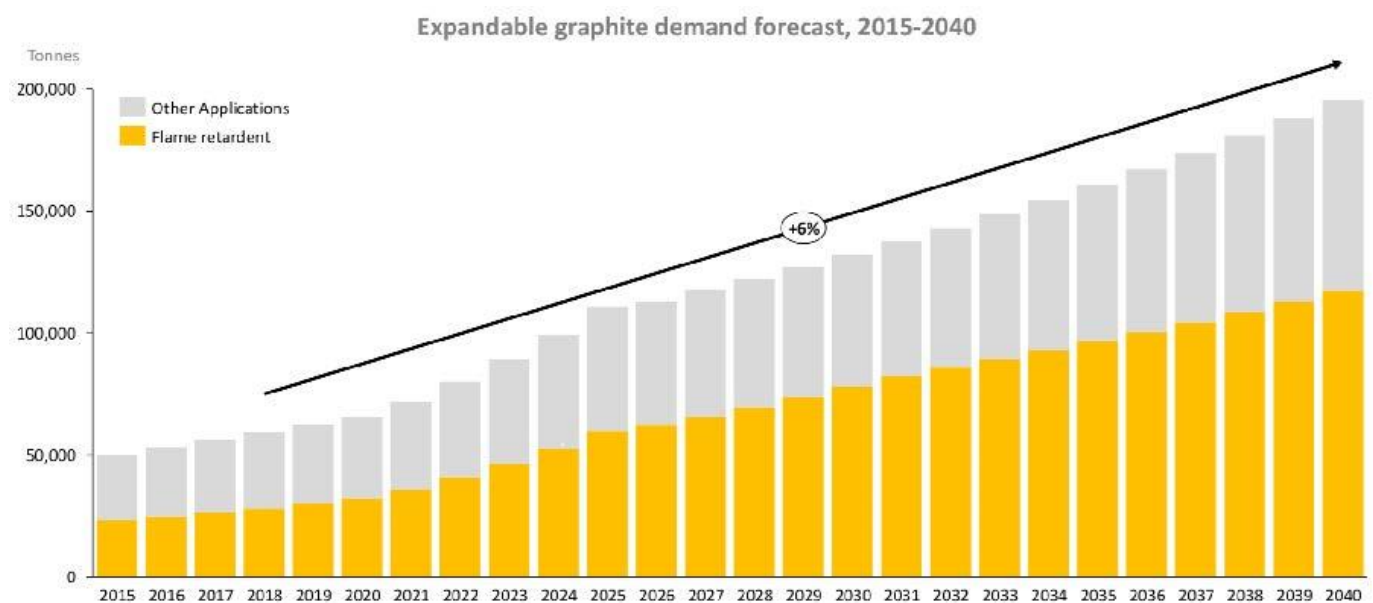


Figure 4 – Fire Retardant use as a portion of Expandable Graphite demand and growth – Source:- Benchmark Mineral Intelligence

The Global Expandable Graphite Market is expected to grow from US\$202.8m in 2020 to around US\$351.9 Million by 2027 (*source – globalnewswire.com*). Such growth and demand for a range of products and applications provides BlackEarth with an enormous opportunity.

Global Expanded Graphite Market, By Region, 2019-2027 (US\$ "Mn")

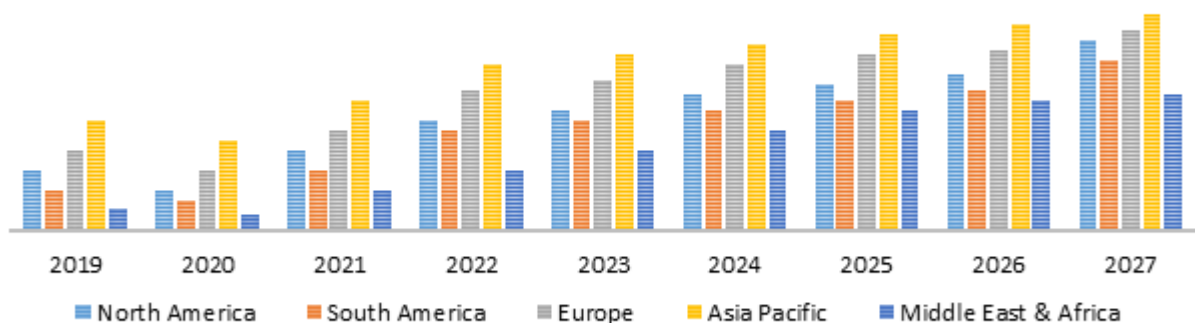


Figure 5 – Expandable Graphite by Region

About Metachem

Metachem is an Indian based private Company that has been in operations since the 1980's.

The Company has a number of divisions and is a producer of Expandable Graphite with graphite concentrate sourced from India and also Madagascar.

Metachem also produce a range of downstream graphite processed products and these are supplied in to the Indian domestic market.

For over 20 years, Metachem has been exporting Expandable Graphite to Europe and also the USA. The MOU with BlackEarth presents them with an opportunity to not only secure a reliable supply of high quality, large flake graphite concentrate but also benefit from BlackEarth's marketing and supply arrangement with LuxCarbon in Europe.

Metachem management and technical staff are experienced in the production of a range of graphite downstream products and their industry knowledge and market share is well recognised within India and Internationally.

More information about Metachem can be found here - <https://metachem.in/>

BlackEarth's partnership with LuxCarbon, Germany

As announced in February 2021, Blackearth has secured a supply and marketing agreement with world leading German based graphite supply chain group, LuxCarbon.

The BlackEarth executive team has held ongoing discussions with LuxCarbon about securing and growing a supply of downstream graphite products, including Expandable Graphite, and we are highly encouraged by the demand and interest of products we are likely to produce with Metachem.

LuxCarbon have an extensive supply chain in Europe and currently supply graphite related products to Volkswagen, Mercedes, Ford and a range of chemical companies and other industries in Europe.

We are working closely with LuxCarbon to secure and expand supply agreements and plan to initiate a number of downstream product off-take agreements with tier 1 users in the short term.



Figure 6 - LuxCarbon operations in Germany

This release has been authorised by the Company's Disclosure Committee

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BlackEarth encourages investors to update their contact details to stay up to date with Company news and announcements here: <http://www.blackearthminerals.com.au/update-details/>

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References

Note 1 – Indmin.com / ubs.com