

Commercial Graphene Facility Commences Production

HIGHLIGHTS

- Commercial Graphene Facility (CGF) commences graphene production.
- Confirms First Graphene's position as one of the world's leading graphene companies, with the ability to supply.
- Plant in production on time and well within previously described budget of \$1m.

Advanced materials company, First Graphene Limited ("FGR" or "the Company") (ASX: FGR) is pleased to share a significant milestone, not just for the Company but also for the global graphene industry, with the commencement of production from its CGF at Henderson, Western Australia.

The addition of graphene has the potential to dramatically improve a wide range of materials used in manufacturing, to the betterment of industry and consumers. The availability of reliable supplies of bulk quantities of graphene products, of consistently high quality, has been an obstacle to the widespread adoption of graphene industry up until now. However, with the commissioning of the CGF by First Graphene, that obstacle has been overcome. First Graphene is open for business as a leading global supplier of bulk graphene products.

The process employed by the Company to produce graphene is particularly noteworthy due to its very low capital cost. The modular nature of the technology provides the ability to incrementally expand capacity within a very short time frame, to meet the expected high growth in demand in the future. The ability to use ultra-high-grade graphite direct from the mine, without having to undergo a concentration step, ensures a simple production method and underwrites what the Company believes to be the lowest cost production methodology available.

While the graphene market has been forecast to grow at 60% p.a. by industry observers, it is still an embryonic market which needs development. To this end First Graphene is working closely with a number of potential customers in Australia, Europe and North America, supplying trial parcels of graphene for testing and developing of application methods across a broad range of products including, but not limited to, operators in the battery, concrete, fire retardant, paints and coatings and polymer businesses. Further, First Graphene continues to work closely with Traxys, a leading international marketing company specialising in mining products, advanced metals and battery input materials, with a view to developing market mechanism and securing long-term off-take agreements into leading global companies industry.

First Graphene has spent almost three years developing its technology and supply lines, culminating in the commissioning of the Henderson commercial production facility which places it, and Australia, at the cutting edge of the graphene revolution. It is now perfectly poised to build a sales book without having to worry about capital expenditure hurdles or competition from lower cost producers. From this point on it is all about achieving market penetration.

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ASX Code

FGR
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Background

As advised last year the Company leased 960m² premises in the Australian Marine Complex in Henderson, south of Fremantle in Western Australia. The new 960m² premises provide the Company with a dedicated facility in which to expand its graphene production and packaging, which will provide industry the ability to source graphene in bulk.

In August last year the Company was granted a Works Approval by the Department of Environment Regulation (DER) for its facility and was able to commence work on the construction of the facility. The Company received its Registration of Premises under the Environmental Protection Regulations 1987, on 31 January 2018.

The facility was officially opened by Mr Josh Wilson MP, Federal Member for Fremantle, on 23 November 2017.

Shortly after the opening FGR despatched its first material from the facility to a USA-based construction materials company for testing in cement products. This sale had resulted from enquiries at the IDTechEx Conference in Santa Clara. This shipment demonstrated FGR's ability to meet customer orders from the facility and supply commercial quantities at short notice.



Product Palletised and Ready for Shipment in late November

Factory Development and Commissioning

Since November work has continued apace to complete the facility. This has resulted in graphene production commencing on Monday.

This is a significant milestone for the Company and toward world graphene developments. The Graphene Council has previously identified the three largest impediments to graphene as a lack of production capacity, a need for consistent quality and pricing which makes graphene attractive for industry to adopt the advanced material. In commissioning this facility FGR can now address all these issues.

Furthermore, this facility has been constructed for well less than the \$1m budget previously advised to the market. As Chairman, Warwick Grigor, stated in his address at the Company's Annual General Meeting, *"Through careful management and sourcing of equipment for this production facility, management has been able to achieve excellent costs reductions."*

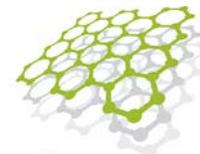


Prototype cell and Production Cell #1

The Company has also installed a laboratory to perform constant quality assurance and control procedures. Having purchased its own Raman spectrograph FGR is probably the only commercial entity in Australia able to complete these procedures on its own premises.

A gallery of photographs of the facility can be seen by following the link below.

<https://firstgraphene.com.au/graphene/graphene-facility>



first graphene

Australia's leading graphene company

Commenting on this development, FGR's Managing Director Craig McGuckin said

"The commissioning of the Commercial Graphene Facility is a significant milestone for FGR as it progresses toward being a world leader in the production of high-quality graphene. When combined with the research and development the Company is undertaking with three leading Australian universities it provides many exciting prospects."

About First Graphene Ltd (ASX: FGR)

First Graphene produces high quality graphene from high grade Sri Lankan vein graphite.

First Graphene seeks to develop graphene production methods and acquire graphene related intellectual property which can provide further revenue related opportunities.

About Graphene

Graphene, the well-publicised and now famous two-dimensional carbon allotrope, is as versatile a material as any discovered on Earth. Its amazing properties as the lightest and strongest material, compared with its ability to conduct heat and electricity better than anything else, means it can be integrated into a huge number of applications. Initially this will mean graphene is used to help improve the performance and efficiency of current materials and substances, but in the future, it will also be developed in conjunction with other two-dimensional (2D) crystals to create some even more amazing compounds to suit an even wider range of applications.

One area of research which is being very highly studied is energy storage. Currently, scientists are working on enhancing the capabilities of lithium ion batteries (by incorporating graphene as an anode) to offer much higher storage capacities with much better longevity and charge rate. Also, graphene is being studied and developed to be used in the manufacture of supercapacitors which can be charged very quickly, yet also be able to store a large amount of electricity.

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