

27 April 2022

# March 2022 Quarterly Activities Report

Advanced materials company First Graphene Limited (ASX: FGR, "First Graphene" or "the Company") is pleased to provide this update on its financial and operational performance for the quarter ended 31<sup>st</sup> March 2022.

## **HIGHLIGHTS**

- Total FY21 revenue exceeded at the end of Q3 FY22 with a strong pipeline for Q4 FY22
- Significant orders filled across multiple segments for Q3 totalling circa A\$179,000
- Additional orders received for fulfilment in Q4 totalling circa A\$200,000
- US market penetration boosted with NeoGraf Technology Partnership, including minimum purchase commitment of 10 tonnes per annum within four years
- Distribution agreement and product launch with Nanoproof Glade Chemicals JV opens way to South African cement, concrete and other construction markets
- Application development work accelerating across all materials segments including thermally conductive plastics for Senergy Innovations Ltd. and conductive textile coating for use in geotextiles

## **Commercial update**

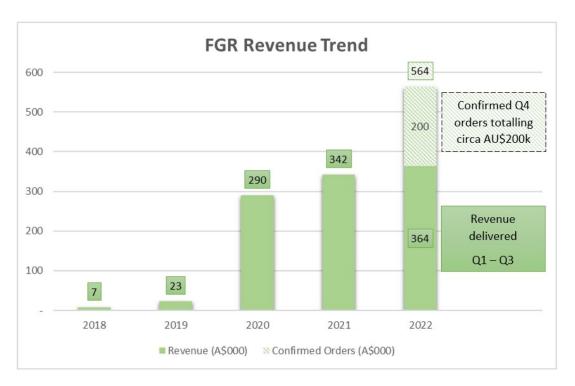
#### **Financial performance**

In Q3 of FY22, First Graphene delivered A\$179K of sales revenue, which is an increase of 265% on A\$49K of revenue delivered for the same period FY21. Year to date revenue to the end of Q3 (A\$364K) has already exceeded total revenue for the previous financial year (A\$341K), providing a strong indicator that the Company's go-to market strategy is starting to deliver results.

There is also a strong pipeline of orders to be fulfilled prior to the end of the financial year, putting First Graphene on track for a significant increase in revenue compared to FY21. More importantly, the revenue is being derived from diversified sources including early adopter PureGRAPH<sup>®</sup> product sales, larger scale production trials of new clients, and the Company's materials technology research and development work and services.



Below is an illustration of First Graphene's revenue growth since 2018. Further orders within Q4 are still expected to be added to this pipeline.



#### Update on share placement with SMI

As announced on 27<sup>th</sup> May 2021, First Graphene entered into a share placement agreement with SMI to raise A\$8 million in cash in exchange for providing A\$8.48 million worth of shares. As of 8<sup>th</sup> April 2022, SMI has drawn down on First Graphene shares worth A\$2.16 million with A\$6.32 million of shares still to be issued.

#### Strategic partnership opens way for greater market penetration

During Q3, First Graphene announced it had signed an exclusive technology partnership deal with US-based NeoGraf Solutions LLC, the world's leading provider of graphite materials to multiple industries.

The 10-year agreement to develop and grow the graphene market in the USA is subject to performance measures that commence with a minimum uptake of two tonnes of First Graphene's PureGRAPH<sup>®</sup> product range in year one, which will be used to establish and build market share. With strong expectations of growth, that will scale up to a 10-tonne minimum by year four and then in excess of 10 tonnes thereafter with precise quantities to be determined by annual review.

The deal is significant given NeoGraf's established reputation in the US, opening the way for First Graphene products to be sold into this significant geographical market.



## **Segment Progress**

First Graphene's revenue performance has been driven by focusing commercial attention on a select range of high-value segments in which graphene continues to show major benefits for industry and end consumers. Led by commercial managers who are industry experts in each segment, the Company is progressing through various stages of development, testing, trials and commercial sales with industry and/or research partners.

## **Cement and Concrete**

- Confirmed significant orders for Q4 total circa A\$80K representing significant steps forward in commercializing this segment. Further orders are expected to be realized within Q4.
- Significant application development work underway through a consortium that includes the Breedon Group, University of Manchester and Morgan Sindall. The group will receive funding from Innovate UK with First Graphene's share expected to be circa A\$225K over 12 months.

In the cement space, development work continues on a range of cement grinding aids with 10 global first and second tier specialty chemical additive companies. This includes advanced development work with Fosroc International and Siam Cement Group (SCG) on reducing  $CO_2$  emissions in the cement manufacturing process through the use of less clinker, as well as slag grinding aids.

Development work continues for client-specific concrete admixtures with a total of 15 tier one and two global and large regionally based concrete and cement companies. This includes working with BGC Australia to develop recycled aggregates, and with multiple other clients on projects covering ultra-high strength concrete, underground tunnelling applications and concrete formulations for use in 3D printing.

During the quarter, First Graphene announced it had signed a distribution agreement with the South African-based Nanoproof Glade Chemicals Joint Venture. This followed the development of a concrete liquid admixture that demonstrated 40% improvement in strength during field trials. Nanoproof Glade Chemicals JV now has additional stock to fulfil initial sample requests from its customers in the South African market.

Further details on strategic commercial partnerships can be found in the list of recent ASX announcements below.

Following the successful award of a grant from Innovate UK to a First Graphene-led consortium for the development of graphene-enhanced, low-carbon cement (GR-CEM), work has commenced on the project with consortium partners Breedon Cement Ltd, Morgan Sindall Construction & Infrastructure Ltd, and the University of Manchester's Department of Mechanical, Civil and Aerospace Engineering.



A dedicated team has been established, which included the appointment of a cement materials scientist, and experimental work has led to selection of materials and an optimised mortar mix design.

Data collection is now progressing for lifecycle analysis, economic viability, and health and safety work packages. The consortium is also exploring dispersion methods as an alternative to powder mixing, with development work carried out by other industry partners including Fosroc.

## **Composites and Plastics**

- Q3 delivered circa A\$80K revenue from early-adopter and new opportunity clients.
- Confirmed significant orders for Q4 total circa A\$100K. Further orders are expected to be realized within Q4.

The Company and its industry partners continue to make significant advances in development of new products and follow-up commercial opportunities.

Proof of concept and trials have been completed with Senergy Innovations Ltd for thermally conductive plastic used in solar thermal applications. Scaling up is now in progress to move to commercial production.

Concept design showing Senergy solar thermal panels powering a home



UK-based plastic compounding specialist Hubron Ltd has successfully developed a High-Density Polyethylene (HDPE) masterbatch with plans to progress to commercial extrusion



trials through DSP Malaysia in the coming weeks. Pending trial results, there is advanced progress with industry partners for commercial use.

Significant progress has also been made with PET applications used for a broad range of high performing plastics and composites applications. First Graphene is now working with industry to progress large-scale trials and development of a PureGRAPH<sup>®</sup>-enhanced PET masterbatch.

In addition, First Graphene is working with Duromer Australia on the development of PureGRAPH<sup>®</sup>-enhanced polyamide systems. These custom engineering compounds offer unique solutions to demanding applications with initial laboratory trials showing significant improvements in abrasion resistance.

Lucid Colour Australia has developed the first PureGRAPH<sup>®</sup> liquid dispersions suitable for composite thermoset resin applications. This development aims to remove the need to handle fine powders in the manufacturing process and simplifies the path to improved graphene dispersion in the resin products.

#### **Coatings and Inks**

- Significant order received and fulfilled in Q3 from a geotextile's specialist for A\$45K for a customized PureGRAPH  $^{\mbox{\tiny B}}$
- Formulation in progress for a conductive textile coating with release to market and potential revenue expected by end of Q4
- Advanced trials progressing for graphene-enhanced applications in sporting apparel market and early testing showing promise for fire-retardant steel coatings.
- Confirmed significant orders for Q4 total circa A\$12.5K. Further orders are expected to be realized within Q4.

Work in conductive textiles applications led to a significant order from a geotextile's specialist for 300kg of PureGRAPH<sup>®</sup> at a customised platelet size. The order, valued at A\$45,000, has now been fulfilled.

Additional work is underway for a textile client to develop a conductive textile coating. Formulation is in progress with samples submitted to the client for trials and approval, with an expected release to market in the coming months.

Advanced trials in graphene-enhanced applications for consumer sports apparel are also now in the final stages of production validation with a view to realising commercial sales in coming months.

Initial results from testing have shown strong potential for the development of a PureGRAPH<sup>®</sup>-enhanced fire-retardant steel coating. The aim is to develop a coating that prolongs the time taken for steel to deform and collapse when exposed to fire, allowing



more time for evacuation of buildings. PureGRAPH<sup>®</sup> was found to deliver significantly better results compared to an incumbent coating.

### **Rubbers, Elastomers and Foams**

- Sellafields project aimed at developing PureGRAPH<sup>®</sup>-enhanced rubber gloves is now complete, with further work at the discretion of the client
- Confirmed significant orders for Q4 total circa A\$12.5K. Further orders are expected to be realized within Q4.

A project with Sellafields to improve the mechanical properties of rubber gloves used in nuclear decommissioning has concluded. The project aimed to develop gloves that provided added protection for operators' hands without significant impediment to dexterity. The resulting PureGRAPH<sup>®</sup>-enhanced rubber compounds developed during the 12-week project showed mechanical improvements in UTS, strain at break and tear resistance, although challenges remain in reducing the propensity for needlestick and puncture issues caused by sharp objects. This project is now concluded, and further follow-up opportunity will be at the discretion of the client.

A range of additional advanced testing and proof-of-concept work is underway with industry partners. The most advanced projects include a large Japanese OEM in the EPDM industry testing PureGRAPH<sup>®</sup> products for high and low temperature, water and chemical resistance applications, with a view to link graphene to the conveyor, automotive and aerospace industries.

Within the Rubber segment, work continues on development of applications with multiple markets including Nitrile rubber products for applications in the oil and gas sector, synthetic rubber-based products for use in the construction industry, thermoplastic and synthetic rubber projects with partners in the apparel industry, polyurethane system enhancements for use in mining applications and shoe sole applications for high-performance athletic and branded footwear.

Within the Foams segment the development of fire-retardant foam is underway for a variety of uses in construction including insulation

Results from much of this work are pending and the Company anticipates advancing several commercial opportunities within the next quarter.

## **Energy Storage**

First Graphene announced in January that it had received £15,000 (approximately A\$26,360) funding from Innovate UK EDGE to progress development work on its supercapacitor graphene hybrid materials.



The Innovate EDGE fund supports high-growth small to medium enterprises to scale up and innovate, working alongside the UK's "Catapult Network".

The Company has engaged with world-leading experts at the Energy Innovation Centre based at Warwick Manufacturing Group (WMG) – part of the Catapult Network – and has completed development of early samples of pouch cells which are now in extended testing and trials.

The pouch cell format is favoured in various industry applications due to its reduced weight and greater flexibility. Further pouch cell samples now need to be developed with a modified material based on optimised electrolyte performance and this may necessitate a scaled-up production run to deliver additional amounts of required materials.

## List of recent significant announcements

Date & Time	Announcement Title
22/03/2022	Technology partnership agreement signed with NeoGraf
17/03/2022	Distribution agreement signed with Nanoproof Glade Chemicals
22/02/2022	Mayur Resources agreement paves way for low-carbon cement
18/02/2022	FGR led consortium secures UK grant for low-carbon cement
11/02/2022	Next generation battery technology patent granted
24/01/2022	Study confirms improvements in concrete & mortar durability
20/01/2022	Fosroc agreement cements carbon reduction strategy
19/01/2022	Innovate UK funding secured for supercapacitor research



Investors

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#### About First Graphene Ltd (ASX: FGR)

First Graphene Ltd is the leading supplier of high-performing, graphene products. The company has a robust manufacturing platform based upon captive supply of high-purity raw materials and an established 100 tonne/year graphene production capacity. Commercial applications are now being progressed in composites, elastomers, fire retardancy, construction and energy storage.

*First Graphene Ltd is publicly listed in Australia (ASX:FGR) and has a primary manufacturing base in Henderson, near Perth, WA. The company is incorporated in the UK as First Graphene (UK) Ltd and is a Tier 1 partner at the Graphene Engineering and Innovation Centre (GEIC), Manchester, UK.* 

#### PureGRAPH<sup>®</sup> Range of Products

**PureGRAPH**<sup>®</sup> graphene powders and **PureGRAPH**<sup>®</sup> **AQUA** pastes with lateral platelet sizes of 50µm, 20µm, 10µm and 5µm, as well as a range of **PureGRAPH® Masterbatch** and **Admixture** products are available in tonnage volumes. The products are high performing additives, characterised by their high quality and ease of use.

#### **First Graphene Limited**

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#### Directors:

Warwick Grigor Dr Andy Goodwin Michael Quinert Michael Bell

#### **Trading Symbols**

Australia: FGR Frankfurt: FSE:M11 USA OTCQB: FGPHF

With authority of the board, this announcement has been authorised for release by Aditya Asthana, Chief Financial Officer and Company Secretary.

# **Appendix 4C**

## Quarterly cash flow report for entities subject to Listing Rule 4.7B

# Name of entityFirst Graphene LimitedABNQuarter ended ("current quarter")50 007 870 76031 Mar 2022

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	226	398
1.2	Payments for		
	(a) research and development	(259)	(1,143)
	(b) product manufacturing and operating costs	(122)	(847)
	(c) advertising and marketing	(130)	(366)
	(d) leased assets	-	-
	(e) staff costs	(393)	(1,347)
	(f) administration and corporate costs	(365)	(958)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	0.21	1.46
1.5	Interest and other costs of finance paid	(2)	(7)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	443	667
1.8	Other (provide details if material)	(47)	(134)
1.9	Net cash from / (used in) operating activities	(647)	(3,734)

2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(3)	(45)

Con flow	solidated statement of cash /s	Current quarter \$A'000	Year to date (9 months) \$A'000
	(d) investments	-	-
	(e) intellectual property	-	(46)
	(f) other non-current assets	-	-
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(3)	(90)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	_	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	1,617
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
	- reduction in lease liability	(42)	(131)
	- Cash received from third parties	-	3,000
3.1 0	Net cash from / (used in) financing activities	(42)	4,487

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	8,432	7,077
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(647)	(3,734)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(3)	(90)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(42)	4,487
4.5	Effect of movement in exchange rates on cash held	0	0
4.6	Cash and cash equivalents at end of period	7,739	7,739

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	7,739	8,432
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	7,739	8,432

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	172
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.		
Paym	ent of executive Director salaries and consulting fees.	

7.	<b>Financing facilities</b> Note: the term "facility' includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available	at quarter end	
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
		-	

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(647)
8.2	Cash and cash equivalents at quarter end (item 4.6)	7,739
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	7,739
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	11.961

*Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.* 

- 8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:
  - 8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: n/a

8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: n/a

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: n/a

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

## **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 27th April 2022

Authorised by: With authority of the board, this announcement has been authorised for

release, by

Aditya Asthana Chief Financial Officer and Company Secretary

#### Notes

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's

*Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.