



ASX ANNOUNCEMENT | PERIOD ENDING 30 SEPTEMBER 2023

QUARTERLY REPORT

ASX:

FGR

FSE:

M11

OTC:

FGPHF

31 October 2023

Quarterly Activities Report: September 2023

First Graphene Limited (ASX: FGR; “First Graphene” or “the Company”) is pleased to provide an update on the financial and operational performance for the quarter ending 30 September 2023.

Highlights

- **Rising interest in FGR’s product resulting in quarterly revenue of circa A\$168,000 and strengthened revenue pipeline to circa A\$ 480,000**
- **World-leading green cement trial results demonstrates reduction of CO₂ emissions by 15% and increase in compressive strength by 10%**
- **Viability of producing industrial-scale graphene enhanced cement confirmed, providing the industry a solution to meet environmental sustainability targets**
- **FGR and partners receive joint AUD\$2m grant for graphene-enhanced solar cell research**

Financial performance

A quarterly revenue of circa AUD\$168,000 (unaudited) was recorded, achieving an increase of circa 6% compared to the corresponding quarter in FY2023. This quarter’s performance follows a strong previous financial year, which saw the Company’s annual revenue surpass AUD\$1 million for the first time.

The continual increase in revenue reinforces First Graphene’s capability to convert research and development (R&D) activity into valuable commercial opportunities and sales. This is a direct result of the Company’s commercialisation strategy, targeting high growth and emerging markets while solidifying steadfast global relationships across in-demand sectors.

Looking forward, First Graphene’s forward looking pipeline (as of 30 October 2023) has strengthened to circa AUD\$480,000.

As revenue continues to rise, expenditure continues to decline. The Company is maintaining a streamlined approach to its cost base.

First Graphene also continues to implement non-cash incentive programs to reward employees for their dedication and commitment to developing and promoting our product, ensuring its global potential is reached.

With international demand for alternative, ‘green’ solutions steadily increasing, First Graphene’s commercial strategy places the Company in a strong position to supply product to new areas and markets.

The most significant traction during this quarter was in the cement and concrete sector, with First Graphene strengthening our relationships and actively working with more than 30 global industry partners.

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Segment updates

Cement and concrete

First Graphene continues to evolve as a global leader in the cement and concrete industry. Actively working with over 30 partners around the globe, the Company achieved significant milestones during the quarter, headlined by the collaboration with Breedon Group and Morgan Sindall Infrastructure to deliver the successful first phase trial results of graphene-enhanced cement.

Breedon cement trials

Initial results have successfully been delivered from phase one of the world's largest graphene-enhanced cement trials. The initiative is a collaboration between First Graphene and the UK's leading cement producer Breedon Group ("Breedon").

The major findings are that First Graphene's PureGRAPH® reduces CO₂ emissions by 15% and increases compressive strength of the cement by up to 10%. These first stage results are positive and an exciting milestone, meeting performance expectations and confirm the viability of producing industrial-scale quantities of graphene-enhanced cement, as announced subsequent to quarter's end.

Approximately 600 tonnes of graphene-enhanced cement was produced at the UK's largest cement processing facility, operated by Breedon, and was used to create a temporary wheel washing facility at a major infrastructure project being delivered by Morgan Sindall Infrastructure on behalf of the UK Government.



Figure 1: Graphene-enhanced cement application at major UK infrastructure project, delivered by Morgan Sindall Infrastructure.

The trial's initial results pave the way for further trials to commence, which are designed to optimise dosage rates and addition methodology.

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Agreement with leading UK cement producer

The strong partnership between First Graphene and Breedon was further cemented with a two-year development and commercialisation agreement, finalised subsequent to quarter's end.

The deal follows progressive collaboration between the two Companies with a focus on incorporating graphene into the cement and concrete industry, of which is responsible for up to 8% of global carbon emissions.

The world-leading trials have now been advanced from an initial pilot and research program, into the commercialisation of a product which has the potential to revolutionise the construction industry.

Presenting graphene benefits on the global stage

First Graphene Commercial Manager Neil Armstrong exhibited at the ConcreteNZ Conference in New Zealand during the quarter, providing a global stage for the Company to present the benefits of graphene-enhanced cement.

Along with the Company's strategic partner GtM Action, First Graphene took the opportunity to build on global relationships and connect with relevant stakeholders at the conference, where discussions revolved around lower-carbon solutions for the cement and concrete industry.



Figure 2: FGR Commercial Manager Neil Armstrong, GtM Action MD Mike Ogle and Holcim National Manager David Darlow at the Holcim Low-Carbon Cement Replacement Facility in New Zealand.

During the conference, First Graphene and GtM Action visited Holcim New Zealand's new Low-Carbon Cement Replace Facility. The tour allowed Commercial Manager Neil Armstrong to inspect the new facility and discuss the benefits of adding graphene to the cement production process with a global supplier of green concrete.

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Energy generation and storage

First Graphene continued to expand its presence in the energy generation and storage sectors, with a view to supplying alternative, graphene-based solutions as global demand for green technology increases.

Funding for graphene-enhanced solar cell

During the Quarter, an R&D collaboration led by Australian solar panel manufacturer Greatcell Energy and involving both First Graphene and Queensland University of Technology was awarded AU\$2.03 million in Cooperative Research Centres Project (CRC-P) Round 14 funding.

The funding will assist a three-year collaborative project looking to commercialise ultra-low cost, flexible perovskite solar cell fabrication using PureGRAPH[®] powder as a primary enabler technology.

The perovskite solar cell market is estimated to be valued at US\$7.38 billion by 2030, this research endeavours to scale-up the cost-effective manufacturing of this PureGRAPH[®] enhanced technology.

First Graphene's focus in this project will be on the research, development and provision of graphene formulations to produce the material ink used in perovskite solar cell manufacturing with suitable dispersion, low toxicity and high conductivity characteristics. The Company will also provide R&D resources including labour, equipment, laboratory space, formulation and testing expertise to produce optimum graphene systems, with a view to scale-up.

Converting oil and gas feedstock to graphene

First Graphene expanded its industry applicability signing a Memorandum of Understanding (MOU) with Abu Dhabi-headquartered EMDAD Group. This agreement will see the collaborative development of a proposal to fund, design, build and commission a small-scale reactor, using the Company's Kainos Technology. The hydrodynamic cavitation reactor will convert petroleum feedstock from oil producers to battery-grade graphite, graphene and hydrogen.

First Graphene also made significant advancements in developing metal-oxide decorated graphene platelets for the catalytic splitting of water, to generate green hydrogen. This project aims to reduce the amount of Rare Earth metals contained in electrolyser catalysts, by implementing a graphene-supported replacement. Preliminary data was expected subsequent to quarter's end.

Composites and plastics

First Graphene continues to meet ongoing demand from composites and thermal polymer clients, with a segment specific revenue of circa \$73,000 from early adopter, development, and distributor clients.

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The Company also saw first-hand results from supplying graphene-enhanced material to UK residential home developer Vector Homes, who used the product in the development of an affordable and energy-efficient eco-home.

A prototype was completed earlier this quarter, with graphene-enhanced material used in the eco-home's structural beams to increase fire retardancy, strength, durability, thermal and acoustic performance. Subsequent to quarter's end, the project entered the testing phase and continues to progress towards commercial production.

First Graphene also increased its collaboration with global partners, signing a Letter of Intent (LOI) with Indian based and leading international trading and distribution company Lila Polymers. The LOI represents a commitment to work towards a full distribution agreement within the next 12 months, allowing the Company to tap into both the Indian market and other global markets.



Figure 3: FGR R&D Manager Ian Martin with Vector Homes CEO Nathan Feddy at the prototype launch event in September.

Coatings, adhesives, sealants, elastomers (CASE) and foams

New revenue was achieved from the sale of graphene solutions to new development clients, while the Company also continued to engage existing clients and partners on progression of applications and trials with Electrostatic Discharge Flooring (ESD), Cold Cure Ceramics, bearing lubrication, footwear and anti-corrosion coatings.

First Graphene's research into the optimisation of graphene for Electrostatic Discharge Flooring (ESD) coating applications is ongoing, with significant improvements made through optimisation of the

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formula. The Company has worked to develop a prototype system that passes International Electrostatics standards at laboratory scale.

In the lubricants field, graphene-enhanced coatings showed significant improvement, particularly in relation to wear resistance and tribological properties in bearings. This has delivered much-improved performance and longevity compared to previous non-graphene enhanced systems, with large scale trials continued with a view to finalising the product.

The Company also finalised plans for larger scale trials of PureGRAPH® 10 in rubber applications, focusing on the performance improvements in tear strength when graphene is added.

Other activities to note

First Graphene's presence in European markets continues to strengthen, following discussions with international distribution agent Keyser and Mackay.

A five-year agreement was finalised, providing the leading Specialty Chemicals Company with exclusive rights to distribute PureGRAPH® products into sectors across Europe, excluding the cement and concrete segment. This new agreement with K&M provides the Company with extensive penetration into European markets using a network that typically takes years to develop.

Announced subsequent to quarter's end, the deal marks a significant milestone for First Graphene, with this expansion of global reach bolstering the Company's position as a world-leading supplier of graphene.

To further First Graphene's understanding of PureGRAPH®'s potential, advanced analytical techniques at Swansea and Cardiff Universities are being used to analyse functionalised materials for changes to the product's surface chemistry. This research continues, with a view to advancing commercial opportunities across multiple sectors, specifically in thermoplastics.

First Graphene has successfully filed a joint PCT patent with Zebco Heating Ltd, covering the use of graphene and other carbon-based materials in coating systems for use in catalytic heaters. The Company demonstrated that graphene nanoplatelets give distinct advantages, which Zebco is interested in progressing.

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Operations

First Graphene commissioned a new Retsch mill from Germany early this quarter, providing a more user friendly, less labour-intensive mill. The new device mills graphene at considerably faster rates than previous methods, resulting in greater efficiency.



Figure 4: FGR Commercial Manager Neil Armstrong next to newly installed Retsch grinding mill.

Electrochemical Cell (EC) optimisation trials continued at the Henderson facility aiming to optimise capacity and reduce costs. The initial trial conducted in 2022 resulted in a 50% reduction in power consumption and increase in through-put at the EC cell stage. Additional modifications to EC design are expected to further improve production rates and power efficiency, leading to additional energy consumption and subsequent process cost reductions.

Appendix 4c Item 6: Amounts included in 6.1 of the attached Appendix 4c relate to payment of executive Director salaries and consulting fees.

- ENDS -

For further information please contact:

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About First Graphene Ltd (ASX: FGR)

First Graphene Limited is focused on the development of advanced materials to help industry improve. The Company is a leading supplier of graphitic materials and product formulations with a specific commercial focus on large, high-growth global markets including cement and concrete; composites and plastics; coatings, adhesives, silicones and elastomers (CASE); and energy storage applications.

A key outcome these advanced materials offer is the reduction of carbon dioxide emissions, whether directly through a reduction in output of these harmful greenhouse gases or lower energy usage requirements in manufacturing, or indirectly due to enhanced performance characteristics and extending the usable life of products. First Graphene has a robust manufacturing platform based on captive and abundant supply of high-purity raw materials, and readily scalable technologies to meet growing market demand.

As well as being the world's leading supplier of its own high performance PureGRAPH® graphene product range, the Company works with multiple industry partners around the world as a supplier of graphitic materials and partner to research, develop, test and facilitate the commercial marketing of a wide range of sector-specific chemical solutions. 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, where it has a strong marketing and R&D capability.

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

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Appendix 4C

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

Name of entity

First Graphene Limited

ABN

50 007 870 760

Quarter ended ("current quarter")

30 Sept 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	585	585
1.2 Payments for		
(a) research and development	(410)	(410)
(b) product manufacturing and operating costs	(181)	(181)
(c) advertising and marketing	(76)	(76)
(d) leased assets	-	-
(e) staff costs	(488)	(488)
(f) administration and corporate costs	(329)	(329)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	7	7
1.5 Interest and other costs of finance paid	(7)	(7)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	30	30
1.8 Other (provide details if material)	(22)	(22)
1.9 Net cash from / (used in) operating activities	(866)	(866)

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

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
(d) investments	-	-
(e) intellectual property	-	-
(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. 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	-	-
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	(22)	(22)
- Cash received from third parties	-	-
3.1 Net cash from / (used in) financing activities	(22)	(22)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 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	3,226	3,226
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(866)	(866)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(-)	(-)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(22)	(22)
4.5	Effect of movement in exchange rates on cash held	0	0
4.6	Cash and cash equivalents at end of period	2,338	2,338

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	2,338	3,226
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)	2,338	3,226

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	147
6.2 Aggregate amount of payments to related parties and their associates included in item 2	-
<i>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.</i>	
Amounts included in 6.1 relate to payment of executive Director salaries and consulting fees.	

7. Financing facilities <i>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.</i>	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)	(866)
8.2 Cash and cash equivalents at quarter end (item 4.6)	2,338
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (item 8.2 + item 8.3)	2,338
8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)	2.699
<i>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.</i>	

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: 31st October 2023

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.