



ASX ANNOUNCEMENT | PERIOD ENDING 30 JUNE 2023

QUARTERLY REPORT

31 July 2023

Quarterly Activities Report: June 2023

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

Highlights

- **Circa A\$500,000 revenue earned for Q4, pushing FGR’s annual revenue over A\$1 million¹**
- **Total FY23 annual revenue represents a 38% increase on FY22 revenue**
- **Strong pipeline revenue of circa A\$550,000 already identified for FY24**
- **FGR led consortium commences world’s largest green cement trials, utilising approximately 1.2 tonnes of PureGRAPH[®]**
- **Trial creates further potential to support industrial scale solutions to reduce CO₂ emissions by up to 20% in the cement and concrete sector**

Financial performance

First Graphene closed out the last quarter (Q4) of the 2023 financial year with a strong revenue performance attributed to several significant orders being fulfilled.

The strong Q4 result represents a consecutive increase in revenue for FY2023, recording a quarterly revenue of A\$500,000 (unaudited) and achieving a circa 40% increase over the same quarter in FY2022. This quarter’s performance has supported a record annual revenue above A\$1 million (unaudited) for the first time, demonstrating the Company’s valuable conversion of R&D activity into product commercialisation and sales.

The Company continues to build its commercial strategy targeting high growth markets, providing multiple industries sustainable engineering solutions and material benefits to decarbonisation. Traction and growth is being achieved in the cement and concrete sector where the Company is actively working with more than 30 global partners. The sector remains the Company’s primary commercial focus with the in-demand and high-volume green cement market expected to be worth US\$56bn by 2027, reinforcing the upside potential for FGR’s worldclass graphene solutions.

Looking forward, the Company’s order book (as at 28 July 2023) is already at circa A\$550,000, representing more than 50% of the FY23 sales result. This order pipeline and forecast, places the company in a strong and confident position for FY24.

First Graphene continues to streamline its cost base with a plan to further reduce expenditure in the range of A\$250,000 to A\$300,000 per annum, which will be redistributed to further accelerate its commercialisation strategy and evolution as a global material technology company. Furthermore, the Company continues to reward its employees through non-cash incentive programs, with the majority of senior management and Board taking no salary increases in FY23, despite the sharp increase in inflation. This further demonstrates the Company’s leadership confidence in its product and its future potential in the global market.

¹ FY2023 Q4 and full year revenue are subject to the Company’s annual audit currently underway.

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Segment updates

Cement and concrete

The segment realised A\$247,000 revenue in Q4, achieving a 38% increase to the same period in FY22 from the Cement and Concrete segment. This represents approximately 50% of the quarterly revenue from new development clients and ongoing commercial partnerships.

Breedon Cement Trials

In June, [FGR-led trials](#) of graphene enhanced cement production commenced at Breedon Cement's facility in the UK. The project is understood to be one of the largest green cement trials ever undertaken and will have input from partners including Morgan Sindall Construction and the University of Manchester. The trials will utilise approximately 1.2 tonnes of PureGRAPH® to produce up to 2000 tonnes of graphene enhanced cement.

The trial aims to validate industrial scale manufacturing of graphene enhanced cement, introducing graphene into the process as a grinding aid. Initial findings have determined the grinding aid has performed well and was successfully processed through Breedon's dosing system with no adverse impact on mill performance or operation. At the time of publication, the material produced is undergoing testing by Breedon's Quality Control and FGR's R&D team to assess its performance. Cement produced through the trial will be supplied to Morgan Sindall Construction, which will use it in a real-world infrastructure project.

CEMEX & Manufacturing Technology Centre

Separately, First Graphene continued to make headway with leading building materials supplier Cemex. FGR's PureGRAPH® additives were successfully used in initial trials with Cemex and UK-based Manufacturing Technology Centre to improve compressive strength and reduce porosity of recycled aggregate. The trials form part of Cemex's strategy to develop recycled cement products to address the industry's significant carbon footprint, responsible for 8% of global carbon emissions. The consortium is now looking to expand into larger scale trials, supporting Cemex's pathway to net zero by 2050.

Measurement of Graphene in cement products

Also in the UK, Professor Ling Hao at the National Physical Laboratory (NPL) confirmed during the quarter that a Measurement for Business (M4B) project has been initiated, aiming to advance measurement techniques which confirm the presence of graphene in cement products at a large scale. These measurement techniques will provide reassurance to cement and concrete producers that graphene provided by producers such as First Graphene is loaded correctly in their products, which will in turn enable the scale-up of graphene technology.

Composites and plastics

Segment specific revenue of circa \$96,000 from early adopter, development and distributor clients was achieved. Steady demand from composites and thermal polymer clients continues to trend upward, including from foundation partner Australian Leisure Technologies (ALT).

Aquatic Leisure Technologies – Swimming Pools

ALT now plans to expand its range of PureGRAPH® enhanced swimming pools into the US market. The partnership with ALT has been enjoyed by both parties for more than five years and continues to grow in scale, with ALT now utilising PureGRAPH® across all three of its locally manufactured swimming pool brands.

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Figure 1 - MD Lynley Papineau (ALT) and FGR's Neil Armstrong at ALT's world class Jandakot manufacturing facility.

Senergy Innovations - Solar Thermal Polymers

Meanwhile, First Graphene continued positive work with Senergy Innovations in the UK to profile and develop an extensive range of thermally conductive polymers and applications, of which graphene is a key component. Of primary interest are heat exchange and automotive development projects to evaluate the use of thermally conductive polymers as a metal alternative. Solar collector test installations are also underway, which harness heat from sunlight and deliver low-carbon, energy efficient water heating solutions, as well as significantly reducing the solar panel weight and improving a range of characteristics.

Blue Snow Consulting & Engineering - Thermal Polymers & Liquids

During the quarter, the Company executed a Joint Development Agreement (JDA) with sustainable building design specialists, Blue Snow Consulting and Engineering Sdn Bhd (Blue Snow). The collaboration will leverage the technical capabilities of both companies to develop a range of thermally conductive polymers with enhanced properties that will feed into downstream sectors including the automotive, data processing and cooling sectors.

Blue Snow is an international company that provides specialist energy and technology services to the building and infrastructure sector, assisting developers, owners and design teams enhance the energy performance of new and existing buildings. The executed JDA will drive a program to jointly develop materials that will be used to enhance heat transfer systems and deliver sustainable solutions across a variety of applications.

Graphene based electrothermal heaters

The Company continues to focus on developing strategic partnerships in the segment. In June, grant funding was approved for the study of Graphene based Electrothermal Heaters for Next-Generation Electric Vehicles, under the Queensland University of Technology (QUT) Masters of Philosophy Scholarship program. First Graphene has committed to providing in-kind support to the project that aims to use FGR's PureGRAPH® range in the development of graphene based electrothermal heaters. This unique partnership will further consolidate the Company's understanding of graphene based conductive inks and its application to high growth markets such as the EV industry.

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

During the quarter, new revenue was primarily generated from the sale of graphene solutions for use in high performance lubricants. This is a newly approved application and enhances bearing lubrication and thermal management.

Increasing opportunities for sales into this segment are being driven through First Graphene's distribution network in Europe and the UK. Interest is growing across multiple sectors, including protective coatings on plastic and glass substrates, through to enhanced abrasion resistance of hybrid graphene-graphite rubber coatings.

First Graphene commenced discussions with a high-profile European brewer interested in ordering a significant volume of graphene-enhanced safety footwear. This presents a considerable opportunity for the Company to build on the established commercial partnerships already benefiting from graphene-enhanced footwear and to further capitalise on the high-profile brand and company.

The Company continues to make headway with existing clients and partners progressing applications and trials with Electrostatic Discharge Flooring (ESD), Cold Cure Ceramics, footwear and anti-corrosion coatings.

Energy generation and storage

First Graphene continues to leverage and focus on developing strategic partnerships and geographical distribution agreements to unlock the growing demand in the energy generation and storage segment.

Net Zero Tees Valley Project – Metal Oxide doped Graphene

The Net Zero Tees Valley (NZTV) project, which began on 1 March 2023, focuses on a groundbreaking initiative to explore the use of metal oxide doped graphene as a low-cost and efficient method for hydrogen generation through water splitting. This work compliments previous achievements in developing supercapacitor applications in collaboration with Professor Rob Dryfe from the University of Manchester. The endeavor will work in close partnership with formulation experts from the Centre for Process Innovation (CPI) to design and test innovative graphene based electrocatalysts to demonstrate efficient production of clean hydrogen using commercially viable and sustainable metal oxide materials. Through this research, the project aspires to unlock new possibilities in the field of hydrogen generation, taking us one step closer to a greener and more environmentally friendly energy landscape.

Greatcell Energy – Perovskite Solar Cells

Subsequent to quarter end, 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.

Zebco Heating Ltd – Low emission domestic heating

The Company continues to make progress with joint development partner, Zebco Heating Ltd, researching and developing unique devices that can provide low cost and low emission domestic heating systems. The partnership has developed a viable graphene enhanced coating

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that can be applied to Heat Exchangers, to maximise infrared heat absorption and transmission in a catalytically heated boiler unit. Over the quarter the team achieved a significant milestone, developing a proof-of-concept system at Zebco's test facility that is compatible with both natural gas and hydrogen as fuel sources. Zebco has received additional funding from Innovate UK to further progress the project, aiming for validation under controlled conditions in late 2023 to early 2024. The project remains aligned with providing solutions that directly address the UK Government's Net Zero Targets.

Royce Industrial Collaboration – Polymers for Hydrogen storage

During the quarter, an application was submitted to the Royce Industrial Collaboration Programme (ICP) for the development of a pilot scale polymer nanocomposites for hydrogen storage containers. The collaborative project with the University of Warwick, University of Manchester and the National Physical Laboratory aims to develop the enabling technology to support the emerging hydrogen economy.

Other activities to note

First Graphene continues to grow its intellectual property portfolio with several patents filed that directly support commercial applications, safeguards the Company's investment in R&D and protects existing and future revenue streams.

FGR's cement processing patent "*Improvements Relating to Graphene Nanomaterial Suspensions*" has been published as an "International Patent" under the Patent Cooperation Treaty (PCT) Scheme, covering the use of graphene nanomaterials dispersed in a range of additives that are commonly used in cement processing.

FGR's "*Resin Composites*" patent has been published in the United States, relating to resin-based composites that use graphene as a multi-functional additive to both improve mechanical performance and enhance the resistance to water penetration.

Operations

Towards the end of quarter First Graphene took delivery of a new Retsch mill from Germany which is now in the process of being installed and commissioned. The new mill is more user friendly, much less labor intensive and can mill graphene at considerably faster rates than previous methods, resulting in greater efficiency. As well as removing a bottleneck in the production process, the mill will help reduce production costs and increase capacity of the Henderson manufacturing facility.

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Figure 2 – FGR Facility GM David and Senior Process Technician Hayden next to installed Retsch grinding mill.

During the quarter Phase 2 Electrochemical Cell (EC) optimisation trials commenced at the Henderson facility aiming to optimise capacity and reduce costs. The second phase comes after an initial trial run in 2022, resulting in a circa 50% reduction in power consumption and an increase in through-put at the EC cell stage. Based on the learnings gained during Phase 1 trials, additional modifications to EC design are expected to further improve production rates and power efficiency.

First Graphene has also been running trials changing various aspects of the graphene production process at Henderson. These changes have so far resulted in greater efficiencies when making the PureGRAPH® 5 grade, while also resulting in improvements to the specifications of this product. Trials are about to start with other grades of the PureGRAPH® range to see if these improvements can be replicated.

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

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.

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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 Jun 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	165	726
1.2 Payments for		
(a) research and development	(353)	(962)
(b) product manufacturing and operating costs	(163)	(658)
(c) advertising and marketing	(88)	(316)
(d) leased assets	-	-
(e) staff costs	(524)	(1,991)
(f) administration and corporate costs	(229)	(1,111)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	8	36
1.5 Interest and other costs of finance paid	(5)	(9)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	626	902
1.8 Other (provide details if material)	28	39
1.9 Net cash from / (used in) operating activities	(555)	(3,425)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	-	(109)

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
(d) investments	-	-
(e) intellectual property	-	(44)
(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	0	(153)

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	(49)	(201)
- Cash received from third parties	-	-
3.1 Net cash from / (used in) financing activities	(49)	(201)

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
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4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	3,830	7,005
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(555)	(3,425)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(0)	(153)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(49)	(201)
4.5	Effect of movement in exchange rates on cash held	0	0
4.6	Cash and cash equivalents at end of period	3,226	3,226

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	3,226	3,830
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)	3,226	3,830

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	146
6.2 Aggregate amount of payments to related parties and their associates included in item 2	-
<p><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></p> <p>Amounts included in 6.1 relate to payment of executive Director salaries and consulting fees.</p>	

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)	(555)
8.2 Cash and cash equivalents at quarter end (item 4.6)	3,226
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (item 8.2 + item 8.3)	3,226
8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)	5.817
<p><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></p>	

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 July 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.