

ASX ANNOUNCEMENT | PERIOD ENDING 30 SEPTEMBER 2024

# QUARTERLY REPORT

ASX:

**FGR**

FSE:

**M11**

OTC:

**FGPHF**

## Quarterly Activities Report: September 2024

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 2024.

### Highlights

- **PureGRAPH® shipped ahead of third trial with UK’s largest cement producer, Breedon**
- **Commercial agreement secured to develop graphene enhanced perovskite solar cells**
- **Further expansion into hydrogen sector with multi-million-dollar research project**
- **Growing pipeline of commercial opportunities secured for FY2025**
- **Ongoing global market expansion with additional distribution agreement**

### Financial performance

First Graphene reported income for the first quarter of FY2025 of circa A\$164,000 (unaudited), comprised of circa A\$75,000 in graphene sales and circa A\$89,000 in development and grant-funded programs. The graphene sales revenue was primarily generated from the composites and plastics segments.

The Company’s commercialisation strategy has resulted in a growing pipeline of new activity coming online over the next 6 to 18 months, as released in the New Metals Investor Series this quarter, which is anticipated to deliver a positive impact to First Graphene’s revenue performance.

This pipeline of work includes opportunities in the sporting apparel, bearing lubricants and fire-retardant construction materials segments, opening the door to new global markets.

The Company will provide updates as commercial production of PureGRAPH® for each opportunity commences and sales pipelines grow.

Alongside the procurement of these future commercial agreements has been the Company’s ongoing commitment to reducing cash outflows and improving manufacturing efficiency following the progress made during FY2024.

Combined, these advancements to First Graphene’s financial position places the Company on a strong pathway to delivering value for shareholders and industry-leading products for customers.

### Segment updates

#### Cement and concrete

First Graphene has continued to demonstrate the benefits of a range of PureGRAPH® products across the cement and concrete sector during the quarter, with previous positive results paving the way for future opportunities.

#### Registered office

1 Sepia Close, Henderson WA 6166

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ABN: 50 007 870 760 | ACN: 007 870 760



This includes the third phase of trials with the United Kingdom's largest cement producer, Breedon Group, and will use the Company's dedicated PureGRAPH-CEM® product.

The Company transported more than three tonnes of PureGRAPH-CEM® during the quarter for testing under full-scale cement production conditions at Breedon's Hope Cement Works facility.



**Figure 1: PureGRAPH-CEM® ready for shipment ahead of third trial with Breedon Group**

The shipment is expected to arrive in the UK by early December ahead of the trial commencing in January.

The optimised formula has been designed for use in cement grinding mills and will assist with emission reduction targets as it contains up to 50% less embodied CO<sub>2</sub> compared to other grades.

Phase three trials will compare graphene enhanced elements in a highway project against standard elements. The results are expected to build further product confidence with First Graphene's primary and secondary customers.

This third trial follows a series of successful phases in testing graphene enhanced cement, with positive results instilling confidence to conduct further work in partnership with First Graphene.

This includes ongoing engagement with Morgan Sindall Infrastructure, which will use information about cement produced by Breedon to identify suitable demonstrator elements.

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These elements will be used to monitor future performance of graphene enhanced cement and compare it with traditional cement elements.

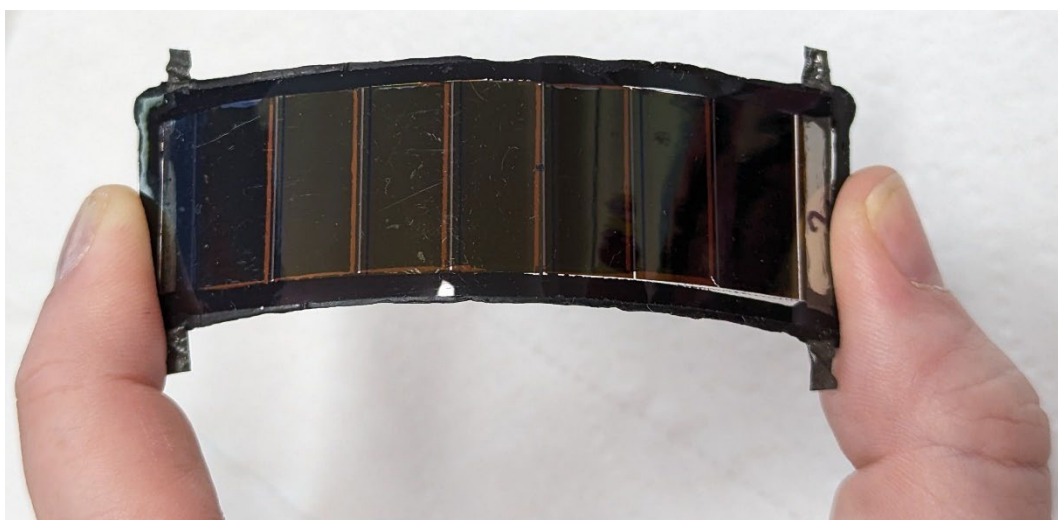
As the global cement and concrete industry tracks towards an emission reduction target of 25% by 2030, First Graphene is well positioned to deliver graphene enhanced materials to assist reaching this goal.

## **Energy generation and storage**

### **Powering future Australian households**

First Graphene signed an initial two-year commercial agreement during the quarter to supply graphene to perovskite solar cell manufacturer Halocell to improve performance and durability of its products.

The graphene-coated modules produced by Halocell will be used to charge small household electronics, replacing disposable batteries, and are up to five times more efficient than conventional silicon solar cells.



***Figure 2: Halocell Energy's graphene enhanced perovskite solar cell.***

The perovskite solar cells are also more cost-effective, reducing manufacturing and material costs by more than 80% with graphene replacing higher-cost materials such as gold and silver.

The collaboration with Halocell to develop cost-effective perovskite solar cells will assist with reducing renewable energy costs in Australia, ultimately resulting in increased national uptake of this technology.

Solar is a rapidly growing market - global uptake of solar PV is expected to grow by 20% this year compared to last, and solar is expected to become the largest renewable energy source by 2030.<sup>1</sup>

### **Pivotal role in hydrogen storage solution**

First Graphene also commenced work on a cross-sector project aiming to develop low-carbon graphene enhanced cryogenic hydrogen storage tanks for the emerging hydrogen industry.

The nine-member consortium began collaboration in July, supported by A\$1.73 million in funding via Innovate UK's UK – Australia Renewable Hydrogen Innovation Partnership Programme.

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First Graphene's UK-based team visited Australia during the quarter as work commenced on the HyPstore project, which is valued at more than A\$3.7 million.



*Figure 3: First Graphene's UK-based team visited the Henderson facility in September.*

The project involves testing the performance of graphene enhanced resins developed using the Company's PureGRAPH® products, which will be incorporated into a Type-V tank (see Figure 4).

By leveraging the unique properties of graphene, the enhanced tanks can reduce hydrogen permeability by up to 48-times, as well as increase strength of the protective barrier created inside the tank.



*Figure 4: Five common pressure vessel types including the Type-V tank.*

While the HyPstore project is primarily focused on permeability performance, First Graphene will use the opportunity to investigate other application benefits such as enhanced fire retardancy and strength.

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## **Commercialisation research for Kainos Technology**

First Graphene secured funding for a research project to determine the commercialisation potential of its Kainos Technology as an alternative graphite and graphene manufacturing process.

The six-month collaborative project with Swansea University is valued at more than A\$192,150 and is supported by a grant received via Innovate UK's Analysis for Innovators (A4i) Round 12, Stage 2 scheme.

This research will focus on using controlled experimentation and analysis to interrogate the hydrodynamic cavitation process which produces high-quality, battery-grade synthetic graphite and pristine graphene from petroleum feedstock from the oil and gas industry.

Previous research conducted by First Graphene has demonstrated this process can also produce green hydrogen as a by-product, which has the potential to be utilised as a clean energy source to reduce carbon emissions.

## **Other activities to note**

### **Global distribution network expands across South Africa**

First Graphene signed another distribution agreement during the quarter, securing market access routes for coating applications across South Africa.

The initial five-year agreement will result in First Graphene's PureGRAPH® products being readily accessible to the growing market in the sub-Saharan Africa region.

Importantly, this additional distribution deal will supplement existing agreements across North America, Europe, New Zealand and Australia, enabling broad global market opportunities.

## **Operations**

### **Large-scale production of PureGRAPH-CEM®**

First Graphene successfully manufactured more than three tonnes of its PureGRAPH-CEM® product at the Company's Henderson production facility,

Designed as a Cement Additive, the tailored platelet size and dispersion of PureGRAPH-CEM® is optimised to maximise overall performance in the cement and concrete industry.

The product is scheduled to arrive in the United Kingdom in early December ahead of the third trial of graphene-enhanced cement with Breedon, which is due to commence in January.

### **Promoting First Graphene's commercialisation strategy**

First Graphene's Commercial Manager Neil Armstrong took to the conference stage in September, presenting the Company's pipeline of new opportunities at the New World Metals Investment Series.

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Mr Armstrong delivered insights into the strong forward-looking order book for PureGRAPH® products across a variety of different applications, as First Graphene's commercialisation strategy makes progress.

The full presentation can be viewed [here](#).

**- ENDS -**

## References

<sup>1</sup> Renewables 2024: Analysis and forecast to 2030 by the International Energy Agency. Available at: <https://iea.blob.core.windows.net/assets/88a07dd9-42fe-4232-842e-9015b4b647f8/Renewables2024.pdf>

**This release has been approved for release by the Chairman.**

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, sealants and elastomers (CASE); and energy storage applications.*

*One of the key outcomes that 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 located at the new trailblazing Manchester Innovation District which is a science and technology ecosystem strategically placed in the heart of Manchester, UK.*

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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<sup>th</sup> September 2024

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	74	74
1.2 Payments for		
(a) research and development	(80)	(80)
(b) product manufacturing and operating costs	(143)	(143)
(c) advertising and marketing	(110)	(110)
(d) leased assets	-	-
(e) staff costs	(413)	(413)
(f) administration and corporate costs	(276)	(276)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	8	8
1.5 Interest and other costs of finance paid	(5)	(5)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	20	20
1.8 Other (provide details if material)	(23)	(23)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(948)</b>	<b>(948)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	(11)	(11)



<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
(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)	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>(11)</b>	<b>(11)</b>

<b>3. Cash flows from financing activities</b>		
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	(24)	(24)
- Cash received from third parties	-	-
<b>3.1 Net cash from / (used in) financing activities</b>	<b>(24)</b>	<b>(24)</b>

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
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<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	3,160	3,160
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(948)	(948)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(11)	(11)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(24)	(24)
4.5	Effect of movement in exchange rates on cash held	4	4
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>2,181</b>	<b>2,181</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	2,181	3,160
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>2,181</b>	<b>3,160</b>

<b>6. Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
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>	

<b>7. Financing facilities</b> <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>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 <b>Total financing facilities</b>	-	-
7.5 <b>Unused financing facilities available at quarter end</b>		
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.	-	

<b>8. Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(948)
8.2 Cash and cash equivalents at quarter end (item 4.6)	2,181
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (item 8.2 + item 8.3)	2,181
8.5 <b>Estimated quarters of funding available (item 8.4 divided by item 8.1)</b>	2.3
<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: 29 October 2024

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

Michael Bell  
Chief Executive Officer and Managing Director

## 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.