

Strong results achieved in world-first Graphene enhanced cement roof tile trial

Highlights

- **World-first production trial of graphene enhanced roof tiles with FP McCann achieves CO₂ reduction of up to 14%**
- **Project conducted in the United Kingdom also showed 26% reduction in CEM I-to-concrete ratio required to produce concrete roof tiles**
- **Graphene enhanced roof tiles to be used in new buildings at FP McCann's Cadeby site**
- **Successful results pave the way to enter US\$7.6 billion¹ global cement roof tile market**

First Graphene Limited (ASX: FGR; "First Graphene" or "the Company") (FRA:M11) (OTCQB:FGPHF) is pleased to announce results from a world-first production trial of graphene enhanced roof tiles with the UK's largest precast concrete manufacturer and supplier FP McCann.

The five-month project used 40 tonnes of PureGRAPH® enhanced cement, developed by First Graphene's partner Breedon Group, to produce more than 10,000 tiles at FP McCann's Cadeby manufacturing facility in the UK.

The final graphene enhanced cement roof tiles were tested for quality, efficiency and carbon emission reduction potential, as well as performance consistency.

The production process achieved a cradle-to-gate reduction in carbon emissions of up to 14%, reinforcing the lower-carbon benefits of graphene for cement. The required amount of cement for the tiles was also reduced by up to 8%.

Importantly, the trial confirmed graphene enhanced cement, classified as CEM-II, could produce the same roof tiles at the same strength with fewer materials and lower costs compared to CEM-I.

The tiles will be distributed for use in a variety of projects, including installation on a new building at FP McCann's Cadeby site.

Conversations have commenced with industry partners following receipt of the results to determine interest in the graphene enhanced roof tiles for projects across the United Kingdom.

The UK Government has also committed to deliver more than one million affordable and sustainable new homes in the next three years and has been funding innovative construction solutions to achieve this goal.

This project was supported via 'Contracts for Innovation' with the UK Department for Energy Security and Net Zero (DESNZ) and the 'Resource Efficient Construction Impacts' program by the UK Department for Environment, Food and Rural Affairs' (DEFRA).

The trial solidifies First Graphene's entrance into the global cement roof tile market which is anticipated to grow to US\$11.8 billion by 2034¹.

First Graphene Managing Director and CEO, Michael Bell, said:

"The results of this inaugural trial of graphene-enhanced cement roof tiles with FP McCann has reaffirmed the viability and performance benefits of a lower-emission cement product for the construction industry.

Reducing the amount of cement required by up to 20% has a significant impact on the carbon footprint of these roof tiles, paving the way for more sustainable houses and buildings.

As industry and governments look for innovative solutions to develop lower-carbon infrastructure, First Graphene and FP McCann, in partnership with Breedon Group, have a tested production blueprint to achieve emission reduction goals while maintaining or exceeding material performance capability."

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References

¹[Industry Research](#)

This announcement has been approved by the Chairman.

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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 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 where it has a strong R&D capability.