**ASX ANNOUNCEMENT**

9th January 2025

# Patent filed for new manufacture process of electrocatalysts for hydrogen production

## Highlights

- **Patent filed for a manufacturing process used to produce graphene based electrocatalysts for hydrogen generation**
- **Improved cost effectiveness in metal oxide deposited graphene**
- **Widespread opportunities for application across global electrocatalyst material market valued at more than USD$1billion**

---

First Graphene Limited (ASX:FGR; "First Graphene" or "the Company") has filed a patent for its unique process to manufacture graphene enhanced materials for electrocatalysts used in the production of hydrogen.

The modified electrochemical process uses existing capital equipment to create new grades of metal oxide deposited graphene, leveraging cost-effective base metals such as cobalt, iron, nickel, zinc, aluminium, vanadium and copper which were previously unattainable.

The patent ensures First Graphene is globally recognised as the inventor of this modified process, which opens up new channels to cost effective graphene based electrocatalysts used for the economic production of hydrogen by water electrolysis as an alternative global energy source.

The new technology can also be extended to applications that require improved thermal and electrical conductivity of these graphene enhanced materials which is demonstrated by superior performance for water electrolysis[1].

There are additional broader market opportunities for materials produced by the process including combustion and industrial catalysts, photocatalysts, lithium battery cathodes, and fuel cell catalysts.

This new patent reinforces First Graphene's position within the global electrocatalyst materials market which is forecast to reach USD $1.2 billion by 2030[2].

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

*"We continue to make exciting progress in the emerging hydrogen sector, this new patent filed by our research and development team is another significant step forward for the Company.*

*The electrocatalyst market is ever growing and I look forward to the commercialisation opportunities presented by this new process."*

***References***

[1] FGR ASX Announcement from 21st March 2024

[2] Skyquest Marketing (2023) Global Hydrogen Production Catalysts Market Insights

**-Ends-**

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

For further information please contact:


## Investors

**Michael Bell**
Managing Director and CEO
First Graphene Limited
michael.bell@firstgraphene.net
+61 1300 660 448

## Media

**Emily Evans**
Media and Content Manager
SPOKE.
emily@hellospoke.com.au
+61 401 337 959


## 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.*