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Haydale Graphene Industries plc
(‘Haydale’, the ‘Company’, or the ‘Group’)

Potential graphene breakthrough in carbon capture
Positive feasibility study result for new carbon capture tech using Haydale's novel nano-material expertise

Haydale (AIM: HAYD), a leading innovator in advanced materials and nanotechnology, announces a potential breakthrough in the rapidly evolving carbon capture technology sector utilising plasma functionalised graphene as an inherent component.

Haydale has worked with Carbon Capture LLC (“CCL”), a newly established company based in Florida, to undertake a feasibility study to build and deliver an initial prototype device, leveraging Haydale's proprietary plasma functionalised graphene, to provide proof of concept that carbon dioxide can be removed from the atmosphere and stored for later release in a controlled environment.

Initial indications within this feasibility study show graphene, when properly functionalised through Haydale's proprietary HDPlas® plasma functionalisation process to optimise the surface chemistry of the nanomaterial, may be capable of adsorbing carbon dioxide.

This feasibility study builds on Haydale's expertise in chemical engineering and plasma functionalisation. Both Haydale and CCL are encouraged by these findings and intend to develop the application further to ascertain whether it might be commercialised to help combat climate change. Haydale's novel nano-material expertise, particularly in functionalised graphene, has proven integral to the efficiency and effectiveness of this carbon capture process.

The global carbon capture and storage market is projected to grow substantially over the next decade, driven by increasing environmental regulations and the urgent need to address climate change. If this technology is proven at larger scale, Haydale's work with CCL could position it as a key supplier to this burgeoning market, offering significant new growth opportunities and long-term value creation for shareholders.

Haydale's CEO, Keith Broadbent, commented: *"We are thrilled to be involved in this groundbreaking initiative. Our plasma functionalisation process could unlock a graphene-based breakthrough in carbon capture and underscores our commitment to leveraging our nanomaterial expertise for impactful environmental solutions."*

Carbon Capture's Founders, Sam (Samir) Adams and Fernando Sanchez, commented: *"Our collaboration with Haydale has yielded promising results, exceeding our expectations. We're now ready to scale up to a large demonstration unit of our revolutionary Direct Air Carbon Capture solution. This aligns perfectly with our mission to create sustainable, scalable carbon capture technologies. The potential of functionalized graphene in adsorbing CO₂ could be game-changing for urban carbon capture. We're confident our work with Haydale will revolutionize the industry, offering a cost-effective tool to combat excessive greenhouse gases globally."*

For further information:

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Notes to Editors:

About Haydale

Haydale is a global technologies group and service provider that facilitates the integration of graphene and other nanomaterials into the next generation of industrial materials and commercial technologies. With expertise in graphene, other nanomaterials and Silicon Carbide, Haydale is able to deliver improvements in electrical, thermal and mechanical properties. Haydale has been granted patents for its technologies in Europe, USA, Australia, Japan and China and operates from five sites in the UK, USA and the Far East. For more information please visit: www.haydale.com or Twitter: @haydalegraphene

About Carbon Capture LLC

Carbon Capture LLC, a US-based company founded in 2022, is a subsidiary of Carbon Capture & Commercialization Corp (CC&C). CCL and CC&C are dedicated to developing revolutionary, cost-effective Direct Air Carbon Capture (DACC) technologies. With a focus on sustainable and scalable solutions, particularly for urban environments, CC&C leverages expertise in engineering, technology, and profitable operations. The company's mission is to create innovative tools for the global effort to combat excessive greenhouse gases. CC&C's groundbreaking work includes collaborations with industry leaders to explore novel materials and processes, such as functionalized graphene, for more efficient carbon capture. For more information, please visit: www.ccandc.ai

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Certain statements in this announcement, are, or may be deemed to be, forward looking statements. Forward looking statements are identified by their use of terms and phrases such as "believe", "could", "should" "envisage", "estimate", "intend", "may", "plan", "potentially", "will" or the negative of those, variations or comparable expressions, including references to assumptions. These forward-looking statements are not based on historical facts but rather on the Directors' current expectations and assumptions regarding the Company's future growth, results of operations, performance, future capital and other expenditures (including the amount, nature and sources of funding thereof), competitive advantages, business prospects and opportunities. Such forward looking statements reflect the Directors' current beliefs and assumptions and are based on information currently available to the Directors.

A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements including risks associated with vulnerability to general economic and business conditions, competition, environmental and other regulatory changes, actions by governmental authorities, the availability of capital markets, reliance on key personnel, uninsured and underinsured losses and other factors, many of which are beyond the control of the Company. Although any forward looking statements contained in this announcement are based upon what the Directors believe to be reasonable assumptions, the Company cannot assure investors that actual results will be consistent with such forward looking statements. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Subject to any continuing obligations under applicable law or any relevant AIM Rule requirements, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

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