



HydroGraph Graphene Shows Huge Gain in Conductive Resins

TORONTO, Dec. 06, 2023 -- [HydroGraph Clean Power Inc.](#) (CSE: HG) (OTCBQ: HGCPF) (the “Company” or “HydroGraph”), a manufacturer of pristine graphene, today announced successful testing of its certified pure graphene’s electrical and thermal conductivity in epoxy resins, which is a US\$12 billion market. High-value enterprises looking to increase conductivity of their epoxy resins include applications where risks of mechanical or thermal cracking are high, as well as in EMI shielding, electronics and semiconductor manufacturing.

Testing was completed by Haydale Graphene Industries (AIM: HAYD), a global technology solutions company and leader in the design, development and commercialization of advanced materials using graphene and other nanomaterials. The results highlighted graphene’s further benefits to conductive resins, with tests showing increases in electrical conductivity 8 orders of magnitude greater than the control. Thermal conductivity tests demonstrated increases of 14%, which showed linear improvement with increased loading (amounts of graphene added). These improvements in conductivity did not suffer any degradation of mechanical properties.

“The tests were done using our flagship fractal graphene product, FGA-1, functionalized by Haydale, at a loading of 3%,” said Ranjith Divigalpitiya, HydroGraph Chief Science Officer. “We’re confident that with these improvements in thermal and electrical conductivity, we will enhance our customers’ products in multiple markets and applications.”

Electrical and thermal conductivity have become increasingly important to improve the performance of products in many applications. Controlled electrical conductivity is critical for circuit boards, electromagnetic interference shielding and sensors, to name a few uses. Thermal conductivity is important where heat management is required. This applies to large, complex applications in aerospace and automobiles and to everyday electronics, from computers to mobile phones. This testing and application development will enhance HydroGraph’s current pipeline of potential customers, with 20+ businesses taking quantities of graphene sufficient for end-user testing.

Haydale Commercial and Technical Director John-Mark Seymour commented, “The exceptional properties of HydroGraph’s material, combined with Haydale’s plasma functionalization, show exciting results for improving conductivity in numerous applications.”

HydroGraph was recently highlighted as being part of the Greater Manchester US\$200 million-plus investment zone and included in a market forecast report by IDTechEx, recognizing HydroGraph as a key player in the graphene industry.

The [global graphene market](#) was valued at US\$337 million in 2022 and is projected to grow to US\$2,957.9 million by 2030.¹ The global composite market in 2022 was valued at US\$94 billion.²

ABOUT HYDROGRAPH

HydroGraph Clean Power Inc. was founded in 2017 to fund and commercialize green, cost-effective processes to manufacture high-purity graphene and other strategic nanomaterials in bulk. Publicly listed on the Canadian Securities Exchange in December 2021, the Company acquired the exclusive license from Kansas State University to produce both graphene and hydrogen through its patented detonation process. More information about the Company and its products can be found on the HydroGraph website: www.hydrograph.com. For company updates, please follow HydroGraph on [LinkedIn](#) and [Twitter](#).

The Canadian Securities Exchange has not reviewed and does not accept responsibility for the adequacy or accuracy of the content of this news release.

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Forward-Looking Statements

This release contains certain “forward-looking statements” and certain “forward-looking information” as defined under applicable Canadian securities laws. Forward-looking statements and information can generally be identified by the use of forward-looking terminology such as “may”, “will”, “expect”, “intend”, “estimate”, “upon”, “anticipate”, “believe”, “continue”, “plans” or similar terminology. Forward-looking statements and information include but are not limited to: the timing of trading of the Company’s

common shares on the OTCQB, the potential benefits of listing on the OTCQB, the statements in regards to existing and future products of the Company; the ability to successfully scale the commercialization of the products, the Company's plans and strategies.

Forward-looking statements and information are based on forecasts of future results, estimates of amounts not yet determinable and assumptions that, while believed by management to be reasonable, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Forward-looking statements and information are subject to various known and unknown risks and uncertainties, many of which are beyond the ability of HydroGraph to control or predict, that may cause HydroGraph's actual results, performance or achievements to be materially different from those expressed or implied thereby, and are developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to: HydroGraph's ability to implement its business strategies; risks associated with general economic conditions; adverse industry events; stakeholder engagement; marketing and transportation costs; loss of markets; volatility of commodity prices; inability to access sufficient capital from internal and external sources, and/or inability to access sufficient capital on favorable terms; industry and government regulation; changes in legislation, income tax and regulatory matters; competition; currency and interest rate fluctuations; and other risks. HydroGraph does not undertake any obligation to update forward-looking information except as required by applicable law. Such forward-looking information represents management's best judgment based on information currently available.

No forward-looking statement can be guaranteed, and actual future results may vary materially. Accordingly, readers are advised not to place undue reliance on forward-looking statements.