



ACS Journal Validates HydroGraph Cement Performance

Successful Testing Conducted by Arizona State's School of Sustainable Engineering and the Built Environment

VANCOUVER, British Columbia, June 17, 2024 -- [HydroGraph Clean Power Inc.](#) (CSE: HG) (OTCQB: HGCPF) (the "Company" or "HydroGraph"), a commercial manufacturer of high-quality nanomaterials, today announced the publication in the [ACS Sustainable Chemistry and Engineering journal](#) of its joint findings with the School of Sustainable Engineering and the Built Environment at Arizona State University.

The findings validate the superior technical and commercial performance of HydroGraph's pristine graphene, demonstrating its effectiveness in cement, with compressive strength improved by up to 70% in the early curing period and stabilizes after 28 days to a 15% increase. Tests also showed a reduction in Global Warming Potential (GWP), a measure used in Life Cycle Assessment (LCA) to evaluate the impact of different greenhouse gases on global warming, of 10% to 15%.

Cement production accounts for 8% of global CO₂ emissions¹. Total green cement market size reached US\$34.9B, exhibiting a growth rate (CAGR) of 10.7% between 2024 and 2032, reaching \$87.9B by 2032².

"This study again confirms HydroGraph's graphene's positive effect on cement performance," said Ranjith Divigalpitaya, HydroGraph's chief science officer. "As our 99.8% pure graphene is manufactured with a sustainable, repeatable process that has the lowest carbon footprint of all graphene producers, the net effect is better for the environment. As the global cement and concrete industry looks to lessen its carbon footprint, HydroGraph will be part of that solution."

Along with the above-mentioned improvements, the joint testing also showed that just small amounts of HydroGraph's fractal graphene aggregate (FGA-1) and reactive graphene (RGA-1) had a significant influence, reducing total porosity and critical pore size, beneficially impacting concrete durability. The yield stress of fresh suspensions containing only 0.04% of FGA-1 or RGA-1 more than doubled as compared to the control paste, ordinary Portland cement paste. The small graphene dosage expands the range of application to include concrete 3D printing.

"This study shows that our graphene, which is manufactured through our scalable and cost-, energy- and CO₂-efficient detonation synthesis, can be of a huge benefit to the engineering and environmental performance of concrete and cement," said Professor Neithalath of ASU.

ABOUT HYDROGRAPH CLEAN POWER INC.

HydroGraph Clean Power Inc is a leading producer of pristine graphene using an "explosion synthesis" process, which allows for exceptional purity, low energy use and identical batches. The quality, performance and consistency of HydroGraph's graphene follows the Graphene Council's Verified Graphene Producer® standards, of which very few graphene producers are able to meet. We have leveraged our material performance, scalability and cost to build 10 metric tonnes of annual production capacity, with the ability to scale up production in just months using very low CAPEX, while engaged in numerous R&D projects and discussions with multiple potential partners and customers to supply our pristine graphene. For more information or to learn about the HydroGraph story, visit: <https://hydrograph.com/>.

For company updates, please follow HydroGraph on [LinkedIn](#) and [X](#).

ABOUT ACS SUSTAINABLE CHEMISTRY AND ENGINEERING JOURNAL

ACS Sustainable Chemistry & Engineering is a weekly peer-reviewed scientific journal published by the American Chemical Society. It covers research in green chemistry, green engineering, biomass, alternative energy, and life cycle assessment.

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: statements in respect of the Private Placement, the use of the net proceeds from the Private Placement, the timing and ability of the Company to close the Private Placement, if at all, the gross proceeds of the Private Placement, the timing and ability of the Company to obtain all necessary regulatory approvals, if at all, and the terms and jurisdictions of the Private Placement; the statements in regards to existing and future products of the Company; the Company's future personnel appointments; 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 favourable 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.

CONTACTS

HydroGraph Investor Relations Contact

Salisha Ilyas, Target IR

salisha@targetir.com

Kjirstin Breure, HydroGraph President and Interim CEO

kjirstin.breure@hydrograph.com

408.267.2556

Media Contact

Kristin Schaeffer

kristin@amfmediagroup.com

¹ <https://www.chathamhouse.org/2018/06/making-concrete-change-innovation-low-carbon-cement-and-concrete>

² <https://www.globalcement.com/news/item/17103-global-green-cement-and-concrete-industry-to-grow-by-3-3-annually-up-to-2030>