

From Fuel Cells to Stealth Materials: NMG Expands Applications for its Graphite Composites

25.11.2025 | [Business Wire](#)

- NMG's graphite performance validated in fuel-cell bipolar plates for hydrogen technologies and EMI shielding for telecom, automotive, and defense sectors
- NMG's graphite-polymer composites demonstrate high performance and meet industry standards
- Extended R&D collaborations with leading Canadian researchers support the development of multifunctional graphite-polymer composites
- Diversified marketing strategy, leveraging the future Phase-2 Matawinie Mine flake graphite production, to deliver scalable, sustainable composites integrating energy, thermal, and stealth functionalities

[Nouveau Monde Graphite Inc.](#) ("NMG" or the "Company") reports positive technological advancement for the development of its product portfolio to serve high-technology markets at the forefront of performance and innovation. The Company's latest work, carried out in collaboration with advanced materials researchers Professors Frej Mighri, Said Elkoun and Samaneh Shahgaldi associated with Canadian universities, demonstrates the versatility of NMG's natural graphite materials beyond energy storage into electromagnetic interference ("EMI") shielding.

This press release features multimedia. View the full release here:
<https://www.businesswire.com/news/home/20251125976557/en/>

A bipolar plate, fabricated with a high-graphite content sourced from NMG's Matawinie Mine, is inserted in a fuel cell station for performance testing.

Eric Desaulniers, Founder, President, and CEO of NMG, stated: "These results highlight the adaptability of our graphite materials and the depth of our scientific partnerships. We are transforming graphite innovation into multifunctional solutions that we believe will help us optimize our future sales mix and margins as we contemplate entering new value-added markets to serve the clean energy, advanced communication systems and specialized aeronautics markets. It is our intention to develop new verticals of graphite solutions in partnership with the most sophisticated customers with highly demanding specifications."

Building on a foundation of scientific research on graphite-polymer composites for fuel-cell bipolar plates published in leading international journals (Polymer Engineering & Science, International Polymer Processing, Journal of Reinforced Plastics and Composites, Journal of Composites Science; 2025), NMG's R&D team has extended its evaluation of these advanced materials to new functional domains. Supported by active collaborations with Université Laval, Université de Sherbrooke and Université du Québec à Trois-Rivières, as well as Plastiques Gagnon Inc. specialized in industrial plastics, the Company is developing and optimizing its bipolar plate composites while exploring their potential for EMI shielding and electromagnetic protection.

A comprehensive series of thermo-mechanical and microstructural tests confirmed the high crystallinity (~80%), thermal stability above 400°C, and controlled coefficient of thermal expansion of NMG's graphite-polymer composites, demonstrating robust integrity under variable conditions. The materials achieved tensile strength around 40 MPa and electrical conductivity up to 25 S/cm (12 S/cm through-plane)-a balanced combination that supports both energy and electromagnetic shielding applications.

ASTM D4935 evaluations of the same composite family showed 60-70 dB shielding effectiveness below 2 GHz and 55-65 dB across 1-6 GHz, meeting or exceeding telecom and automotive standards. These results, obtained on materials originally designed for fuel-cell applications, highlight the versatility, durability, and scalability of NMG's graphite composite platform for next-generation lightweight protection systems in

telecom, automotive, and defense sectors.

Testing and validation were conducted with Novika Solutions in ISO-9001-certified facilities, compliant with ASTM D4935. Novika's infrastructure ensures reliable and independent verification of electromagnetic performance.

Graphite emerges as a strategic bridge between polymer composites and metallic shielding, enabling a new generation of multi-functional materials that combine electromagnetic protection-including radar absorption-with thermal and infrared control. As NMG advances toward defense-grade performance (? 80 dB), its R&D roadmap remains focused on scalable, sustainable composites that integrate energy, thermal, and stealth functionalities for intelligent systems.

By testing and optimizing graphite integration into high-performance engineered materials to meet established standards, NMG expands its product portfolio for niche market segments. The Company is pursuing a diversified marketing strategy to leverage the large flake sizes distribution from its future Phase-2 Matawinie Mine for high-value industries in the Western World.

These research projects were partly funded thanks to grants from the Natural Sciences and Engineering Research Council of Canada, PRIMA Québec, and MITACS. NMG holds the necessary licences for the use of these projects' results for research, development and commercial exploitation, or has a right of first refusal regarding the commercial exploitation of these projects' results. Scientific references featured in this press release were originally published in: Shojaei et al., Polymer Engineering & Science (2025); Shojaei et al., International Polymer Processing (2025); Shojaei et al., Journal of Reinforced Plastics and Composites (2025); Khairi et al., Journal of Composites Science (2025).

About Nouveau Monde Graphite

Nouveau Monde Graphite is an integrated company developing responsible mining and advanced processing operations to supply the global economy with carbon-neutral advanced graphite materials. The Company is developing in Québec, Canada, a fully integrated ore-to-processed-graphite value chain to serve tomorrow's industries in energy, defense, technology, and manufacturing. With recognized ESG standards and structuring partnerships with major customers, NMG is set to become a strategic supplier of advanced materials to leading specialized manufacturers while promoting sustainability, innovation, and supply chain traceability. www.NMG.com

Subscribe to our news feed: <https://bit.ly/3UDrY3X>

Cautionary Note Regarding Forward-Looking Information

This press release contains "forward-looking information" and "forward-looking statements" within the meaning of applicable securities legislation (collectively, "forward-looking statements"), including, but not limited to, statements relating to future events or future financial or operating performance of the Company and reflect management's expectations and assumptions regarding the Company's growth, results, performance and business prospects and opportunities. Such forward-looking statements reflect management's current beliefs and are based on information currently available to it. These forward-looking statements include, but are not limited to, the Company's ability to complete the Phase 2 Matawinie Mine, to optimize its future sales mix and margins, to serve the clean energy, advanced communication systems and specialized aeronautics markets, to develop and optimize its bipolar plate composites while exploring their potential for EMI shielding and electromagnetic protection, to advance toward defense-grade performance, to pursue a diversified marketing strategy to leverage the large flake sizes distribution from its future Phase-2 Matawinie Mine for high-value industries in the Western World, to develop responsible mining and advanced processing operations to supply the global economy with carbon-neutral advanced graphite materials, to develop a fully integrated ore-to-processed-graphite value chain to serve tomorrow's industries in energy, defense, technology, and manufacturing, to become a strategic supplier of advanced materials to leading specialized manufacturers while promoting sustainability, innovation, and supply chain traceability, to enter into a commercial operating license agreement for projects' results in the event of the exercise of a right of first refusal, and the expected results of the initiatives described in this press release, and those statements which are discussed under the "About Nouveau Monde" paragraph and elsewhere in the press release which essentially describe the Company's outlook and objectives.

Forward-looking statements are based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the time of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies. These estimates and assumptions are not guarantees of future performance and may prove to be incorrect. Moreover, these forward-looking statements are based upon various underlying factors and assumptions, including the business relationship between the Company and its stakeholders, the ability to obtain sufficient financing for the development of the Matawinie Mine and the Bécancour Battery Material Plant, the Company's ability to satisfy the due diligence processes of the stakeholders, and are not guarantees of future performance.

Forward-looking statements are subject to known or unknown risks and uncertainties that may cause actual results to differ materially from those anticipated or implied in the forward-looking statements. Risk factors that could cause actual results or events to differ materially from current expectations include, among others, availability financing or financing on favorable terms for the Company, delays in finalizing the definitive agreements, delays in reaching FID, and general economic conditions, as well as earnings, capital expenditure, cash flow and capital structure risks and general business risks. A further description of risks and uncertainties can be found in NMG's Annual Information Form dated March 31, 2025, including in the section thereof captioned "Risk Factors", which is available on SEDAR+ at www.sedarplus.ca and on EDGAR at www.sec.gov. Unpredictable or unknown factors not discussed in this Cautionary Note could also have material adverse effects on forward-looking statements.

Many of these uncertainties and contingencies can directly or indirectly affect, and could cause, actual results to differ materially from those expressed or implied in any forward-looking statements. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Forward-looking statements are provided for the purpose of providing information about management's expectations and plans relating to the future. The Company disclaims any intention or obligation to update or revise any forward-looking statements or to explain any material difference between subsequent actual events and such forward-looking statements, except to the extent required by applicable law.

Further information regarding the Company is available in the SEDAR+ database (www.sedarplus.ca), and for United States readers on EDGAR (www.sec.gov), and on the Company's website at: www.NMG.com.

View source version on businesswire.com: <https://www.businesswire.com/news/home/20251125976557/en/>

Contact

MEDIA

Julie Paquet
VP Communications & ESG Strategy
+1-450-757-8905 #140
jpaquet@nmg.com

INVESTORS

Marc Jasmin
Director, Investor Relations
+1-450-757-8905 #993
mjasmin@nmg.com

Dieser Artikel stammt von [Minenportal.de](https://www.minenportal.de)

Die URL für diesen Artikel lautet:

<https://www.minenportal.de/artikel/583029--From-Fuel-Cells-to-Stealth-Materials--NMG-Expands-Applications-for-its-Graphite-Composites.html>

Für den Inhalt des Beitrages ist allein der Autor verantwortlich bzw. die aufgeführte Quelle. Bild- oder Filmrechte liegen beim Autor/Quelle bzw. bei der vom ihm benannten Quelle. Bei Übersetzungen können Fehler nicht ausgeschlossen werden. Der vertretene Standpunkt eines Autors spiegelt generell nicht die Meinung des Webseiten-Betreibers wieder. Mittels der Veröffentlichung will dieser lediglich ein pluralistisches Meinungsbild darstellen. Direkte oder indirekte Aussagen in einem Beitrag stellen keinerlei Aufforderung zum Kauf-/Verkauf von Wertpapieren dar. Wir wehren uns gegen jede Form von Hass, Diskriminierung und Verletzung der Menschenwürde. Beachten Sie bitte auch unsere [AGB/Disclaimer!](#)

Die Reproduktion, Modifikation oder Verwendung der Inhalte ganz oder teilweise ohne schriftliche Genehmigung ist untersagt!
Alle Angaben ohne Gewähr! Copyright © by [Minenportal.de](#) 2007-2025. Es gelten unsere [AGB](#) und [Datenschutzrichtlinien](#).