

Life Cycle Assessment of NMG’s Graphite Advanced Materials Confirm Minimal Environmental Footprint

- + NMG’s planned all-electric operations powered by renewable energy combined with clean processing technologies are set to generate advanced materials with an exceptionally low climate change impact, in line with global decarbonization efforts
- + NMG’s CSPG is modelled to have an expected Global Warming Potential of 1.23 kg CO₂ equivalent per kg, an impact up to 11 times smaller than that of benchmarked production
- + Results confirm NMG’s industry-leading environmental footprint and preferential market position as battery and EV manufacturers seek green anode material sources
- + As the main lithium-ion battery component, graphite is instrumental to the energy transition; NMG’s materials can support responsible production

MONTREAL, CANADA, July 18, 2022 – Nouveau Monde Graphite Inc. (“NMG”, “Nouveau Monde” or the “Company”) ([NYSE: NMG](#), [TSXV: NOU](#)) has received the results of an independently conducted cradle-to-gate life cycle assessment (“LCA”) for its portfolio of graphite-based materials, confirming the minimal and industry-leading environmental footprint of its production. NMG’s full commercial-scale Phase-2 all-electric facilities are forecasted to produce coated spherical purified graphite (“CSPG”) – anode material for lithium-ion batteries – with a Global Warming Potential (“GWP”) of 1.23 kg CO₂ equivalent per kg, an impact up to 11 times smaller than that of benchmarked production.

As demand for batteries attains unprecedented levels, so does the demand for minerals and advanced materials that enter their manufacturing. Graphite is the main component of battery anodes, making up ±95% of their composition across all lithium-ion battery chemistries. To ensure the production of ecological electric vehicles (“EV”), clean technologies and electronics, manufacturers necessitate responsibly extracted, environmentally transformed and ethically sourced materials.

Arne H Frandsen, Chair of NMG, commented: *“From responsible mining to eco-friendly advanced manufacturing, NMG is committed to providing the marketplace with a transparent, reliable and scalable supply of high-purity graphite materials. Positive results from the LCA confirm the environmental performance of our planned operations, processes and proprietary technologies, and further strengthen our ESG credentials. The conclusions bolster NMG’s competitive edge as battery and EV manufacturers, regulators, and consumers push for holistically sustainable solutions.”*

NMG mandated CT Consultant, an LCA practitioner, to carry out the LCA for its portfolio of graphite-based materials to obtain an independent assessment as it advances commercial discussions. Results confirm the low environmental impact of NMG’s products, thus supporting customers’

search for sources that reduce their Scope 3 greenhouse gas emissions and comply with increasingly stringent regulations. The study also provides insight to strengthen the Company’s environmental efforts, continuous improvement and climate action.

Eric Desaulniers, Founder, President, and CEO of NMG, added: *“Clean technologies are very mineral- and energy-intensive. Yet, we have now demonstrated that batteries can be assembled with environmentally-responsible materials. Our commitment to all-electric operations and responsible production is reaffirmed with these results that position both Québec’s hydropower grid and NMG’s proprietary technologies as catalysts for low-footprint manufacturing. We are committed to seeking opportunities to enhance the properties of our battery materials, optimize technological solutions, reduce our footprint, improve our products’ life cycle, and develop recycling processes to help power global decarbonization.”*

LCA Methodology and Results

Delving into the projected production system of NMG’s fully vertically integrated value chain, the study examined the impacts on climate change, freshwater acidification, terrestrial acidification, freshwater eutrophication, marine eutrophication, photochemical oxidant formation and ozone layer depletion of five graphite-based products – graphite concentrate, spherical graphite, spherical purified graphite, CSPG, purified jumbo flakes – and one co-product as per the IMPACT World+ methodology.

The LCA established an inventory of flows to and from nature by combining primary and secondary data collected for each process within NMG’s operating model. The inventory data was converted into environmental impacts using characterization factors from an established impact assessment method. The ISO 21930 standard was used for the distribution of impacts per life cycle stage. Results were benchmarked, and sensitivity and data quality analyses were performed. The modelling and analysis were verified by an independent consultant. The LCA complies with ISO 14040 and ISO 14044 requirements.

Conclusions demonstrate that NMG’s planned all-electric operations powered by renewable energy combined with clean processing technologies are set to generate advanced materials with an exceptionally low GWP, in line with global decarbonization efforts.

Integrated into the report is a benchmarking exercise conducted by Minviro, an LCA and sustainability consultant in the battery material space, comparing the footprint of CSPG from natural graphite along three production routes.

Extraction and concentration	Advanced manufacturing	GWP (kg CO ₂ eq per kg)
China	China	14.1
Mozambique	U.S.	6.1
Sweden	Sweden	3.1

Streamlined Life Cycle Assessment Study of Global Anode Grade Natural Graphite Manufacturing, Minviro, March 2022.

GWP of NMG’s CSPG
(kg CO₂ eq per kg)

1.23

LCA of Natural Graphite-Based Products Manufactured by NMG, CT Consultant, July 2022.

The LCA also examined a hypothetical scenario with NMG’s production system parameters transposed in North-East China, where a large part of graphite-based products is manufactured, to evaluate the impact of Québec’s electricity grid mix on the environmental footprint of the Company’s products. In this assessment, NMG’s CSPG presents lower impact scores across all

environmental categories compared to CSPG that would be manufactured in China with the same extraction, concentration and processing technologies. Freshwater acidification and terrestrial acidification categories are approximately 19 times smaller, photochemical oxidant formation and climate change are approximately 16 times smaller, while freshwater eutrophication, marine eutrophication and ozone layer depletion impacts are approximately up to twice smaller.

In its report, CT Consultant noted that “these supplementary analyses and literature review show how the technology efficiency, energy grid mix and methodological issues have an influence over the lifecycle performance of natural graphite-based products.” Indeed, NMG’s choice of adopting [all-electric technologies](#), from mining to advanced manufacturing, is set to help significantly reduce the environmental footprint of its products across their whole life cycle. Moreover, the Company’s [proprietary thermochemical purification technology](#) that avoids acid leaching, along with its [climate action initiatives](#) that aim at reducing embedded emissions, play a significant role in limiting the environmental impacts of its integrated value chain.

Market Implications and Commercial Engagement

Results from the LCA complement the technical specifications of NMG’s advanced materials and provide information to customers, investors and stakeholders on the climate risk of products. The exercise further confirms the advantage of natural graphite over synthetic graphite, a material produced from petroleum byproducts and coal tar carrying a heavy carbon footprint.

The low environmental footprint of NMG’s graphite-based materials aligns with international efforts to drive greater sustainability, transparency and circularity into the battery sector. Indeed, from the [Global Battery Alliance](#)’s effort to develop a Battery Passport to the European Commission’s proposed updated Battery Directive that would require labelling of batteries to disclose their carbon footprint, the market is shifting to encourage and eventually potentially require low-carbon products. The European Union, which already set GHG emissions limit for EVs and industrial batteries, rallied last month behind a deadline on combustion engine production by 2035 as it steps up the fight against climate change through faster adoption of EVs.

Hence, NMG intends to leverage the positive LCA results in current and future commercial discussions. To that effect, representatives of the Company’s executive and technical teams will be present at The Battery Show North America on September 13-15, 2022, booth 1629, to meet key industry players, promote NMG’s green product portfolio and examine some of the latest technologies.

The LCA report is available upon request to NMG’S Sales, Marketing & Business Development team.

About Nouveau Monde Graphite

NMG is striving to become a key contributor to the sustainable energy revolution. The Company is working towards developing a fully integrated source of carbon-neutral battery anode material in Québec, Canada for the growing lithium-ion and fuel cell markets. With low-cost operations and enviable ESG standards, NMG aspires to become a strategic supplier to the world’s leading battery and automobile manufacturers, providing high-performing and reliable advanced materials while promoting sustainability and supply chain traceability. www.NMG.com

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Cautionary Note Regarding Forward-Looking Information

All statements, other than statements of historical fact, contained in this press release including, but not limited to those describing the Company's CSPG expected GWP, future demand for batteries, minerals and advanced materials, the intended production of eco-friendly advanced materials, the Company's commitments and initiatives outlined in the press release, the intended results of the initiatives described in this press release, the positive impact of the foregoing on project economics, the Company's intended all-electric operations, industry trends, natural graphite's advantage, international efforts to drive greater sustainability, transparency and circularity into the battery sector, the presence of Company representatives at future events, and those statements which are discussed under the "About Nouveau Monde Graphite" paragraph and elsewhere in the press release which essentially describe the Company's outlook and objectives, constitute "forward-looking information" or "forward-looking statements" (collectively, "forward-looking statements") within the meaning of Canadian and United States securities laws, and are based on expectations, estimates and projections as of the time of this press release. Forward-looking statements are necessarily 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 may prove to be incorrect. Moreover, these forward-looking statements were based upon various underlying factors and assumptions, including the current technological trends, the business relationship between the Company and its stakeholders, the ability to operate in a safe and effective manner, the timely delivery and installation of the equipment supporting the production, the Company's business prospects and opportunities and estimates of the operational performance of the equipment, 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, delays in the scheduled delivery times of the equipment, the ability of the Company to successfully implement its strategic initiatives and whether such strategic initiatives will yield the expected benefits, the availability of financing or financing on favorable terms for the Company, the dependence on commodity prices, the impact of inflation on costs, the risks of obtaining the necessary permits, the operating performance of the Company's assets and businesses, competitive factors in the graphite mining and production industry, changes in laws and regulations affecting the Company's businesses, political and social acceptability risk, environmental regulation risk, currency and exchange rate risk, technological developments, the impacts of the global COVID-19 pandemic and the governments' responses thereto, 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 22, 2022, including in the section thereof captioned "Risk Factors", which is available on SEDAR at www.sedar.com 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.

The market and industry data contained in this press release is based upon information from independent industry publications, market research, analyst reports and surveys and other publicly available sources. Although the Corporation believes these sources to be generally reliable, market and industry data is subject to interpretation and cannot be verified with complete certainty due to limits on the availability and reliability of raw data, the voluntary nature of the data-gathering process and other limitations and uncertainties inherent in any survey. The Corporation has not independently verified any of the data from third-party sources referred to in this press release and accordingly, the accuracy and completeness of such data is not guaranteed.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

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