



NEWS RELEASE

October 6, 2021

LEADING EDGE MATERIALS ANNOUNCES PROPOSED JOINT VENTURE PLANS FOR ADVANCED ANODE MATERIALS BUSINESS WITH SICONA

Vancouver, October 6, 2021 – Leading Edge Materials Corp. (“Leading Edge Materials” or the “Company”) (TSXV: LEM) (Nasdaq First North: LEMSE) (OTCQB: LEMIF) (FRA: 7FL) is pleased to announce that its 100% owned Swedish subsidiary Woxna Graphite AB (“Woxna”) has signed a non-binding Heads of Agreement (the “MOU”) with Sydney, Australia, based Sicona Battery Technologies Pty Ltd (“Sicona”). The MOU lays out the path for the establishment of a Sweden based 50/50 Joint Venture (the “JV”) targeting the production of advanced natural graphite and silicon-graphite-carbon composite active anode materials using natural graphite from the Woxna Graphite mine as feedstock to offer the European lithium-ion battery manufacturing industry a secure and sustainable supply of high-performance anode materials.

The JV is a direct fit for the fully built and permitted Woxna Graphite mine in Sweden and plans for a vertically integrated production from mine to active anode materials utilizing a low carbon footprint thermal purification process, as recently reported in a [Preliminary Economic Assessment study](#) (see press releases dated [June 9, 2021](#) and [July 26, 2021](#)) The Company believes that the existing mine and developed downstream processes together with Sicona’s innovative technology offers the opportunity to deliver a secure and sustainable supply of high-performance battery materials for the European battery industry.

Sicona is commercialising innovative silicon-graphite-carbon composite anode and binder technology and materials that have been developed over the last ten years at the Australian Institute for Innovative Materials at the University of Wollongong and now owned by Sicona (the “IP”). Sicona has reported that its current generation silicon-graphite-carbon composite materials deliver 50 to 100% higher capacity than conventional graphite anode materials. Sicona recently raised AU\$3.7m from leading venture capital and private equity investors to accelerate pilot manufacturing and commercial deployment of Sicona’s innovative battery materials.

Due to its improved storage capacity, silicon graphite composite anode materials attract higher selling prices, >US\$15,000 per tonne¹, compared with conventional graphite anode materials between US\$7,000 and US\$15,000 per tonne². However, due to the higher capacity of silicon graphite composites the cost per capacity unit (\$ / kWh) becomes lower for battery cell manufacturers, driving an increased interest to transition into these materials over the future.

The MOU lays out certain work packages with the ultimate objective being a Sweden based advanced anode materials production facility targeting an annual production of up to 20,000 tonnes per year of multiple active anode materials products using Woxna graphite feedstock and other complementary suitable feedstocks such as externally sourced silicon and other carbon or graphite materials utilizing Sicona’s significant proprietary IP and know-how.

Key points of the JV as envisioned in the MOU;

- The establishment of a Swedish corporation owned 50/50 by the Company and Sicona to operate the JV out of Sweden;
- The design, funding and launch of a 500 tonnes per annum stage 1 commercial demonstration plant at a suitable location from the Woxna Graphite mine to produce multiple active anode materials products for advanced customer qualification trials;

¹ JP Morgan, Battery Anode Materials, June 10, 2021

² Benchmark Mineral Intelligence, 2021

- Appropriate feasibility study for a 7,000 to 20,000 tonnes per annum full scale commercial production facility;
- Funding, building and operation of a full scale commercial production facility;
- Woxna to enter an offtake agreement with the JV to sell it all of its graphite concentrate production on a graphite related all in cost basis plus a 30% margin, with a cap at the price equivalent to an appropriate graphite pricing benchmark less 15% (the "Off-take Agreement");
- The JV to be granted a non-exclusive, non-transferable, non-sublicensable license for Sicona's IP to produce carbon coated graphite based and silicon-graphite-carbon based active anode materials (the "License Agreements");
- JV to retain exclusivity over the IP in Sweden, with additional timelines proposed to prohibit the licensing of the IP within Europe to other parties; and
- A twelve month exclusivity period during which Woxna and Sicona are prohibited from soliciting alternative transactions to the proposed JV and must deal exclusively with each other (the "Exclusivity Provision").

The establishment of the JV is subject to the Company and Sicona entering into a definitive binding joint venture agreement governing the Swedish JV corporation (the "Definitive Joint Venture Agreement", and together with the Off-take Agreement and the License Agreements, the "Definitive Agreements"), the Off-take Agreement and the License Agreements and completion of satisfactory due diligence and receipt of all necessary board and regulatory approvals

Filip Kozlowski, CEO of Leading Edge Materials states *"The opportunity to combine the thermally purified spherical natural graphite from Woxna with Sicona's silicon-graphite-carbon composite technology for the production of high-performance next generation anode materials is obvious. We believe that moving towards a formal joint venture and the establishment of a first stage commercial demonstration facility to produce 500 tonnes per year of various anode materials will demonstrate the quality of our products to potential customers in Europe. Announced lithium-ion battery production capacity recently surpassed 1,000GWh³, translating to around 1,000,000 tonnes per year of anode material demand in Europe alone. This potential joint venture with Sicona puts Leading Edge Materials in an even stronger position to address this immense addressable market opportunity. I am looking forward to working with Christiaan and his skilled technical team in developing this opportunity further."*

Christiaan Jordaan, CEO of Sicona states *"Sicona Battery Technologies is very excited to be involved in the next stages of project development with Filip and his team at Leading Edge Materials. It is an endorsement of Sicona's value proposition in vertically integrating local supply chain projects to produce next generation final anode materials. The two companies share the same goals and values in the sustainable development of better performing anodes and disrupting the control of Asian controlled supply chains with local European made anode material products. Our work has already shown Woxna's thermally purified natural graphite outperformed similar trials using natural graphite reference materials, which bodes well for our planned next stages of work with Leading Edge."*

The formalization of this JV will allow Sicona and Leading Edge to commercialize our coating processes and technologies, where Woxna's spherical purified graphite and Sicona's carbon coating technology has shown excellent results in producing a conventional natural graphite active anode material, delivering 98% capacity retention after 500 cycles⁴. Furthermore, in-house unoptimized trials using Woxna spherical purified graphite to produce silicon-graphite-carbon composite anode materials has delivered promising results in initial cell testing. The test results showed an excellent initial capacity of ~700mAh/g, which is more than 90% higher than conventional graphite anode materials."

Woxna owns the fully-built and permitted Woxna Graphite mine in central Sweden, one of few existing operations of its kind in the western-world. Over the last years the Company has developed the required processes to use the graphite concentrate from Woxna as a feed-stock for sizing, shaping and purification, ultimately producing a spherical ultra-high purity natural graphite material suitable for use in lithium-ion

³ CIC energiGUNE, September 2021

⁴ Coin half-cell testing. Cycling at 0.3C, formation cycling at C/20

battery anodes. The Company has chosen a thermal purification technology which offers the opportunity for improved performance and in addition a very low carbon footprint due to having access to hydropower and renewable electricity sources.

Other than the Exclusivity Provision and certain other standard provisions relating to confidentiality, expenses and governing law, the MOU is non-binding in nature and neither the Company nor Sicona are under any obligation to enter into, or continue negotiations regarding, the Definitive Joint Venture Agreement. No binding agreement will exist between the Company and Sicona relating to a JV unless and until the Definitive Joint Venture Agreement has been finalized and executed. There is no assurance or guarantee that the Definitive Agreements will be executed or materialize.

The scientific, technical and economic information related to the Woxna Graphite project in this news release has been reviewed and verified by Christopher Stinton of Zenito Limited, BSc (Hons), CEng MIMMM, an independent Qualified Person as defined by NI 43-101.

**On behalf of the Board of Directors,
Leading Edge Materials Corp.**

Filip Kozlowski, CEO

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About Leading Edge Materials

Leading Edge Materials is a Canadian public company focused on developing a portfolio of critical raw material projects located in the European Union. Critical raw materials are determined as such by the European Union based on their economic importance and supply risk. They are directly linked to high growth technologies such as batteries for electromobility and energy storage and permanent magnets for electric motors and wind power that underpin the clean energy transition towards climate neutrality. The portfolio of projects includes the 100% owned Woxna Graphite mine (Sweden), Norra Karr HREE project (Sweden) and the 51% owned Bihor Sud Nickel Cobalt exploration alliance (Romania).

About Sicona

Sicona develops next-generation battery materials technology used in the anodes (negative electrodes) of lithium-ion ("Li-ion") batteries that enable electric-mobility and storage of renewable energy. Sicona is commercializing an innovative silicon-composite battery anode technology, developed and perfected over the last ten years at the Australian Institute for Innovative Materials (AIIM). Sicona's current generation silicon-composite anode technology delivers 50% to 100% higher capacity than conventional graphite anodes and its anode materials can deliver more than 50% higher cell energy density than current Li-ion batteries. In addition, Sicona has developed a water-based binder that has a 3D network structure, improved electro-conductivity, and self-healing properties that significantly increases the cycle of next generation anodes. Sicona uses off the shelf equipment in a highly scalable and efficient manufacturing process to produce its active anode materials and polymer binder. Sicona intends to produce and sell high performance active anode and binder materials into the fast-growing global battery market through a focused partnership approach with established and reputable supply chain partner companies.

Additional Information

This information is information that Leading Edge Materials Corp. is obliged to make public pursuant to the EU Market Abuse Regulation. The information was submitted for publication through the agency of the contact person set out above, on October 6, 2021, at 6:00 am Vancouver time.

Leading Edge Materials is listed on the TSXV under the symbol "LEM", OTCQB under the symbol "LEMIF" and Nasdaq First North Stockholm under the symbol "LEMSE". Mangold Fondkommission AB is the Company's Certified Adviser on Nasdaq First North and may be contacted via email CA@mangold.se or by phone +46 (0) 8 5030 1550.

Reader Advisory

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

This new release may contain statements which constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable Canadian securities laws, including predictions, projections and forecasts (collectively, "Forward-Looking Statements"). All statements, other than statements of historical fact, addressing activities, events or developments that the Company believes, expects or anticipates will or may occur in the future are Forward-Looking Statements. Forward-Looking Statements are often, but not always, identified by the use of words such as "seek," "anticipate," "believe," "plan," "estimate," "expect," and "intend" and statements that an event or result "may," "will," "can," "should," "could," or "might" occur or be achieved and other similar expressions. Forward-Looking Statements are based upon the opinions and expectations of the Company based on information currently available to the Company. Investors are cautioned that any such Forward-looking Statements is not a guarantee of future business activities and involves risks and uncertainties, and that the Company's future business activities may differ materially from those in the Forward-looking Statements as a result of various factors, including, but not limited to: the Company has yet to generate a profit from its activities; there can be no guarantee that the estimates of quantities or qualities of minerals disclosed in the Company's public record will be economically recoverable; uncertainties relating to the availability and costs of financing needed in the future; competition with other companies within the mining industry; the success of the Company is largely dependent upon the performance of its directors and officers and the Company's ability to attract and train key personnel; changes in world metal markets and equity markets beyond the Company's control; the possibility of write-downs and impairments; the risks associated with uninsurable risks arising during the course of exploration; development and production; the risks associated with changes in the mining regulatory regime governing the Company; the risks associated with tenure to the Norra Karr property; the risks associated with the various environmental regulations the Company is subject to; rehabilitation and restitution costs; the fact that the Woxna project has never defined a mineral reserve; risks relating to the preliminary and non-binding nature of the MOU; and the inability of the parties to satisfy the conditions precedent to the execution of the Definitive Agreements or ultimately agree on definitive terms. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the Forward-Looking Statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such Forward-Looking Statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such Forward-Looking Statements. Such Forward-Looking Statements has been provided for the purpose of assisting investors in understanding the Company's business, operations and exploration plans and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on Forward-Looking Statements. Forward-Looking Statements are made as of the date hereof, and the

Company does not undertake to update such Forward-Looking Statements except in accordance with applicable securities laws.