



LEADING EDGE MATERIALS CORP.

MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE THREE MONTHS ENDED JANUARY 31, 2022

This discussion and analysis of financial position and results of operation is prepared as at March 24, 2022 and should be read in conjunction with the unaudited condensed consolidated interim financial statements for the three months ended January 31, 2021 of Leading Edge Materials Corp. ("Leading Edge Materials" or the "Company"). The following disclosure and associated financial statements are presented in accordance with International Financial Reporting Standards ("IFRS"). Except as otherwise disclosed, all dollar figures included therein and in the following management discussion and analysis ("MD&A") are quoted in Canadian dollars. Additional information relevant to the Company's activities can be found on SEDAR at www.sedar.com.

Forward Looking Statements

Certain information in this MD&A may constitute forward-looking statements or forward-looking information within the meaning of applicable Canadian securities laws (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. Forward-Looking Statements are subject to a number of factors, risks and uncertainties that may cause the actual results of the Company to differ materially from those discussed in the Forward-Looking Statements including, among other things, 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 Woxna project has never defined a mineral reserve or a feasibility study and the associated increased risk of technical and economic failure in case of restarting production; risks relating to the preliminary and non-binding nature of the MOU with Sicon.

On June 9, 2021, Leading Edge announced the results of an independent preliminary economic assessment for the development of Woxna (the "2021 Woxna PEA"), the full details of which are included in a technical report entitled "NI 43-101 Technical Report – Woxna Graphite" prepared for Woxna Graphite AB with effective date June 9, 2021 and issue date July 23, 2021, available on Leading Edge's website www.leadingedgematerials.com and under its SEDAR profile www.sedar.ca. The 2021 Woxna PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

On July 22, 2021, Leading Edge announced the results of an independent preliminary economic assessment for the development of Norra Karr (the "2021 Norra Karr PEA"), the full details of which are included in a technical report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KARR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021, available on Leading Edge's website www.leadingedgematerials.com and under its SEDAR profile www.sedar.ca. The 2021 Norra Karr PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and

there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

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.

COVID-19

On March 11, 2020, the World Health Organization ("WHO") declared the novel coronavirus outbreak identified as "COVID-19", as a global pandemic. In order to combat the spread of COVID-19 governments worldwide have enacted emergency measures including travel bans, legally enforced or self-imposed quarantine periods, social distancing and business and organization closures. These measures have caused material disruptions to businesses, governments and other organizations resulting in an economic slowdown and increased volatility in national and global equity and commodity markets. The Company has implemented safety and physical distancing procedures, including working from home where possible and ceased all travel, as recommended by the various governments. The Company will continue to monitor the impact of the COVID-19 outbreak, the duration and impact which is unknown at this time, as is the efficacy of any intervention. It is not possible to reliably estimate the length and severity of these developments and the impact on the financial results and condition of the Company and its operations in future periods.

Corporate Overview

The Company was incorporated on October 27, 2010, under the *Business Corporations Act* (British Columbia) as Tasex Capital Limited. The Company's common shares began trading on the TSX Venture Exchange (the "TSXV") as a capital pool company on June 10, 2011. On February 22, 2012, the Company completed the acquisition of the Woxna Project and changed its name to Flinders Resources Limited. On August 25, 2016, the Company completed the acquisition of Tasman Metals Ltd. ("Tasman") and changed its name to Leading Edge Materials Corp. The Company's common shares trade on the TSXV as a Tier 1 mining issuer under the symbol "LEM", on the OTCQB under the symbol "LEMIF", on the Nasdaq First North, trading under the symbol "LEMSE" and on Frankfurt under the symbol "7FL". The Company's principal office is located at #1305 - 1090 West Georgia Street, Vancouver, British Columbia, V6E 3V7. The Company's strategy is 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).

As at the date of this MD&A the Board of Directors and Officers of the Company are:

Filip Kozlowski	- CEO
Nick DeMare	- Corporate Secretary
Sanjay Swarup	- CFO
Lars-Eric Johansson	- Director and Non-Executive Chairman
Eric Krafft	- Director
Daniel Major	- Director

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.

Highlights During and After the Quarter

During the three months ended January 31, 2022:

The Company granted an aggregate of 3,200,000 common shares (the "Optioned Shares") of the Company, at exercise price of C\$0.62 per option, expiring on the date that is three years from the date of grant to its directors, officers, employees, and consultants.

Subsequent to January 31, 2022:

The Company initiated an internal review focused on the potential to restart production at the Company's fully-owned Woxna graphite mine in Sweden.

Outlook

Regretfully any outlook must start with the mention of the horrendous and hostile invasion of Ukraine by Russia. Besides the unfathomable human suffering for the Ukrainian people, this development comes on top of the COVID pandemic another tectonic event that will shape geopolitics and industrial policy going forward. One can only hope for a swift ending to the current situation in Ukraine, but there is no turning back from the realization by western governments that energy and supply chain reliance on authoritarian and autocratic regimes is something that has to be solved urgently. The Versailles Declaration by EU leaders clearly outlines steps to reduce energy dependency on Russia and addresses strategic dependencies on critical raw materials in general¹. These are not new initiatives in the context of EU industrial policy over the last years, but one can be certain that there is more commitment and urgency to deliver on the ambitions. For both energy independence and raw material security, a key deliverable will be to develop raw materials projects within the borders of the EU. The projects we have in our portfolio are exactly the type of projects that are needed now more than ever before.

Battery raw material prices have risen sharply over the last few months driven by continued strong demand and increasing production costs, not least due to increasing electricity costs globally². Graphite prices in Europe, including spherical purified graphite (being the anode material feedstock), are recently reported³ to be up almost 40-50% compared to the same period last year⁴.

Four our Woxna graphite project, we are working actively on two parallel and closely related projects. One being the evaluation of restarting flake graphite production at the existing mine due to the improved market conditions. The other is the production of bulk samples of battery grade graphite together with our preferred suppliers where we recently have concluded thermal purification trials. The produced material will be further processed by our proposed JV partner Sicona into lithium-ion anode materials which will be tested in battery cells and sent for customer pre-qualifications. The data of this test program will form the basis for the next development steps towards a Swedish anode material demonstration plant and if agreed, the incorporated JV on the anode project.

The same demand and supply crunch dynamics have supported rare earth prices year to date. Prices for key magnet rare earth oxides such as neodymium, dysprosium and terbium continued rising initially but have recently reversed some of those gains after China initiated communication

¹ <https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf>

² <https://www.fastmarkets.com/insights/battery-ev-producers-grapple-with-record-high-prices-due-to-ongoing-raw-material-supply-crunch>

³ <https://www.indmin.com/Article/5089795/Graphite/Strong-demand-in-China-tightening-supply-support-graphite-markets.html>

⁴ <https://www.indmin.com/Article/3978011/Graphite-LatestNews/GLOBAL-GRAPHITE-SNAPSHOT-Prices-stable-but-freight-costs-new-material-sources-add-uncertainty.html>

attempted at cooling the market⁵. Even with the recent correction, the key magnet rare earth oxide prices are up between 27 and 150% year on year⁶.

We are continuing our work on updating the mining lease application for the Norra Karr project based on the new plan for the project announced last year⁷. Recently the Government of Sweden approved the mining lease application for the Kallak iron ore project in north of Sweden⁸. This is interesting in the context of that project having been locked in a same type of permitting stalemate as Norra Kärr for close to ten years. The Minister of Enterprise emphasized that it was a new type of mining lease approval which would be used as a praxis for future evaluations. The granting was associated with several conditions with the objective to minimize the conflict between competing national interests. These types of conditions are normally dealt with at the environmental permitting stage, the effect essentially being that the project was pushed through the mining lease stage in order to open up the opportunity to focus on the required development work towards an environmental permit application.

As we move through the first half of the year we are working across each important front of our projects that will enable us to progress them to the next phase. During the quarter we were pleased to see continuing support from long-term shareholders through the exercise of options and warrants for proceeds to the Company of \$1,665,500, with many warrants and options still outstanding with exercise prices deep in the money. We are also encouraged to see continued increasing interest in the Company by Swedish shareholders, earlier this year Swedish shareholders became the major shareholder base and trading volumes on our Nasdaq First North listing are now growing. Outside of delivering shareholder value, we have always felt the importance of our projects in how they can support the climate transition and Europe's ambitions to become more self-reliant for critical raw materials. This responsibility is now bigger than ever in this new geopolitical environment that emerged this year.

⁵ <https://www.reuters.com/business/china-calls-rare-earths-companies-bring-prices-back-reasonable-level-2022-03-04/>

⁶ <https://treo.substack.com/p/trust-is-no-entitlement-russia-ukraine?s=r>

⁷ https://leadingedgematerials.com/wp-content/uploads/2021/08/NorraKarr_PEA_43-101.pdf

⁸ <https://www.mining.com/web/sweden-gives-qualified-go-ahead-for-northern-kallak-iron-ore-mine/>

Projects Overview

Woxna Graphite Mine and Anode Project

The Woxna graphite mine and production facility is comprised of four graphite deposits, an open pit mine, a permit to process 100,000 tonnes of mineralized material per annum, a processing plant and tailings dam, all located some 8 kilometres ("km") WNW of the town of Edsbyn, Sweden, approximately a 3.5 hour drive north of Stockholm. Access is via 10 km of all-weather forest road from Highway 301. The principal property is the Kringelgruvan concession, where permission to mine remains current until 2041. Ongoing development has been directed towards test work focused on the possible production and modification of high purity graphite using thermal purification technologies for emerging high growth high value markets, one such example being the lithium-ion battery industry (the "Anode Project"). Other potential high-value end-markets being investigated are purified micronized graphite for metallurgical and electroconductive additives and purified large flake graphite as a precursor for the production of expandable graphite suitable as a feed for graphite foil and fuel cell bipolar plates.

On June 9, 2021, the Company announced Preliminary Economic Assessment ("PEA") results for a vertically integrated mine to anode material production, the full details subsequently included in the technical report entitled "NI 43-101 Technical Report – Woxna Graphite" prepared for Woxna Graphite AB with effective date June 9, 2021 and issue date July 23, 2021, available on Leading Edge's website www.leadingedgematerials.com and under its SEDAR profile www.sedar.ca. The main results are the following where all figures are US dollars unless otherwise specified;

Main PEA Highlights

- The PEA indicates the potential viability of a Swedish operation producing battery grade graphite anode material utilizing an existing graphite mine and concentrator with the addition of a value-add processing facility offsite;
- The proposed process route in the PEA uses a thermal purification process which, combined with access to low cost hydropower offers a low carbon footprint for the Project which was demonstrated in a subsequent life cycle assessment (LCA) report. The PEA also focused on improved waste management process for tailings further improving the sustainability ambitions of the Project;
- The Report shows a financially robust Project with average annual EBITDA of \$49m and a pre-tax Internal Rate of Return (IRR) of 42.9%;
- The PEA utilizes one out of four deposits currently owned by Woxna under granted exploitation concessions, where two of the other deposits also have indicated and inferred mineral resource estimates offering potential upside for further expansion in future development or studies;

Project Financial Highlights

- Pre- and post-tax Net Present Value (NPV) of \$317m and \$248m using an 8% discount rate Pre- and Post-tax IRR of 42.9% and 37.4% Accumulated project revenues of \$1,425m
- Average annual EBITDA of \$49m
- Initial Capital Expenditures (CAPEX) of \$121m
- Pre-tax Payback Period from first production of 2.24 years
- Operating cost per tonne of coated spherical purified graphite (CSPG) of \$2,519 after revenue credit from micronized graphite product

Operational Highlights

- Life of Project (LOP) is 19 years
- Life of Mine (LOM) is 15 years
- LOM average annual plant feed of 159,967 tonnes
- LOM average annual CSPG product 7,435 tonnes
- LOM average annual micronized graphite product 8,421 tonnes
- LOM average strip ratio of 3.7:1

Mineral Resource Estimate – Measured and Indicated

Property	Classification of Mineral Resource	Tonnes (Mt)	Grade C (%)
Kringel	Measured	0.96	9.21
	Indicated	1.65	9.09
	Sub-total Measured + Indicated	2.61	9.13
Gropabo	Indicated	2.33	7.72
Mattsmyra		5.83	7.14
Total	Measured + Indicated	10.77	7.75

Mineral Resource Estimate – Inferred

Property	Classification of Mineral Resource	Tonnes (Mt)	Grade C (%)
Kringel	Inferred	0.39	8.72
Gropabo		0.61	8.07
Mattsmyra		1.51	8.06
Total	Inferred	2.51	8.16

Source: ReedLeyton 2021

Notes:

- Inconsistencies in totals are due to rounding;
- 4% Cg mill cut-off grade applied for reporting purposes constrained within the MPlan 2021 pitshell;
- Reported according to CIM Definition Standards 2011;
- Reported according to CIM Mineral Exploration Best Practice Guidelines (Nov 2018);
- No geological losses applied;
- Default Density of 2.7 t/m³ applied to in situ, then Density of 2.82 t/m³ applied to Type A Graphite and Density of 2.86 t/m³ applied to Type B Graphite for Gropabo and Mattsmyra; and Default Density for Kringel remained at 2.7 t/m³;
- The previous Mineral Resource Estimates for the Project were developed without the constraint of an applied mine plan and open-pit shell. In the light of more rigorous compliance requirements, the Mineral Resources were reported by ReedLeyton within the constraints of the PEA mine plan as a means of demonstrating “reasonable prospects for economic extraction” as required by numerous international reporting codes. No new exploration data was included in the reporting process;
- Effective date of Mineral Resource Estimate is June 9, 2021; and
- Mineral resources are not mineral reserves and do not have demonstrated economic viability;

The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized.

On June 21, 2021, preliminary LCA results were announced, subsequently confirmed in the final report, showing that the production of 1 tonne of natural graphite anode material (coated spherical purified graphite (“CSPG”) from natural graphite extracted at the Woxna Graphite mine is forecast to have an impact of 1.8 tonnes CO₂ eq. Minviro applied the same methodology in the report to evaluate current Chinese natural and synthetic graphite anode material, with Woxna CSPG demonstrating an 85% to 90% lower impact than the current market dominant Chinese alternatives. A significant factor influencing the dramatically reduced carbon footprint for Woxna Graphite is the access to hydropower as the main electricity source.

On October 6, 2021, the signing of a non-binding Heads of Agreement (the “MOU”) between the Company’s 100% owned Swedish subsidiary Woxna Graphite AB (“WGAB”) and Sydney, Australia, based Sicona Battery Technologies Pty Ltd (“Sicona”) was announced. The Heads of Agreement 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. 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 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 WGAB 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;
- 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 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. 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 WGAB nor Sicona are under any obligation to enter into, or continue negotiations regarding, the Definitive Joint Venture Agreement. No binding agreement will exist between WGAB 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 Company is working with preferred equipment suppliers to perform bulk trials which will produce material that can be further refined by Sicona. These materials will be tested and sent for customer trials as a basis for moving the anode project to the next phase.

In February 2022 (see [news release dated February 11, 2022](#)) the Company announced the initiation of an internal review focused on the potential to restart production at the Woxna graphite mine. The internal review was triggered by a strong development in European graphite pricing, signs of strong graphite demand and continuing supply chain disruptions.

Norra Karr Heavy Rare Earth Elements Project

Norra Karr is highly significant within Europe and can deliver a secure long-term source of rare earth elements ("REE"), zirconium, hafnium and niobium to European renewable energy and electric vehicle industries. The Norra Karr REE deposit was acquired by the Company and drill tested in 2009. Following thick intersections of mineralized rock, the project progressed quickly through drill out, metallurgical testing, resource calculation, PEA, environmental and social studies, and Mining Lease application, culminating in a Pre-Feasibility Study ("PFS") completed in 2015.

In August 2020 the Company commissioned SRK Consulting (UK) Limited ("SRK") to produce an updated PEA study to propose a new design of the Norra Karr project with the objective to maximize resource utilization and minimize potential environmental footprint.

On July 22, 2021, the Company announced PEA results for Norra Karr, the full details subsequently included in the technical report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KARR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021, available on Leading Edge's website www.leadingedgematerials.com and under its SEDAR profile www.sedar.ca. The main results are the following where all figures are US dollars unless otherwise specified;

Main PEA Highlights (In comparison to the 2015 PFS)

- Significant increase in resource utilization by proposing recovery of nepheline syenite (NS) industrial mineral, zirconium oxide (Zr) and niobium oxide (Nb) products in addition to the rare earth oxide ("REO") products. In the PEA, more than 50% of total mined material is planned to be sold as products compared with previously less than 1% in the 2015 PFS. The PEA also identifies future opportunities to valorize the residual mined material which could potentially result in all mineralized material mined to be treated as potential commercial products.
- Introducing a revised Project flowsheet to minimize the environmental footprint at the Norra Karr site:
 - The Norra Karr site will only include mining and comminution methods consisting of crushing, milling and magnetic separation, eliminating all chemical processing from Norra Karr and associated waste vs the 2015 PFS study. In the PEA following physical separation resulting material streams either are shipped as products or as concentrates for further processing at other locations and a single waste stream to be stored at the Norra Karr site.
 - The rare earth, zirconium and niobium bearing concentrate will be transported to a dedicated off-site location for chemical processing and further recovery.
- The combination of the above, results in a single waste stream at the Norra Karr site consisting of the mineral aegirine which can be dry stacked in a lined impoundment together with waste rock from mining, eliminating the need for a wet tailings storage facility. This new design substantially reduces land area usage of the Project by approximately 80% (see Figure 1) and results in no chemical process tailing dams being required at Norra Karr. These changes considerably reduce the environment risk profile of the Project at Norra Karr.
- In addition, the removal of chemical processing and wet tailings at Norra Karr delivers an overall predicted 51% reduction in water requirements over the life of mine vs the 2015 PFS study. Use of mine dewatering for processing can reduce additional water requirements by almost 100% and the elimination of discharge requirements to local water bodies compared with the 2015 PFS design.
- The PEA introduces the design of an off-site chemical recovery plant located close to reagent supplies within an existing brownfield development area where mixed REO (MREO), Zr and Nb products are planned to be recovered. Residual process waste at the off-site facility consists of neutralized leach residue and gypsum disposed of in geomembrane lined dry stack impoundments. The Report identifies the future potential to further process the gypsum waste into a gypsum product for construction material markets.

Project Financial Highlights

- Pre- and Post-tax Net Present Value (NPV) of \$1,026M and \$762M using a 10% discount rate
- Pre- and Post-tax Internal Rate of Return (IRR) of 30.8% and 26.3%
- Accumulated LoM project revenues of \$9,962M
- Average annual EBITDA of \$206M
- Initial Capital Expenditures (CAPEX) of \$487M
- Pre-tax Payback Period from first production of 5.1 years
- Life of mine average gross basket price per kg of separated mixed REO product at \$53
- Operating cost per kg of separated mixed REO product at \$33 including toll separation charges
- By-product revenue per kg of separated mixed REO product \$19
- Operating cost per kg of separated mixed REO product including toll separation charges and after by-product credit at \$14.57.

Operational Highlights

- Life of Mine (LOM) is 26 years
- LOM average annual
 - Mining rate of 1,150,000 tonnes
 - Strip ratio of 0.32
 - TREO 5,341 tonnes
 - Main magnet rare earth oxides ("MagREO") (Nd, Pr, Dy, Tb) 1,005 tonnes
 - Dy₂O₃: 248 tonnes
 - Tb₂O₃: 36 tonnes
 - Nd₂O₃: 578 tonnes
 - Pr₂O₃: 143 tonnes
 - Nepheline Syenite by-product 732,885 tonnes
 - Zirconium dioxide by-product 10,200 tonnes
 - Niobium oxide by-product 525 tonnes

The Norra Karr deposit average concentration of uranium and thorium based on 9987 samples are extremely low (U 11.4 ppm and Th 10.9 ppm), especially compared with other REE deposits. The various material streams from the new design of the Project have not been tested for radionuclide content. However previous testwork, on both material and waste streams conclude that amounts of uranium and thorium, activity concentrations and indexes would likely fall below thresholds of radioactivity as per the definition of a radioactive substance by the International Atomic Energy Agency (IAEA) and EU guidelines (ANSTO, 2014).

SRK conducted a hazardous waste assessment through HazWasteOnline™ as part of the PEA to determine whether the waste materials contain any hazardous properties. The assessment uses the multi-element assays for the composites and average assays per material type for the 65 waste rock samples plus calculated weighted averages. Based on the project geochemistry the waste rock is classified as non-hazardous, non-inert by the Swedish Waste Ordinance (SFS 2020:614).

Norra Karr Mineral Resource Statement (SRK, 18 August 2021)*

Mineral Resource Classification	Tonnes (Mt)	TREO (%)	ZrO ₂ (%)	Nb ₂ O ₅ (%)	Nepheline Syenite (%)
Inferred	110	0.5	1.7	0.05	65

*Notes:

1. Effective date 18 August 2021.
2. Qualified Person Mr Martin Pittuck MSc C.Eng
3. Mineral Resources are not Mineral Reserves until they have Indicated, or Measured confidence and they have modifying factors applied and they have demonstrated economic viability based on a Feasibility Study or Prefeasibility Study.
4. There is no guarantee that Inferred Mineral Resources will convert to a higher confidence category after future work is conducted.
5. The Mineral Resources reported have been constrained using an open pit shell assuming the deposit will be mined using open pit bulk mining methods and above a cut-off grade of USD150/t, including a 30% premium on projected commodity prices and unconstrained by commodity production rates and the 260m highway buffer zone.

6. The Mineral Resources reported represent estimated contained metal in the ground and has not been adjusted for metallurgical recovery.
7. Total Rare Earth Oxides (TREO) includes: La₂O₃, Ce₂O₃, Pr₂O₃, Nd₂O₃, Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₂O₃, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃, Y₂O₃.
8. Heavy Rare Earth Oxides (HREO) include: Eu₂O₃, Gd₂O₃, Tb₂O₃, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃, Y₂O₃
9. HREO is 52% of TREO

Norra Karr Rare Earth Element Distribution

Light REO proportion of Total REO					Heavy REO proportion of Total REO									
La ₂ O ₃	Ce ₂ O ₃	Pr ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Tb ₂ O ₃	Dy ₂ O ₃	Ho ₂ O ₃	Er ₂ O ₃	Tm ₂ O ₃	Yb ₂ O ₃	Lu ₂ O ₃	Y ₂ O ₃
0.100	0.210	0.030	0.110	0.030	0.004	0.030	0.007	0.050	0.010	0.034	0.005	0.033	0.005	0.340
0.48					0.52									

The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized. The rationale for re-evaluation of the Project at the PEA level is justified for the following reasons; Recognition of potentially economic commodities in the mineralization not evaluated in the 2015 PFS, namely nepheline syenite, niobium and zircon, recognition of the need to reduce the project footprint and assess alternatives to a large tailing's facility at the mine site, and the need to minimize waste on the project and have greater utilization of the extracted materials. The Company does not expect the mineral resource estimates contained in the PEA to be materially affected by metallurgical, environmental, permitting, legal, taxation, socio-economic, political, and marketing or other relevant issues.

A 25-year Mining Lease (exploitation concession) was granted to the Company's Swedish subsidiary Tasman Metals AB, now renamed GREENNA Mineral AB, covering Norra Karr in 2013. In 2016, following an appeal to the Supreme Administrative Court in Sweden regarding the decision-making process of the Bergsstaten under the Minerals Act, the Norra Karr Mining Lease reverted from Granted to Application status. On May 5, 2021, Bergsstaten rejected the mining lease application, and the Company has subsequently appealed this decision to the Government of Sweden.

In June 2020, the Company received confirmation that the exploration license underlying the mining lease application received an extension with the Bergsstaten to August 31, 2024. Subsequently the Swedish parliament passed legislation to mitigate the impacts of COVID-19 by giving exploration companies an additional year to carry out their work which extends the Norra Karr exploration license to August 31, 2025. The extension of the exploration license was appealed, and the administrative court of Lulea rejected the appeal earlier this year, upon which the case has been appealed to the next instance which is pending decision to grant leave of appeal. The extension of the exploration license remains in force until a final ruling in the case has been made and remains in force until a final ruling has been made on the mining lease application. The Company will diligently work towards challenging this appeal which the Company has successfully done in the past to ensure security over the Norra Karr heavy rare earth element project.

Most importantly, the Company is working with environmental consultants and lawyers towards using the redesigned scope of the project from the PEA to form the basis for an amended or new mining lease application.

Bergby Lithium Project

On April 29, 2021 the company completed the sale to United Lithium Corp. (ULTH) of 100% of the issued and outstanding share capital of Bergby Lithium AB. In consideration for the shares of Bergby, the Company's wholly owned subsidiary, GREENNA Mineral AB as the owner of the Bergby shares, received from ULTH:

- CAD 250,000 in cash;
- 1,031,864 common shares in the capital of ULTH.
- 400,000 common share purchase warrants, with each Warrant entitling Tasman Metals to acquire, for a period of 36 months from the closing date of the Transaction, one common share in the capital of ULTH. at an exercise price equal to approximately CAD 0.485; and
- a 2% net smelter returns royalty on the Project, which is subject to a buyback right in favour of ULTH, exercisable for CAD 1,000,000.

The ULTH Shares are escrowed and will be released over a 20-month period, as at January 26, 2022, 412,745 shares have been released. ULTH also paid an additional CAD 250,000 in cash on October 21st, 2021.

Bihor Sud Cobalt Nickel Project

In 2018 Leading Edge Materials initiated an Exploration Alliance (the "Exploration Alliance") in Romania focused on the discovery and development of lithium-ion battery raw materials. The Exploration Alliance has principally been directed towards cobalt mineralization within the Upper Cretaceous Carpathian magmatic belt of the Balkan region, with an eye to identifying other opportunities. The Carpathian is a well mineralized intrusive arc that extends from Western Turkey to Hungary, forming the western end of the Tethyan Metallogenic Belt.

Following technical and commercial due diligence, Leading Edge Materials established a local branch company ("LEM Romania") of which it is the majority shareholder with the right to earn a 90% interest. During 2018 and early 2019, LEM Romania completed various prospecting, sampling and geological activity across an area of 25.5 sq km (2,550 ha) pertaining to the Bihor Sud Prospecting Permit in central western Romania. On the basis of positive results, in October 2019 LEM Romania elected to submit an Exploration License application to the permitting authority Agenția Națională Pentru Resurse Minerale ("NAMR") for the Bihor Sud area in a competitive tender process. The LEM Romania tender document was declared as compliant by NAMR. The Company was notified that one other application (submitted by Romanian private company Global Centurions SRL) was received under the competitive tender process. The tender is adjudicated based on technical and financial merit, with substantial credit given to the work completed under the prior Prospecting Permit.

During January 2020 Leading Edge Materials was advised that Global Centurions SRL lodged an appeal to the Bucharest Court of Appeal against NAMR. The appeal seeks to cancel the outcome of the tender process for the Bihor Sud Exploration License before a winner is declared. Adjudication of the tender has been suspended until the appeal by the Second Bid Party has been definitively resolved. The Bucharest Court of Appeal has published a ruling dismissing the appeal against NAMR by the competing bidder for the Bihor Sud Exploration license in Romania as groundless. With the ruling having become final, the adjudication process of the competing bids for the Bihor Sud Exploration license has been reinstated.

Qualified Person

The scientific, technical and economic information related to the Norra Karr project has been reviewed and approved by Dr. Rob Bowell of SRK Consulting (UK) Ltd, a chartered chemist of the Royal Society of Chemistry, a chartered geologist of the Geological Society of London, and a Fellow of the Institute of Mining, Metallurgy and Materials, who is an independent Qualified Person under the terms of NI 43-101 for REE deposits.

The scientific, technical and economic information related to the Woxna Graphite project 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.

Financial Information

The report for three months ending April 30, 2022, is expected to be published on or about June 22, 2022.

Selected Financial Data

The following selected financial information is derived from the unaudited condensed consolidated interim financial statements of the Company prepared in accordance with IFRS.

	Fiscal 2022	Fiscal 2021				Fiscal 2020			
Three Months Ended	January 31, 2022 \$	October 31, 2021 \$	July 31, 2021 \$	April 30, 2021 \$	January 31, 2021 \$	October 31, 2020 \$	July 31, 2020 \$	April 30, 2020 \$	January 31, 2020 \$
Operations									
Expenses	(1,874,407)	(460,907)	(600,531)	(483,495)	(664,674)	(882,556)	(420,959)	(337,609)	(375,930)
Other items	(219,942)	(94,018)	(477,057)	1,573,567	(3,603)	327,987	(21,567)	20,187	(31,374)
Comprehensive profit/(loss)	(2,094,349)	(554,925)	(1,077,588)	1,090,072	(668,277)	(554,569)	(442,526)	(317,422)	(407,304)
Basic Profit/(loss) per share	(0.01)	(0.01)	(0.01)	0.01	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Diluted profit/(loss) per share	(0.01)	(0.01)	(0.01)	0.01	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Financial Position									
Working capital	3,236,870	2,350,166	2,803,903	3,935,156	2,598,191	3,277,010	3,354,422	499,883	711,727
Total assets	30,597,341	28,756,406	28,455,148	29,133,933	28,759,753	27,218,052	27,832,104	24,722,718	24,803,562
Total non-current liabilities	(10,812,012)	(9,946,686)	(9,054,376)	(8,620,700)	(9,154,787)	(7,053,874)	(7,486,123)	(7,452,242)	(7,154,761)

Results of Operations

Three Months Ended January 31, 2022 Compared to Three Months Ended October 31, 2021

During the three months ended January 31, 2022 ("Q1 2022") the Company reported a net loss of \$2,094,349 compared to a reported net loss of \$554,925 for the three months ended October 31, 2021 ("Q4 2021"), an increase in loss of \$1,539,424, the increase in loss is mainly due to \$1,421,437 of share-based compensation related to granting of stock options under the Company's stock option plan during Q1 2022, and market to market loss of \$219,208 booked in Q1 2022 compared to a mark to market gain of \$122,484 booked in Q4 2021.

Three Months Ended January 31, 2022 Compared to Three Months Ended January 31, 2021

During the three months ended January 31, 2022 ("2022 period") the Company reported a net loss of \$2,094,349 compared to a net loss of \$668,278 for the three months ended January 31, 2021 ("2021 period"), an increase in loss of \$1,426,071, the increase in loss is mainly due to \$1,421,437 of share-based compensation related to granting of stock options under the Company's stock option plan during the 2022 period.

Specific expenses of note during three months ended January 31, 2022 are as follows:

- (i) incurred \$94,099 (2021 - \$109,664) for directors and officer's compensation.
- (ii) incurred \$35,151 (2021 - \$26,635) for regulatory fees with respect to ongoing fees for the Company's listing of its common shares on the Nasdaq First North and TSXV exchanges.
- (iii) incurred a total of \$28,040 (2021 - \$103,619) for finance and audit out of which the Company incurred \$11,832 (2021 - \$7,880) for accounting services of SKS Business Services along with \$3,184 (2021 - \$12,304) for bookkeeping and accounting services for subsidiary companies provided by other independent accountants;
- (iv) incurred exploration and evaluation expenses of \$28,141 (2021 - \$202,700), decrease being attributable to PEA costs incurred in 2021;
- (v) incurred \$140,477 (2021 - \$125,837) for operations costs.

Interest income is primarily generated from cash held on deposit with the Bank of Montreal. During the three months ended January 31, 2022 the Company reported interest income of \$3,726 compared to \$5,423 during the three months' ended January 31, 2020.

During the three months ended January 31, 2022, the Company recorded a foreign exchange loss of \$6,154 due to changes in exchange rates, compared to a loss of \$10,632 during the three months ended January 31, 2021.

Financings

During the three months ended January 31, 2022, 200,000 options and 4,421,428 warrants were exercised for gross proceeds of \$45,000 and \$1,620,500 respectively.

3,200,000 share options were granted during three months ended January 31, 2022 at an exercise price of \$0.62.

During the year ended October 31, 2021, 493,109 options and 63,571 warrants were exercised for gross proceeds of \$95,348 and \$6,357 respectively.

Property, Plant and Equipment

	Vehicles \$	Equipment and Tools \$	Building \$	Manufacturing and Processing Facility \$	Mineral Property Acquisition and Development Costs \$	Total \$
Cost:						
Balance at October 31, 2020	16,094	287,018	344,139	7,567,878	8,123,928	16,339,057
Adjustment to site restoration	-	-	-	-	2,876,917	2,876,917
Balance at October 31, 2021	16,094	287,018	344,139	7,567,878	11,000,845	19,215,974
Adjustment to site restoration	-	-	-	-	892,124	892,124
Balance at January 31, 2022	<u>16,094</u>	<u>287,018</u>	<u>344,139</u>	<u>7,567,878</u>	<u>11,892,969</u>	<u>20,108,098</u>
Accumulated Depreciation:						
Balance at October 31, 2020	(2,606)	(261,717)	(115,515)	(3,910,218)	(5,000,000)	(9,290,056)
Depreciation	(1,071)	(2,011)	(30,623)	-	-	(33,705)
Balance at October 31, 2021	(3,677)	(263,728)	(146,138)	(3,910,218)	(5,000,000)	(9,323,761)
Depreciation	(208)	(391)	(5,953)	-	-	(6552)
Balance at January 31, 2022	<u>(3,885)</u>	<u>(264,119)</u>	<u>(152,091)</u>	<u>(3,910,218)</u>	<u>(5,000,000)</u>	<u>(9,330,313)</u>
Carrying Value:						
Balance - October 31, 2021	<u>12,417</u>	<u>23,290</u>	<u>198,001</u>	<u>3,657,660</u>	<u>6,000,845</u>	<u>9,892,213</u>
Balance at January 31, 2022	<u>12,209</u>	<u>22,899</u>	<u>192,048</u>	<u>3,657,660</u>	<u>6,892,969</u>	<u>10,777,785</u>

Exploration and Evaluation Assets

	Graphite concessions \$	Anode Project \$	Bergby \$	Norra Kärr \$	Total \$
Balance at October 31, 2020	14,787		425,551	15,892,517	16,332,855
Costs					
Geological	-	-	2,786	-	2,786
Permitting	-	-	10,227	25,006	35,233
Technical studies	-	-	-	270,830	270,830
Sale of property	-	-	(438,564)	-	(438,564)
	-	-	(425,551)	295,836	(129,715)
Balance at October 31, 2021	14,787	-	-	16,188,353	16,203,140
Costs					
Geological	-	-	-	8,435	8,435
Metallurgical	-	25,770	-	-	25,770
Permitting	-	-	-	58,176	58,176
Balance at January 31, 2022	14,787	25,770	-	16,254,964	16,295,521

Financial Condition / Capital Resources

During the three months ended January 31, 2022, the Company recorded a net loss of \$2,094,349 and, as of January 31, 2022 the Company had an accumulated deficit of \$43,198,619 and working capital of \$3,236,870. The Company is maintaining its Woxna Graphite Mine on a “production-ready” basis to minimize costs and is conducting ongoing research and development to produce higher value specialty products. The Company is also evaluating a potential restart of production at the Woxna Graphite Mine. The Company anticipates that it has sufficient funding to meet anticipated levels of corporate administration and overheads for the ensuing twelve months however, it will need additional capital to provide working capital and recommence operations at the Woxna Graphite Mine and/or establish a production facility for the Anode Project, to fund future development of the Norra Karr Property and complete the tendering process and, if successful, exploration activities in Romania. There is no assurance such additional capital will be available to the Company on acceptable terms or at all. In the longer term the recoverability of the carrying value of the Company’s long-lived assets is dependent upon the Company’s ability to preserve its interest in the underlying mineral property interests, the discovery of economically recoverable reserves, the achievement of profitable operations and the ability of the Company to obtain financing to support its ongoing exploration programs and mining operations. See also “COVID-19”.

Off-Balance Sheet Arrangements

The Company has no off-balance sheet arrangements.

Proposed Transactions

The company has no proposed transactions.

Critical Accounting Estimates

The preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenditures during the reporting period. Examples of significant estimates made by management include estimating the fair values of financial instruments, valuation allowances for deferred income tax assets and assumptions used for share-based compensation. Actual results may differ from those estimates.

A detailed summary of all the Company's critical accounting estimates is included in Note 3 to the October 31, 2021 audited annual consolidated financial statements.

Changes in Accounting Policies

There is no change in accounting policy during the year ended October 31, 2021.

A detailed summary of all the Company's significant accounting policies and accounting standards and interpretations issued but not yet effective, is included in Note 3 to the October 31, 2021 audited annual consolidated financial statements.

Related Party Transactions and Balances

Key management personnel include those persons having authority and responsibility for planning, directing and controlling the activities of the Company as a whole. The Company has determined that key management personnel consist of members of the Company's current and former Board of Directors and its executive officers.

- (a) During the three months ended January 31, 2022 and 2021 the following compensation was incurred:

	2022 \$	2021 \$
Mr. Filip Kozlowski, CEO and former director ⁽¹⁾	69,168	79,664
Mr. Nick DeMare, former CFO and Corporate Secretary ⁽²⁾	-	7,500
Mr. Lars-Eric Johansson, Chairman and director ⁽¹⁾	7,500	7,500
Mr. Eric Krafft, director ⁽¹⁾	7,500	7,500
Mr. Daniel Major, director ⁽¹⁾	7,500	7,500
Mr. Sanjay Swarup, CFO ⁽³⁾	7,998	-
	<u>99,666</u>	<u>109,664</u>

(1) Lars-Eric Johansson, Daniel Major and Eric Krafft were appointed as new Directors on May 4, 2020. Concurrently, a change in senior management was announced with the appointment of Mr. Filip Kozlowski as Chief Executive Officer ("CEO") who had resigned as a Director on the same date.

(2) Mr. DeMare, the Company's ex CFO, was appointed as Corporate Secretary on April 30, 2018.

(3) Mr. Sanjay Swarup of SKS Business Services has been appointed as CFO from March 1, 2021.

- (b) During the three months ended January 31, 2022, the Company incurred \$11,832 (2021 - \$7,880) for accounting services of SKS Business Services.

Outstanding Share Data

The Company's authorized share capital is unlimited common shares without par value. As at March 24, 2022, there were 151,645,499 issued and outstanding common shares, 49,079,286 warrants outstanding with exercise prices ranging from \$0.10 to \$0.20 per share and 8,470,000 share options outstanding with exercise prices ranging from \$0.155 to \$0.64 per share.