

Leading Edge Materials Commences Preliminary Economic Assessment Study on the Norra Karr Ree-Project

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VANCOUVER, Aug. 27, 2020 - [Leading Edge Materials Corp.](#) ("Leading Edge Materials" or the "Company") (TSXV: LEM) (Nasdaq First North: LEMSE) (OTCQB: LEMIF) has commissioned SRK Consulting (UK) Limited ("SRK") to produce a Preliminary Economic Assessment study (the "PEA") on the Norra Karr heavy rare earth element project (the "Project") to include the additional potential of by-product revenues and associated reduced environmental footprint.

In 2015 a Pre-Feasibility Study (the "PFS") was completed on the Project which only presented rare earth elements ("REE") as an economic product¹. However, a range of opportunities were identified to convert much of the discarded mined materials into products for sale, with the advantage of also lowering the environmental footprint of the Project.

The Norra Karr deposit is a nepheline syenite intrusion and in addition to REE is also enriched in zirconium, hafnium and niobium. The mineral eudialyte is the principal host for all these metals. Swedish mining company Boliden AB held Norra Karr the Project in the 1970s and 80s with a view to produce nepheline, feldspar and zirconium. In contrast, in the 2015 PFS, REE was the only material extracted as a product with the rest of the mined material ending up as waste.

Leading Edge Materials commissioned an internal review report from SRK (the "SRK Report") to prepare a gap analysis and initial assessment of the merit and benefits to the Project to also produce a by-product of nepheline syenite which is an industrial mineral used in the ceramics, glass and functional filler markets. The final report prepared by SRK confirms that a potential nepheline syenite product exists at Norra Karr. Based on metallurgical testwork included in the PFS and subsequent testwork, the SRK Report concludes that conservatively half the nepheline syenite could potentially comprise a saleable product. Importantly, the SRK Report identifies that by doing so may be able to reduce at least 33% of the total overall waste material for the Project which in turn may possibly greatly reduce capital and operating costs associated with waste management for the Project.

Encouraged by the findings in the SRK Report, Leading Edge Materials has commissioned SRK to produce a Preliminary Economic Assessment study for the Project. Main objectives of the PEA are to include a nepheline syenite product in the mineral resource, review advancements in processing alternatives to potentially extract more valuable materials such as zirconium, hafnium and niobium in addition to a potential improve recovery of REE, and lastly to undertake a trade-off study between on- and off-site processing. The ambition with these main objectives is to maximize resource efficiency and minimize environmental footprint of the Project. The latter demonstrated by the below simplified and illustrative table as provided in the SRK Report.

¹ See report "Prefeasibility Study – NI 43-101 – Technical report for the Norra Kärr Rare Earth Element Deposit" dated 13th January 2015 available at www.sedar.ca

Table: Alternative tailings storage requirements

Processing alternative	Nepheline feldspar	Magnetic concentrate	Solid waste remaining on site		
			[% total mineralized material]		
			Waste A	Waste B	Waste C
			Nepheline feldspar	Leach residue	Neutralized re
Option 1 [as previous study]	All remains on site	Leaching on site	65%	25%	7%
Option 2		Shipped off site	65%	-	-
Option 3	Assume half sold off site	Leaching on site	33%	25%	7%
Option 4		Shipped off site	33%	-	-

Filip Kozlowski, CEO states "The potential for by-product revenues and reduced environmental footprint for the Norra Karr project was already identified in the 2015 Pre-Feasibility Study. In this Preliminary Economic Assessment we now have the opportunity to incorporate subsequent test-work and process advancements into a new improved design of the project and taking a holistic view on what is sustainable both economically and environmentally. Norra Karr is one of the most significant heavy rare earth projects globally and is unusually enriched in some of the materials critical for the production of permanent magnets, such as dysprosium and terbium. Importantly, compared with other REE deposits, Norra Karr demonstrates some of the lowest grades of the radioactive elements uranium and thorium which normally is a problem during processing. As western governments are increasingly taking action to reduce dependency on China for the supply of permanent magnets Norra Karr provides a unique opportunity for the European Union to source these critical materials within its borders under world leading sustainability standards. It is our responsibility to develop the Norra Karr project together with all stakeholders in such a way that these ambitions and goals can be realized for the benefit of European industry."

Norra Karr is one of the world's principal heavy REE resources, with an unusual enrichment in the most critical REEs that are essential for high strength permanent magnets (dysprosium (Dy), terbium (Tb), neodymium (Nd) and praseodymium (Pr). Permanent magnets are directly linked and critical to the energy transition due to their applications in electric motors and wind power. Located in southern Sweden approximately 300km SW of Stockholm close to extensive existing infrastructure, Norra Karr is the only heavy REE deposit of note within the European Union (see ERECON project, 2015) and provides the EU with the long-term opportunity to reduce reliance on imported REE.

Mr. Mark Saxon, B.Sc. Hons (Geology), a Fellow of the Australasian Institute of Mining and Metallurgy, technical advisor to the Company and a qualified person under National Instrument 43-101, has reviewed and approved of the scientific and technical disclosure in this news release.

On behalf of the Board of Directors,
[Leading Edge Materials Corp.](#)

Filip Kozlowski, CEO

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 lithium-ion batteries and permanent magnets for electric motors and wind power that underpin the sustainability transition of society. The portfolio of projects includes the 100% owned Woxna

Graphite mine (Sweden), Norra Karr HREE project (Sweden), Bergby lithium project (Sweden) and the 51% owned Bihor Sud Nickel Cobalt exploration alliance (Romania).

Additional Information

Relevant supporting documentation and the Company's consolidated financial statements and related management's discussion and analysis are available on the Company's website at www.leadingedgematerials.com or under its profile on SEDAR at www.sedar.com

The information was submitted for publication through the agency of the contact person set out above, on August 27, 2020, at 4:00 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.

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