Significant Metallurgical Advancement: Moving Toward a New Industry Standard for LiFePO4 Battery Feedstock

Montréal, September 30, 2024 – St-Georges Eco-Mining Corp. (CSE: SX) (OTCQB: SXOOF) (FSE: 85G1), is pleased to disclose that its wholly owned subsidiary, St-Georges Metallurgy Corp., one of the leaders in mineral processing technologies, has announced a significant advancement in its proprietary lithium processing metallurgical process. The team and its partners now aim to demonstrate the potential of producing LiFePO4 battery feedstock with what is potentially the industry's simplest process flow chart.

St-Georges' patent-pending lithium processing technology produces lithium nitrates from different chemistries of spodumene concentrates and DSO sources. The team has designed a method to move from this stage to LiFePO4 in one stage using phosphoric acid that is not exclusively of battery grade level.

This potential one-step process to produce LiFePO4 without having to produce lithium carbonate or lithium hydroxide first would have an extremely limited footprint and minimal costs compared to what is perceived as the competing industrial process.

Collaboration Agreement

On September 26, management entered into an agreement to collaborate with a phosphoric acid provider and an equipment manufacturer to produce LiFePo4 battery feedstock using the financial resources provided by LiOH Corp. and with a small portion of the significant financial resources from grant money provided by governmental entities that require not to be disclosed at this stage.

The intent is to produce LiFePO4 crystals more cost-effectively and leverage the SX proprietary technology with a better link to the world's future battery material needs. This approach reduces the learning curve and allows faster optimization.

The costs of the showcase testing will be assumed by LiOH Corp, the equipment manufacturer, and a phosphoric acid stakeholder and subsidized by the governmental grant money. The financial resources provided by LiOH Corp. stem from its showcase plant option agreement.

A New Era of Efficiency and Sustainability

After years of rigorous R&D and collaboration with industry partners, St-Georges Metallurgy has developed a novel processing technology that enhances mineral extraction efficiency. This technological leap significantly reduces capital expenditure (Capex) and operational expenditure (Opex) for industrial-scale operations, positioning SXM and LiOH Corp as cost leaders in the field.

This new process makes lithium extraction faster, cleaner, and more scalable, addressing the growing global demand for high-quality lithium nitrates, lithium hydroxides, and LiFePO4 feedstock. Moreover, the process minimizes environmental impact, significantly reducing the carbon footprint and lowering hazardous waste output to zero.

Key Benefits of the New Process

Reduced Costs: The target goal for Capex and Opex is a reduction by more than 70% for Capex and 50% for Opex compared to the most efficient competitors, mostly operating from mainland China and using modernized traditional methods; thus, this will improve profitability and feasibility for small- and large-scale operations.

Increased Recovery Rates: Mineral recovery rates for lithium from spodumene have reached in excess of 95% in previous tests, the results of which have been disclosed in previous years. This matches purity levels that are exceeding industry standards.

Environmental Leadership: A groundbreaking approach that cuts emissions with the recirculation of 92% of the nitric acid used and the recovery of the remaining nitric acid via the manufacturing of fertilizer feedstock that eliminates the need for tailings and mineral residue disposal. This reduces reliance on harmful chemicals, aligning with global ESG mandates.

Scalable Solution: From small-scale mining operations to large industrial processes, the new technology should be adaptable to diverse operational needs, ensuring flexibility and scalability. The potential to use lower-lithium-grade spodumene and lower-grade phosphoric acid in the process to produce LiFePO4 feedstock while keeping operational costs low should allow producers to continue to grow during periods in which the pricing of lithium-related battery material is very low.

"(…) *Today marks a transformative moment for us and potentially for the broader industry. This metallurgical breakthrough allows us to deliver premium quality LiFePO4 faster, cleaner, and with fewer production steps. Fewer steps lead to lowering costs of a critical element for the EV industry, and eliminating waste streams makes the process greener and also lowers the operating costs* (…) *we will not only be creating value for our shareholders in the future with this process but also contributing to the advancement of a whole range electric battery ecosystem impacting all its stakeholders, including the renewable energy operations that seek to reduce the costs of their battery banks and regulate the interaction with the electric legacy grid (...)."* **said Enrico Di Cesare, CEO of St-Georges Metallurgy.**

Industry Impact and Next Steps

The implications of this advancement extend beyond immediate cost benefits. With the increasing demand for low-cost lithium-based LiFePO4 across industries such as battery manufacturing and renewable energy like wind and solar, construction, electronics, etc., our partnership is firmly engaged on the path to becoming a strategic North American supplier to critical sectors, enhancing supply chain resilience and reducing dependency on overseas producers and legacy processing methods with larger carbon footprints.

In the coming months, the collaborative partners, including SXM, LiOH Corp, the equipment manufacturer, and the phosphoric acid provider, will focus on scaling up this breakthrough technology in the context of the showcase plant. LiOH Corp and the governmental contributors will shoulder all financial burdens.

Investor Outlook

This breakthrough positions St-Georges at the forefront of innovation in the small-cap resource sector. With improved margins and drastically reduced environmental impact, the Company is well-positioned to capture significant market share, driving long-term value for its investors.

ON BEHALF OF THE BOARD OF DIRECTORS

"Neha Tally"
NEHA TALLY
Corporate Secretary of St-Georges Eco-Mining Corp.

About St-Georges Eco-Mining Corp.

St-Georges develops new technologies to solve some of the most common environmental problems in the mining sector, including maximizing metal recovery and full-circle battery recycling. The Company explores for nickel & PGEs on the Manicouagan and Julie Critical Minerals Projects on Quebec's North Shore and has multiple exploration projects in Iceland, including the Thor Gold Project. Headquartered in Montreal, St-Georges' stock is listed on the CSE under the symbol SX and trades on the Frankfurt Stock Exchange under the symbol 85G1 and as SXOOF on the OTCQB Venture Market for early-stage and developing U.S. and international companies. Companies are current in their reporting and undergo an annual verification and management certification process. Investors can find Real-Time quotes and market information for the company on www.otcmarkets.com

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