



ELCORA ADVANCED MATERIALS CORP.

NEWS RELEASE

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Expands scope to include zinc-based cell technologies

HALIFAX, NOVA SCOTIA -- (Newsfile – October 28, 2021) ELCORA ADVANCED MATERIALS CORP. (TSX.V:ERA | Frankfurt:ELM | OTCQB – ECORF), (the "Company" or "Elcora"), is pleased to announce it has begun a search for an advanced zinc mining project to enhance both its mining and energy storage solutions adding additional markets beyond its graphite-based li-ion technologies.

Elcora's combination of mining experience and battery testing capabilities means that it is not limited to graphite, graphene and Li-ion battery applications. Many applications remain where Li-ion is not the ideal energy storage solution. Specifically, problems like thermal runaway and sensitivity to operating temperature have been mitigated but not eliminated in Li-ion cell architectures. Further, the cost and relative rarity of elements like cobalt (used in Li-ion cathodes) may represent constraints on long-term and widespread adoption. Li-ion battery chemistries therefore represent a compromise between power capabilities, energy density, safety, material cost and availability.

Because of this, Elcora is pleased to expand in scope to explore materials and applications where graphite-based li-ion batteries remain insufficient or unappealing. Zinc-based cell chemistries may hold the promise to resolve persistent problems associated with Li-ion batteries. To this end, Elcora is aggressively pursuing the acquisition of an advanced-stage zinc mining project.

Commented Troy Grant, CEO, "We have spent the last couple of years researching and developing through the help of Federal grants and strategic relationships, the processing methods and specifics for graphite anode powder and graphene conductivity ideally suited for energy markets. As part of our expanding goal to become a serious player in the energy space, we do not want to ignore the importance of zinc in energy storage. We want to ensure that Elcora is well-positioned to contribute to the development of increasingly relevant energy storage solutions and materials, beyond and in addition to graphite-based li-ion technologies."

Advantages of Zinc Storage Cells:

- Zinc-ion anodes are a drop-in replacement to Li-ion anodes with respect to purifying and manufacturing processes (a Zinc-ion battery is analogous to a Li-ion battery)
- The electrochemical performance of zinc is particularly well suited for storing power generated by wind and solar sources (e.g. voltage window of 2V for aqueous Zinc-ion vs. 1.2V for Li-ion)
- Literature shows rechargeable capacity retention of over 80% after 1,000 cycles
- Zinc batteries operate normally in “extreme” temperatures. Costs are saved without the need of complex thermal management systems
- Zinc batteries have much lower toxicity than lithium-ion batteries, and do not suffer from thermal runaway
- Recyclable and ‘refurbish able:’ In zinc batteries, materials are not permanently lost to parasitic chemical processes in Li-ion batteries
- For the reasons above, zinc batteries are ideal for microgrid and grid storage; an area where Li-ion struggles to meet performance, safety and longevity demands
- “The market price of zinc sits at about \$3,000USD a metric ton, versus US\$16,000 for lithium and more than US\$80,000 for cobalt”

About Elcora Advanced Materials Corp.

Elcora was founded in 2011 and has been structured to become a vertically integrated battery material company. Elcora can process, refine, and produce both graphite & graphene as well as other material and ore. As part of the vertical integration strategy Elcora has developed a cost-effective process to make high-quality graphite, graphite products and graphene that are commercially scalable. This combination means that Elcora has the tools and resources for graphite and graphene vertical integration.

For further information please visit the company's website at:

<http://www.elcoracorp.com>

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