NEO Battery Materials Provides Letter to Shareholders – 2024 Strategy & Outlook

written by Raj Shah | January 9, 2024
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NEO Battery Materials Ltd. (“**NEO**” or the “**Company**”), a low-cost silicon anode materials developer that enables longer-running, rapid-charging lithium-ion batteries, is pleased to provide a letter to shareholders to outline the Company’s silicon anode business strategy and outlook for fiscal year 2024.

Letter to NEO Battery Materials Shareholders
Dear NEO Battery Materials Shareholders,

This is Spencer Huh, Director, President, and Chief Executive Officer of NEO Battery Materials. Last year, we faced one of the most turbulent environments in recent history, as global interest rates reached new heights, geopolitical tensions led to climbing uncertainty, and investors’ risk aversion sentiment proliferated. Regardless of distressing macro factors, NEO Battery Materials has successfully advanced its proprietary silicon anode materials named NBMSiDE®. Through this letter, we aim to address the recent developments surrounding our Company and to illuminate our commercial strategy and outlook for the upcoming year.

In 2023, technological breakthroughs propelled growing NBMSiDE® demand and anticipation from global electric vehicle (EV) supply chain companies, and NEO’s battery engineering team has consistently achieved internal performance targets and milestones. Moreover, despite the recent period of substantial

illiquidity for small- and micro-capitalization companies, we have effectively secured new, long-term shareholders who have invested in the Company's technological and business developments. At this juncture, three years into our inception, NEO Battery Materials is at its best fundamental position in terms of product performance, engineering and management team, and business relationships.

In light of the Change of Business completion into a Technology issuer, we want to express our gratitude for your continued patience and support during this transitory period. As discussed, NEO's work and commitment to advancing NBMSiDE® silicon anode materials have continued, irrespective of the temporary trading halt. With the new R&D expansion facility at Gyeonggi Technopark, our team is motivated to deliver impactful innovations, establish milestone agreements, and create lasting shareholders' value.

2024 Strategy & Outlook: An Efficient Route-to-Commercialization
Over the forthcoming 12 months, the Company has configured the commercialization strategy to emphasize prudent operational execution, capital efficiency and conservation, and business risk mitigation: NEO Battery Materials will prioritize optimizing NBMSiDE® electrochemical performance and cost competitiveness to establish advanced commercial agreements (i.e., joint development agreement or collaboration agreement) with testing partners in the global EV battery supply chain.

With unanimous consensus, NEO's management, engineering team, and scientific advisors judge that this revised primary milestone and overarching strategy will pave a route-to-commercialization with lowered capital and sunk-cost requirements, reduced financial and operational risk, and a more efficient timeline. NBMSiDE® performance that fulfills testing

partners’ standards will generate long-term value creation. Further agreements/contracts in the battery supply chain will also serve as independent validation for NBMSiDE®, effectively reducing technology risk.

Our 2024 strategy will be executed through a 5-pillared approach. In no specific order, these 5 pillars will guide the overall direction and outlook of the Company and will act synergistically to create sustaining shareholders’ value.

Pillar 1: Fulfilling Growing Silicon Anode Need by Expanding Supply Chain Network

In 2023, NEO Battery Materials executed a record number of non-disclosure agreements (NDA) with global battery cell manufacturers, EV original equipment manufacturers (OEM), and chemical material companies. Technological breakthroughs primarily drove battery supply chain interest and demand for NEO’s silicon anode materials.

The need for silicon anodes in EV lithium-ion batteries is also escalating. The global EV adoption rate will depend on battery cost reductions and performance enhancements. Accordingly, EV OEMs are prioritizing EV price cuts by offering more low-cost, short-range lithium-iron-phosphate (LFP) cathode batteries in the place of high-cost, long-range nickel-manganese-cobalt (NMC) cathode batteries.

Silicon anode demand is becoming prevalent as it is the most promising and feasible material that can compensate for the capacity and range loss of LFP cathode batteries. Compared to current graphite anodes, silicon anodes can theoretically store 10 times more specific capacity with ultra-fast charging capabilities. However, silicon expands 300% in volume during charging/lithiation, and natural silicon will experience particle fracture, delamination, and thick solid electrolyte

interphase (SEI) growth, rendering the material obsolete in only 100 charging cycles. Current technologies that resolve silicon's volume expansion problem utilize energy-intensive manufacturing methods with high-cost inputs, limiting scalability and mass implementation due to cost constraints.

NEO Battery Materials has developed a proprietary, energy-efficient manufacturing process, enabling low-cost silicon anode production. Compared to competing silicon anodes, NEO realizes substantial cost reductions with increased specific capacity for longer driving ranges. Delivering battery cost reductions and performance improvements, the Company aims to supply NBMSiDE® to all EV lithium-ion batteries to accelerate global EV adoption efforts. To become one of the top 10 silicon anode producers, the Company will continue to secure new battery supply chain relationships to expand material evaluations and commercialization opportunities.

Pillar 2: Advancing Silicon Anode Evaluations with Battery Supply Chain Partners

NEO Battery Materials is currently engaged in various material evaluations at different stages – late, intermediate, and initial – with small-to-medium enterprises (SME) and global companies in the battery, EV, and electronics supply chain. These evaluations are systematically conducted wherein progressively performance-improved NBMSiDE® are delivered over multiple phases.

Specifically, late-stage evaluations emanate positive signals for NBMSiDE® validation, as NEO's engineering team has achieved successive performance targets and expectations. The Company will focus on further developing these late-stage relationships with downstream companies to convert them into advanced agreements that can be publicly disclosed. The new R&D expansion

facility will be critical in supporting this initiative, as increased manufacturing and testing capacities are necessary to optimize our silicon anode technology.

Along with downstream relationships, NEO will commit to expanding collaborations with SMEs and global chemical material companies in the upstream supply chain including horizontal partners. Reinforcing silicon input precursors, nanocoating materials, binders, and performance-enhancing processes will predictably improve NBMSiDE® cycle life, capacity, and mechanical durability.

Pillar 3: Silicon Anode Material Research & Development Direction

From past years to the present, NEO's research and development (R&D) focused on optimizing the electrochemical performance of a pure 100% silicon-based anode. Demonstrating the feasibility of a pure 100% NBMSiDE® anode without graphite for 300 charging cycles was essential in progressing to later-stage evaluations. Material stability, cycle life replicability, and other key performance indicators (KPI) at the 300 charging cycle level will heavily contribute to establishing the advanced agreements.

Silicon-Graphite Composite Anode, Full Cell Testing, Solid-State Batteries, and More

In the upcoming 2024 year, NEO will initiate testing with graphite anode materials to replicate actual lithium-ion battery anode compositions. As today's EV and electronics batteries employ silicon-graphite composite anodes, NBMSiDE® will be combined with graphite anode materials to target a formidable performance range of 1000+ charging cycles. Furthermore, the Company aims to conduct full cell testing with both NMC and LFP cathode batteries to reproduce fully representative lithium-ion battery operating conditions.

NEO Battery Materials has also been active in integrating NBMSiDE® materials for solid-state batteries (SSB). NEO is completing material evaluations with SSB companies to develop compatible product lines for sulfide-based and polymer-based SSBs. As announced, carbon nanotube (CNT) coatings and recycled silicon initiatives will be carried out sequentially with collaborating developers.

Initiative with NEO's Engineering Team and Scientific Advisors
To support research and development, management is emphasizing building a top-performing battery engineering team. Despite Dr. S. G. Kim's departure due to health reasons, Dr. J. H. Woo, Chief Science Officer, is proactively leading the engineering team and exploring innovative avenues for further product development. Dr. Woo has had direct experience in silicon anode manufacturing through nanocoating methods and has published literature with the founder of SilLion, a silicon anode battery startup acquired by Tesla. NEO strives to continually acquire high-value talents like Dr. Woo to strengthen the knowledge base and R&D productivity.

Lastly, with NEO's scientific advisors, the Company will pursue R&D collaborations with Canadian and South Korean research institutes and universities to expand the R&D depth and breadth of NBMSiDE®, to add new silicon anode materials to the existing product line, and to research complementary, value-enhancing battery materials. To fortify the intellectual property portfolio, patent and trade secret applications are also expected to increase in 2024.

Pillar 4: Mass Production Plans & Inclination Towards Canadian Operations
As discussed, for the best interest of the Company and our shareholders, we have judged that pursuing advanced commercial

agreements will create a capital-efficient and risk-mitigated route-to-commercialization. The following factors have also influenced the decision-making process.

Aggressive Canadian Government Effort to Fund EV-Related Projects

Over the past months, management held multiple discussions with Canadian governmental entities and politicians for North American operations. With Canada's mandate for 100% zero-emission vehicle sales by 2035, various policies, programs, and funding opportunities were presented to the Company for investment attraction and mass production initiation in Canada.

NEO Battery Materials prioritizes minimizing dilution and risk to shareholders during the commercialization process. Canada's aggressive support measures, such as non-dilutive funding for EV-related projects, interest-free or low-interest debt financing for real estate and capital expenditures, refundable investment tax credits (ITC) for clean technology manufacturing equipment, beneficial land lease rates, and newly established Crown funds like the Canada Innovation Corp., have prompted management and the engineering team to logically consider situating the first commercial plant in Canada.

Potential Strategic Investment Opportunities

NEO's emphasis on advanced commercial agreements also stems from the potential of receiving strategic investments. Observing the development of comparable peer companies, we have determined a promising likelihood of securing strategic investments based on or after the established agreements. NEO Battery Materials regards strategic investments by battery supply chain partners as value-creating capital that can translate into long-term commercial benefits.

We are currently balancing the scales and determining the most

advantageous location to initiate our commercial plant construction. Concurrently, as communicated, we will concentrate our focus on securing governmental funding opportunities and strategic investments to finance our route-to-commercialization in a less dilutive manner.

Pillar 5: Expanding Battery Technology Portfolio with Value-Added Projects

With the successful Change of Business completion, NEO Battery Materials is now granted the liberty to operate as an Industrial and Technology issuer. Accordingly, we will pursue value-added projects to create a comprehensive battery technology portfolio that complements our silicon anode initiative. Management is currently conducting late-stage discussions with Asian and European companies regarding collaborations on value-added project developments. Project details will be disclosed through news releases shortly.

I extend my sincere gratitude to our employees who have shown their unwavering resilience and responsibility, and I deeply appreciate our supply chain partners, shareholders, and all stakeholders for their continued trust and support. NEO Battery Materials is committed to further advancing our silicon anodes and battery materials to establish ourselves as a globally leading company that creates sustaining, changing, and innovating impacts.

Sincerely,
Spencer Huh
Director, President, and Chief Executive Officer

About NEO Battery Materials Ltd.

NEO Battery Materials is a Canadian battery materials technology company focused on developing silicon anode materials for lithium-ion batteries in electric vehicles, electronics, and

energy storage systems. With a patent-protected, low-cost manufacturing process, NEO Battery enables longer-running and ultra-fast charging batteries compared to existing state-of-the-art technologies. The Company aims to be a globally-leading producer of silicon anode materials for the electric vehicle and energy storage industries. For more information, please visit the Company's website at: https://www.neobatterymaterials.com/.

On Behalf of the Board of Directors
Spencer Huh
Director, President, and CEO
shuh@neobatterymaterials.com

For Investor Relations, PR & More Information:
Danny Huh
SVP, Strategy & Operations
dhuh@neobatterymaterials.com

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