



ASX ANNOUNCEMENT  
(ASX: NVX)

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## NOVONIX AND THE BATTERY REVOLUTION

**NOVONIX Limited (ASX: NVX)** (“NOVONIX” or “the Company”) is pleased to provide the market with a response to some of key the topics discussed in TESLA’s Battery Day event.

Today TESLA held its much anticipated Battery Day investor event and updated the world on progress in their battery technologies. The company touched on all aspects of cell manufacturing through to vehicle integration to outline a roadmap for an up-to 56% cost reduction in the final battery pack in a vehicle.

As expected, this event focused significantly on TESLA’s internal project to develop cell manufacturing technology, which has been rumored since the acquisitions of companies such as Maxwell Technologies and Hibar Systems. In addition, TESLA presented briefly on its advances in battery materials.

NOVONIX’s CEO Dr. Chris Burns, commented on the significance of the event and the importance for NOVONIX and the entire battery market:

“It was very exciting to listen to Elon and Drew discuss the advancements in TESLA’s battery program. Their approach to rethinking battery cell manufacturing exactly aligns with NOVONIX’s approach to rethinking battery materials manufacturing. Today’s battery chemistry has proven itself for vehicles and energy storage systems, it just needs to be more affordable. The cost of production of cells and materials has been stuck on existing technology and there is opportunity to disrupt these sectors through re-engineered solutions. NOVONIX’s **anode material processing technology** is one example of delivering lower cost, high performance graphite to support long cycle life applications, and **Dry Particle Microgranulation (DPMG)** is another as a process to eliminate waste water and use simpler metal inputs to reduce cathode manufacturing cost or improve yield in anode manufacturing. As highlighted in TESLA’s presentation, the existing manufacturing cost of cathode is about 35% of the cost of the material and is far too expensive and wasteful, which is something NOVONIX has been saying since beginning the discussion around our DPMG technology. TESLA has promised very aggressive targets for the reduction in manufacturing costs through processing, and it will be exciting to see how close to these targets they can achieve over the coming years and continue to be a part of this industry’s supply chain for the years to come.”

“TESLA briefly presented on the use of silicon as the anode material in cells. I believe they felt it important to touch on all aspects of the process from cell manufacturing, to anode and cathode materials, to pack assembly. The industry has known for more than a decade that silicon can store more lithium and can therefore support lower-cost-per-energy materials than graphite. However, it is well known that this comes with the downside of shortened cycle life. The swelling of the material causes it to break down during cycling and continually react with the electrolyte, which shortens the lifetime of the cell. Many companies have claimed to fix this problem but none have been able to demonstrate anywhere near the cycle life of graphite-based chemistries



(thousands of cycles). Given the emphasis by TESLA on the need for long life in vehicle and grid, as well as how important grid will be to the future, the benefits of attempting to switch to an unproven silicon chemistry for a modest 5% of their proposed 56% pack cost reduction seems far too high of a risk at this time. I think it is clear that graphite will remain a key part of battery chemistries for years to come.”

“TESLA’s presentation discussed a key issue around the cathode that NOVONIX has been highlighting over the past number of months; the manufacturing method is too complex, wasteful and costly. Our proprietary DPMG technology is a perfect example of how NOVONIX’s approach to re-engineering battery materials manufacturing processes will play a key role in the future growth of the battery industry. DPMG eliminates wastewater, does not require expensive sulfate inputs, is highly compatible to recycled materials and allows process control over the product for optimized material production at low cost. This type of simplified process reduces capital expenditures, lowers plant footprint, and decreases operating cost which all translate to a lower cost final product. As NOVONIX has continually asserted, it is clear that high nickel cathode materials will play a key role in the growth of the battery sector and lower cost, advanced manufacturing methods, such as DPMG, are well positioned to support the industry’s required growth and cost-efficiencies.”

The NOVONIX team and proprietary technologies complements the amazing work by TESLA and we look forward to continuing to participate in the advancement of the state of lithium-ion battery technology. NOVONIX continues to work on delivering lower cost materials to support million-mile (or more) vehicle battery and 20+ year grid storage technologies to decrease the total cost of ownership of batteries over their lifecycle.

## ABOUT NOVONIX

**NOVONIX LIMITED** (ASX: NVX) is an integrated developer and supplier of high-performance materials, equipment and services for the global lithium-ion battery industry with operations in the USA and Canada and sales in more than 14 countries.

NOVONIX’s mission is to support the global deployment of Lithium Ion Battery technologies for a cleaner energy future.

## FURTHER INFORMATION

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