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Novonix Ltd (NVX-NASDAQ)

Positive Takeaways Recent EV Sales Trends

Research Note

EV + hybrids 12.7% of Ford's '24 vehicle sales to-date vs 8.3% in same period of '23…

We view strong 2024 electric vehicle (EV) sales as positive for Novonix (NVX-NASDAQ). Last week, Ford Motor Company provided statistics on vehicle sales to-date in 2024. Through the end of May, Ford had sold 37,208 EVs, up 87.8% year-over-year compared to 19,809 units during the same period of 2023. Sales of hybrid vehicles reached 74,049 units compared to 49,061 in 2023. That represents a 50.9% increase. EV sales are still relatively small as a percentage of total sales, but based on the 2024 data are gaining share versus traditional ICE (internal combustion engine) vehicles. For example, EVs have thus far represented 4.2% of Ford's total vehicle sales in 2024 compared to 2.4% during the same period of 2023. EV and hybrids combined represented 12.7% of Ford's total vehicle sales in 2024 compared to 8.3% during the same period of 2023.

Ford Motor Company May 2024 U.S. Sales

	May			Year-to-date		
	2024	2023	% chg	2024	2023	% chg
Sales by Propolsion						
Electric vehicles	8,966	5,444	64.7%	37,208	19,809	87.8%
Hybrid vehicles	17,631	10,715	64.5%	74,049	49,061	50.9%
Internal combustion	163,417	154,774	5.6%	766,428	761,971	0.6%
Total	190,014	170,933	11.2%	877,685	830,841	5.6%

Source: Ford Motor Company

Similarly, the CEO of General Motors Company (GM) indicated that May 2024 was its best month ever for EV sales in North America, according to Investor's Business Daily, despite recent fluctuations reflecting, among other factors, Bolt. In July 2021, GM recalled certain 2017–2019 models of its Chevrolet Bolt EV. GM continues to reaffirm its stated "commitment to an all-electric future and meeting required fuel efficiency standards."

EVs and hybrids comprise a small but growing fraction of the total number of cars sold in the world. According to the International Energy Agency (IEA), EV "sales neared 14 million in 2023. The share of electric cars in total sales has increased from around 4% in 2020 to 18% in 2018." According to IEA data, the U.S. generally ranks among the largest markets in terms of new EV sales per annum.

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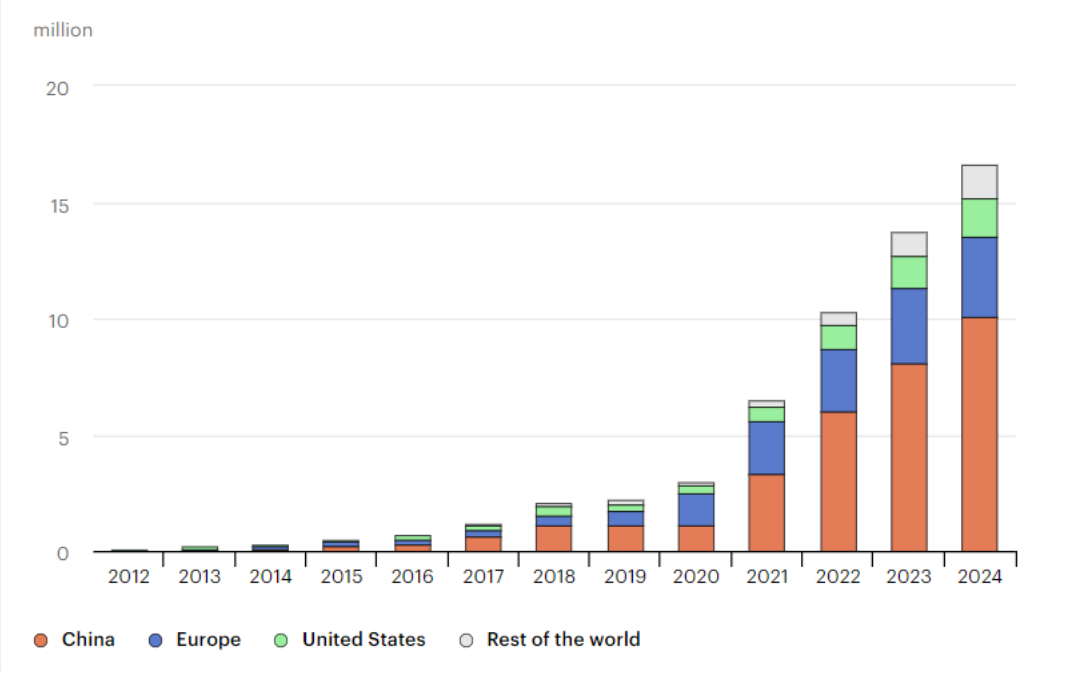
Electric car sales, 2012-2024E



Source: IEA 2024; Electric car sales, 2012-2024: IEA, License: CC BY 4.0

Numerous agreements to secure demand

Reflecting rising consumer adoption of electric vehicles (EVs) and installations of electric storage systems (ESS), among other factors, demand for lithium-ion batteries is expected to grow significantly. To benefit from the anticipated surge in battery sales to power a variety of products, including EVs, consumer electronics and ESS, among others, Novonix's strategy is to become a tier-one global supplier in the rapidly growing advanced materials market and lithium-ion battery space.

NVX has signed numerous agreements to secure demand for its advanced materials. For example, NVX recently signed a binding off-take agreement to supply high-performance synthetic graphite anode material to Panasonic Energy's North American operations. The materials will come from Novonix's Riverside facility, which is located in Chattanooga, Tennessee. Panasonic Energy has agreed to purchase at least 10,000 tonnes of anode material over the 2025-2028 period for use in its U.S. plants, subject to Novonix achieving certain milestones regarding final mass production qualification timelines prior to 4Q25.

Another recent agreement is with PowerCo SE, which is part of the Volkswagen Group and was formed for Volkswagen to bundle its global battery activities into one key operating group. PowerCo oversees Volkswagen's global factory operations, cell technology developments and vertical integration. PowerCo has identified three gigafactory locations with aggregate capacity of up to 200 GWh per annum. One is located in Salzgitter, Germany, which is where PowerCo is based. The other two are in Valencia, Spain and St. Thomas, Canada. The two have signed a non-exclusive Testing and Development Agreement (TDA) to develop, test and analyze synthetic graphite anode materials customized to meet PowerCo's requirements. If the results are successful, the two might then enter into a supply agreement for developed products. NVX has entered into similar agreements with others that have led to supply deals.

In addition, Novonix expects to deliver anode material to Kore Power from the Riverside plant. Per the terms of an agreement with LG Energy Solution (LGES), LGES will have the option to purchase up to 50,000 tons of artificial graphite anode material over a 10-year period once mass production commences. We view these and other agreements as significant positives for NVX and believe agreements with leading participants related to the battery cell space underscore the benefits of and validate Novonix's

strategy. We anticipate additional agreements in the near- to medium-term, as NVX continues its strategy to secure demand in advance of commercial production at the Riverside plant. Moreover, these agreements fulfill an important component of the company's 2024 four key objectives:

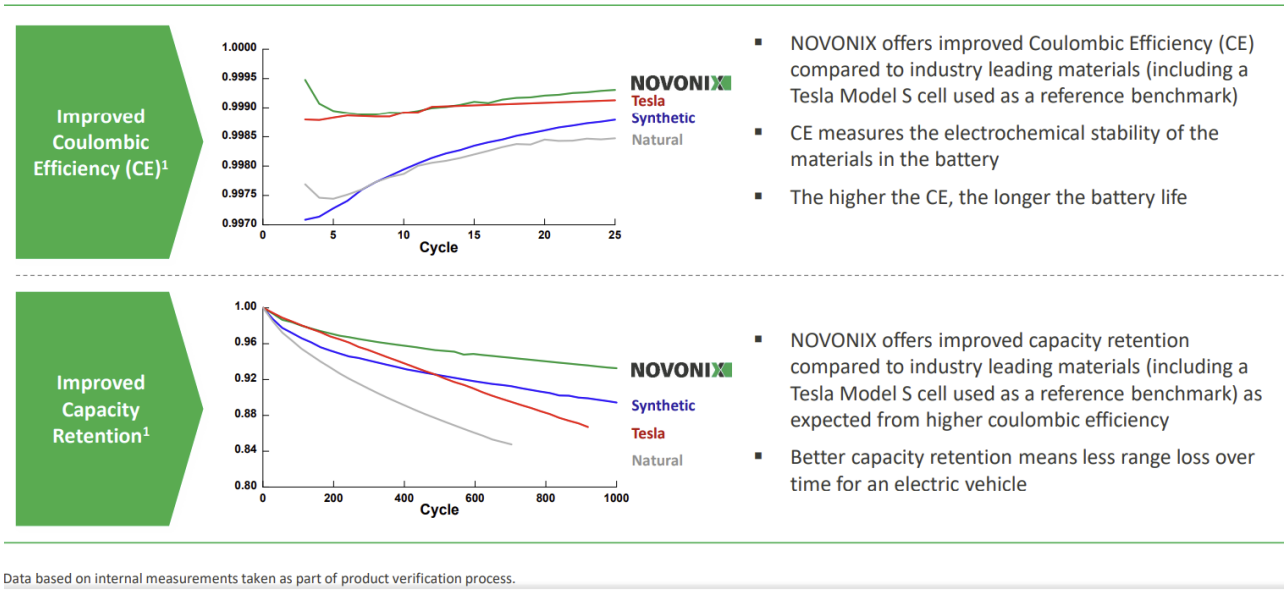
- Pursue / maintain industry leading R&D efforts for battery materials
- Scale operations – NVX believes it is on-track for timeline to deliver commercial production
- Secure new demand – NVX continues providing samples to major Tier 1 prospective customers
- Obtain additional financing – NVX has been awarded funds from DOE, industrial leader partners

NVX material shows ~30%-60% lower global warming potential…

NVX's 'cleaner' materials compared to that of competitors reflects its lower carbon intensive production method, as well as its proximity to North American end markets. In testing its materials, the company has found that they are as or more effective compared to other products. In a study comparing its synthetic anode graphite material to that supplied from China, the leading source of the material, Novonix material demonstrated a roughly 30% to 60% decrease in GWP (global warming potential) when compared to synthetic graphite produced in two key regions in China that account for a combined 79% of global production of synthetic anode material, according to the study.

… and also outperforms for EV range, charge retention …

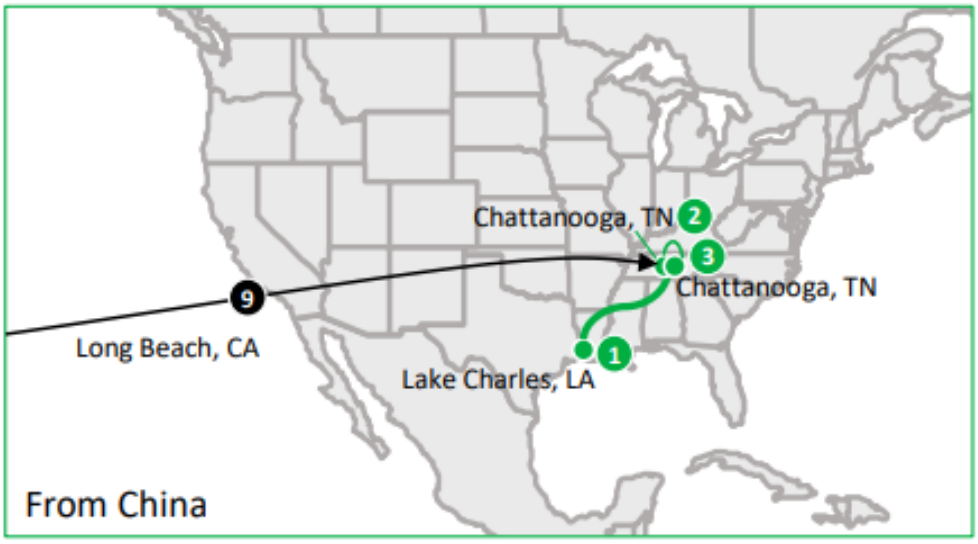
All in all, the company has tested its anode materials compared to industry leading materials including a Tesla Model S cell used as a reference benchmark and based on test results, the company believes that its anode material outperforms in direct head-to-head testing.



Source: Company presentation

The proximity of NVX's Tennessee plant also means that the overall distribution carbon footprint is likely to be lower than for that of materials from overseas competitors. The current supply of critical battery materials is sourced primarily from China (see below). Moreover, sourcing critical battery materials primarily from China has other potential risks, in our opinion, including possible delivery disruption due to logistics challenges and due to geopolitical challenges, particularly given sometimes shifting trade relations between China and the U.S.

NVX Riverside Plant Near to North American End Markets



Source: Company presentation

Tariffs, other risks related to sourcing material from China …

Manufacturers in China produce about 65% of the world's graphite, according to the U.S. Geological Survey, and Chinese companies control an estimated 80+% of the market for automotive battery anodes. Moreover, sourcing critical battery materials primarily from China has potential risks, including geopolitical and economic. For example, tariffs and quotas can make materials supplied from China more costly and restrict the supply. Recently the U.S. Trade Representative (USTR) announced new, extended or higher tariffs from China effective June 15, 2024. NVX expects this will make its material more competitively priced. This is also likely to encourage continued development of a North American supply chain, in our view. NVX believes China's measures underscore the need for North American producers to develop a local supply chain for battery materials in the U.S.

Regulatory incentives in place to develop local battery space, supply chain…

Conversely, the proximity of NVX's Tennessee plant is a competitive advantage compared to materials from China. Importantly, Novonix believes it has first mover advantage as an early manufacturer of synthetic graphite in North America. It also expects to benefit from regulatory incentives to develop clean energy sources. recent regulatory indications are favorable for NVX; synthetic graphite is eligible for rebates under government programs.

The Inflation Reduction Act (IRA) provides economic incentives to companies that are developing a local supply chain for batteries and battery materials. These benefits support the production of critical minerals and battery materials such as synthetic graphite, for which Novonix will be eligible, and for local manufacturing of battery cells and Panasonic Energy's North American plants will qualify.

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