

# **The Nano One manufacturing hub represents a game-changing opportunity to secure sustainable and clean battery supply chains in NA**

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One of the largest gaps in the North American EV metals supply chain is the need for 'western supply' of lithium iron phosphate ("LFP") cathodes used in most standard range electric cars, smaller electric cars, commercial vehicles, and stationary energy storage. These demand areas are set to surge this decade, yet where is the non-China supply of LFP going to come from?

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## **Skyrocketing LFP demand has experts asking, "How fast can Nano One scale production?"**

written by Tracy Weslosky | May 30, 2023

Lithium iron phosphate ("LFP") batteries are rapidly gaining market share due to their improved energy density, longer cycle life, improved safety, generally lower costs, and no requirement for nickel and cobalt. It certainly makes sourcing the critical materials much easier as lithium and graphite become the only critical materials needed. No need to source cobalt from the

Congo or [nickel](#) from Russia.

Furthermore, the LFP trend is now expanding out from China to other regions as Chinese patents expire. In October last year, Tesla [announced](#) it is switching all of its standard range Model 3 and Model Y electric cars globally to LFP batteries. Multiple OEMs have since followed Tesla's lead. The problem is now that the [Inflation Reduction Act](#) will only reward U.S or U.S free trade countries if their batteries are made locally (not in China), but there are very few western LFP battery facilities.

### **Nano One Materials now owns the only LFP battery facility in North America**

In news [announced](#) on October 31, [Nano One Materials Corp.](#) (TSX: NANO) has now completed the acquisition of Johnson Matthey Battery Materials Ltd., who just happens to own the only LFP battery factory (the "Candiac facility") in North America. Many in the market failed to appreciate the significance. And let me lay out – there is a massive demand for western made LFP batteries, and there is an extremely small current western supply to access.

Highlights of the announcement are:

"The Acquisition helps expedite Nano One's business strategy for LFP and other battery materials and includes:

- A talented and dedicated workforce of 46 professionals with almost 400 years of scale-up, commercialization, and cathode manufacturing know-how on LFP.
- **The only existing North American lithium iron phosphate ("LFP") production facility.**
- An 80,000 square foot, 2,400 tpa capacity LFP production facility on 9.5 acres, strategically located near Montréal.

- Certification systems supplying tier 1 cell manufacturers for the automotive sector.”

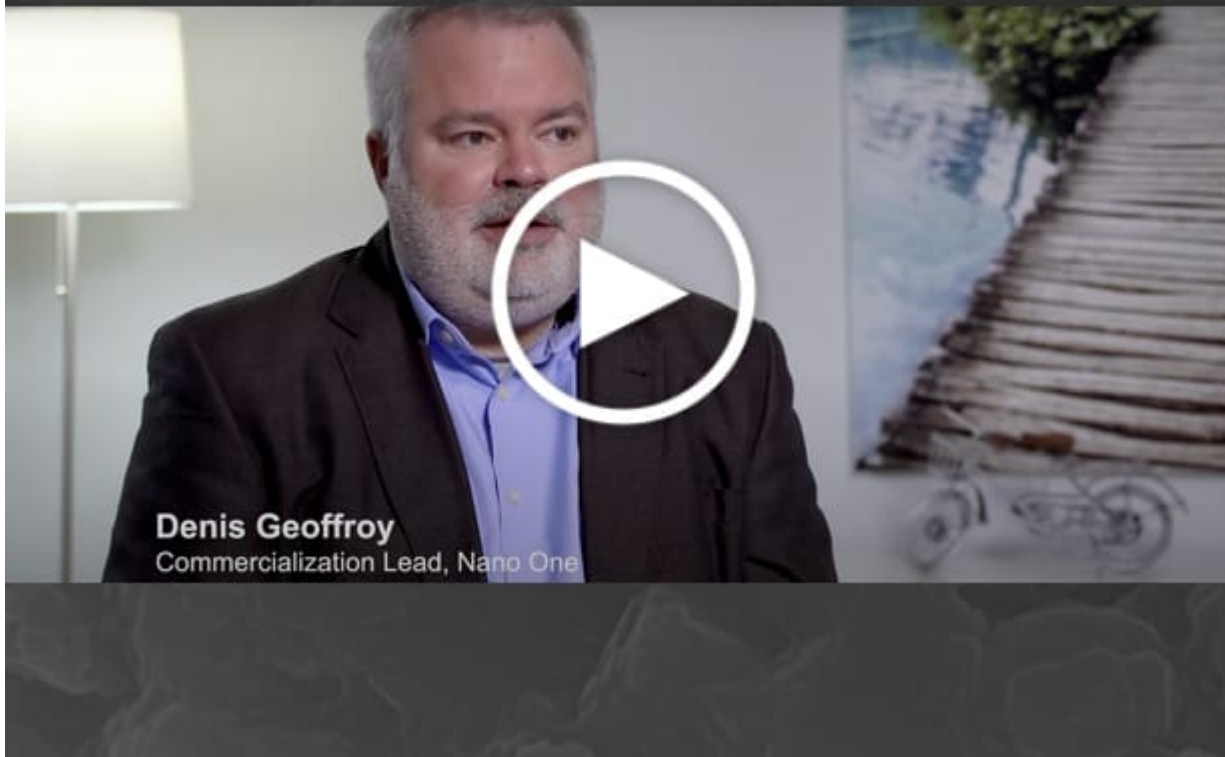
*Note: Bold emphasis by the author.*

Another key factor many in the market fail to appreciate is the difficulty in obtaining experienced battery manufacturing personnel. In the case of the above-mentioned deal, Nano One was able to secure a very key person, namely Denis Geoffroy. Denis was an early contributor to Phostech Lithium, which led the first commercial manufacturing of LFP cathode active materials globally. Nano One CEO Dan Blondal summed it up well [stating](#):

*“Today marks the beginning of an exciting new chapter in the Nano One story. I am pleased to report that the entire team in Candiac has transitioned to Nano One and this positions us with the most experienced LFP workforce in North America.”*

**Denis Geoffrey is the Chief Commercialization Officer of Nano One**

**We're building a  
commercialization team to  
scale our tech for a localized  
battery supply chain**



Source: [Nano One Materials website](#) ([video link](#))

In terms of the next steps Nano One [states](#):

*"The Company will begin with trials in the Candiatic facility to validate the production of LFP using the Company's patented One-Pot process. Results from these trials will drive business, commercial and plant conversion decisions in 2023."*

One would think Tesla and other North American based electric car and battery OEMs would be taking notice of how this all develops, and off-take deals could potentially soon emerge.

## The rise and rise of LFP batteries

LFP batteries outsold NMC batteries last year in China, rapidly gaining market share (see below).

### LFP battery demand skyrocketing – LFP outsold NMC in China as of March 2022

#### ‘Skyrocketing demand’

Like Wood Mackenzie, Clean Energy Associates (CEA) noted the competitive dynamic heating up between LFP and NMC batteries. Safety advantages, long lifecycle and lower costs have led to EV makers starting to accept the trade-off of lower energy density in adopting LFP batteries, both firms have noted.

LFP has already been accepted by the stationary battery energy storage system (BESS) sector, where energy density tends to be a less decisive factor.

CEA said LFP outsold NMC among batteries sold by Chinese manufacturers, with its market share growing through the year: of 100GWh of lithium batteries used for EVs and ESS, 44% were NMC and the majority of the remainder LFP.

Source: [Energy Storage News](#)

Looking ahead this decade it looks likely that LFP will continue to gain market share from NMC and become the preferred battery cathode type. Energy Storage News quotes research from Wood Mackenzie [stating](#): “Lithium iron phosphate (LFP) will be the dominant battery chemistry over nickel manganese cobalt (NMC) by 2028.”

Time will tell, but certainly, the current trend is towards LFP gaining market share globally. In North America the LFP demand will massively outweigh the supply, putting Nano One Materials in the box seat this decade, as a LFP battery manufacturer. The question really will be – **How fast can Nano One scale production?**

Nano One trades on a market cap of [C\\$266 million](#).