

# Crunch facing EV battery players in US to aid ioneer's US\$785M capex hurdle

Tuesday, 16 June 2020 11:58 PM AET

By Anthony Barich  
Market Intelligence

Players in the electric vehicle supply chain face crunch time to secure feed for U.S. lithium-ion battery megafactory capacity, expected to nearly triple within three years, which ioneer Ltd. is banking on to secure a strategic partner to fund its US\$785 million Rhyolite Ridge lithium-boron project in Nevada by the first quarter of 2021.

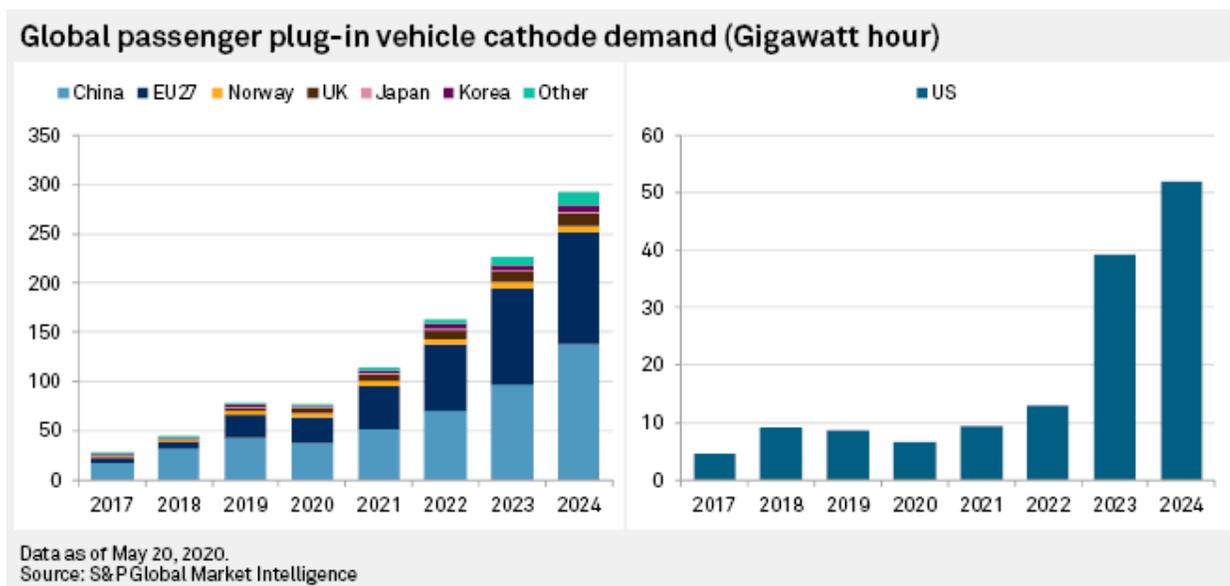
While the revenue from Rhyolite Ridge's 174,000 tonnes per annum of boric acid will ensure strong margins for a lithium project, the project's 22,000 tpa of lithium hydroxide will be key to addressing its sizable funding needs, Managing Director Bernard Rowe told S&P Global Market Intelligence.

Rowe believes that it is only a matter of time before major EV supply chain players, which are already forming strategic battery-making partnerships, will turn to prospective producers, citing Detroit-based General Motors Co.'s US\$2.3 billion joint venture with South Korean chemical company LG Chem Ltd. and the joint venture Toyota Motor Corp. formed with Panasonic Corp.

Those players are building some of the eight existing and planned electric vehicle battery megafactories in the U.S., whose capacity will grow to 130 GWh by 2024, requiring 112,000 tonnes of lithium chemicals, and to 217 GWh by 2029, requiring 187,000 tonnes of lithium chemicals, Benchmark Mineral Intelligence said.

The capacity of Tesla Inc.'s lithium-ion battery and electric vehicle sub-assembly factory in Nevada is expected to soar from 37 GWh in 2019 to 100 GWh by 2029.

The chart below, taken from S&P Global Market Intelligence's latest Lithium and Cobalt Commodity Briefing Service, shows a projected increase in cathode demand in plug-in vehicles as global plug-in vehicle sales are expected to rise by over threefold between 2019 and 2025, which will see lithium demand soar 96% between 2019 and 2024, with lithium prices to recover from 2022.



Rowe said he is seeing "increased urgency" among EV players to secure stable lithium supply, with cathode and

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battery-makers and manufacturers of auto original equipment shaping up as the most likely partners for Rhyolite Ridge, plus strong interest for vendor financing from U.S.-based parties that would be supplying mobile and fixed equipment to the mine.

Export credit agency funding is also in the cards given Australia and the U.S. recently agreed to collaborate to fund potential critical minerals to wean their supply chains off reliance on China.



**Ioneer nonexecutive director John Hofmeister.**

*Source: John Hofmeister*

### **White House interest**

Houston-based John Hofmeister, Ioneer's nonexecutive director, said there has been strong impetus from the White House and various agencies stemming back to the Obama administration to look at indigenous reserves of minerals needed for new technologies.

Hofmeister told S&P Global Market Intelligence that COVID-19 has "aggravated and accelerated" supply chain tensions as it alerted the U.S. to the reality that much of the chemicals and products used in healthcare drugs and equipment came from China, as did many products for everyday life thanks to the rise of e-commerce giants such as Amazon.com Inc.

Having launched an extensive outreach program while Shell Oil Co. president to discuss critical global energy challenges, unprecedented in the energy industry, Hofmeister, now a key member of the U.S. Energy Security Council, said Rhyolite

Ridge's location, size and scale "fits smack bang into this priority focus of the electrification supply chain."

"Ioneer falls right into that category of keen interest for the future development of the supply chain of not only the electrification the automotive sector, but electric storage which is going to be part and parcel of every country that invests heavily in wind and solar, because of the intermittency of those supply sources," Hofmeister said.

### **Business diplomacy**

Hofmeister said Ioneer signed a five-year boron supply contract in December 2019 for 105,000 tonnes of boric acid per year from Rhyolite Ridge starting in the first quarter of 2023 with Chinese group Dalian Jinma Boron Technology Group Co. Ltd without any U.S. government concerns if American authorities — including local senators and House members, the White House and the Department of Defense — were kept in the loop.

"I learned a long time ago that you keep them all informed so you have an implicit understanding that what you are doing is in the national interest because it's going to create jobs in Nevada, creating a supply chain to source materials for the mine, much of which will come from the U.S.," Hofmeister said.

At the same time, Ioneer also outlined to U.S. authorities the domestic market it is pursuing, such as the Tesla gigafactory or the Japanese manufacturers in the U.S.

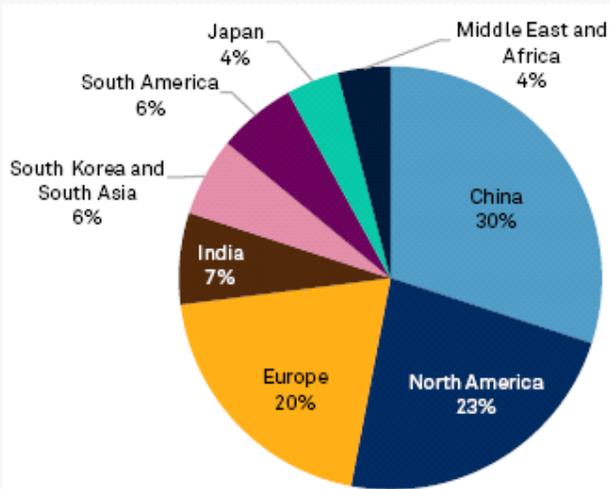
"In this way, when there's pushback, you know where it's coming from and you can deal with it," said Hofmeister, who has been doing business in China since the 1980s.

Ioneer also signed three-year boric acid distribution and sales agreements in May with Kintamani Resources Pte. Ltd. for Malaysia, Indonesia, Singapore, Thailand, Vietnam and the Philippines, and with Boron Bazar Ltd. for Bangladesh, India, Pakistan and Myanmar which, along with the Dalian off-take, lock in all of Ioneer's first year of boric acid production and more than 85% of production in years two and three.

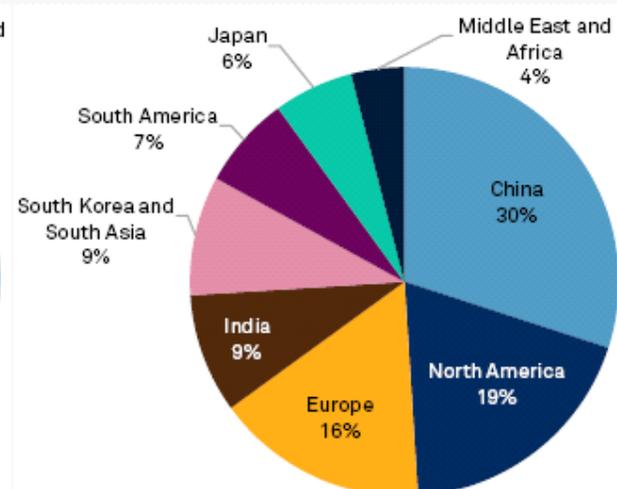
Rowe said all those areas are projected to be large areas of high growth in boron demand, whose current market is charted below.

### Boric acid and borates demand by region

Boric acid (%)



Total borates (%)



Data for the 2019 fiscal year.  
Sources: Maia Research; INR Research

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