The Coming Gold Rush in Battery Metals

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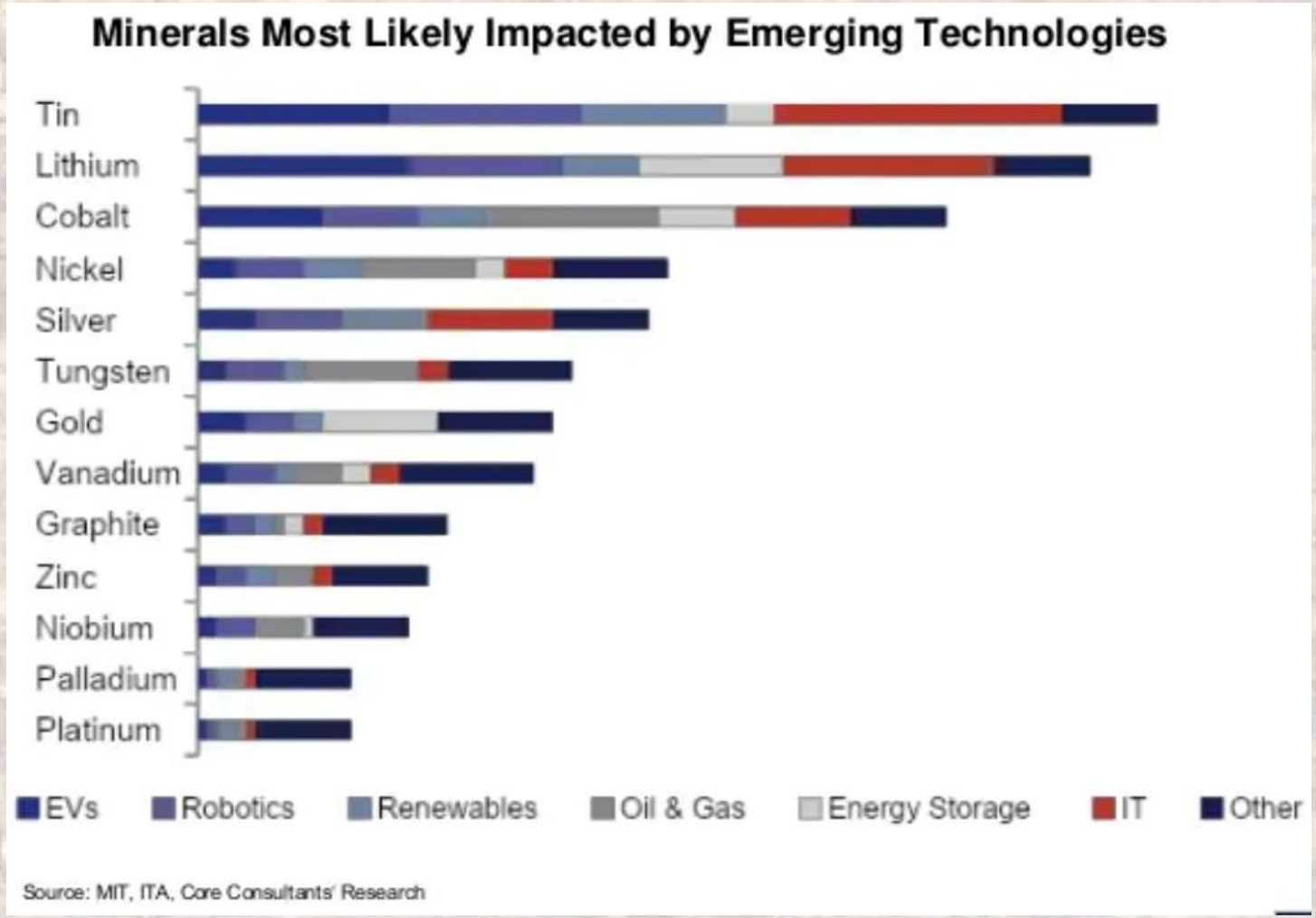
Energy Metals Supercycle

There is a two-pronged supercycle in commodities & technology.

It is currently underway …

And it is ramping up demand for certain minerals and materials.



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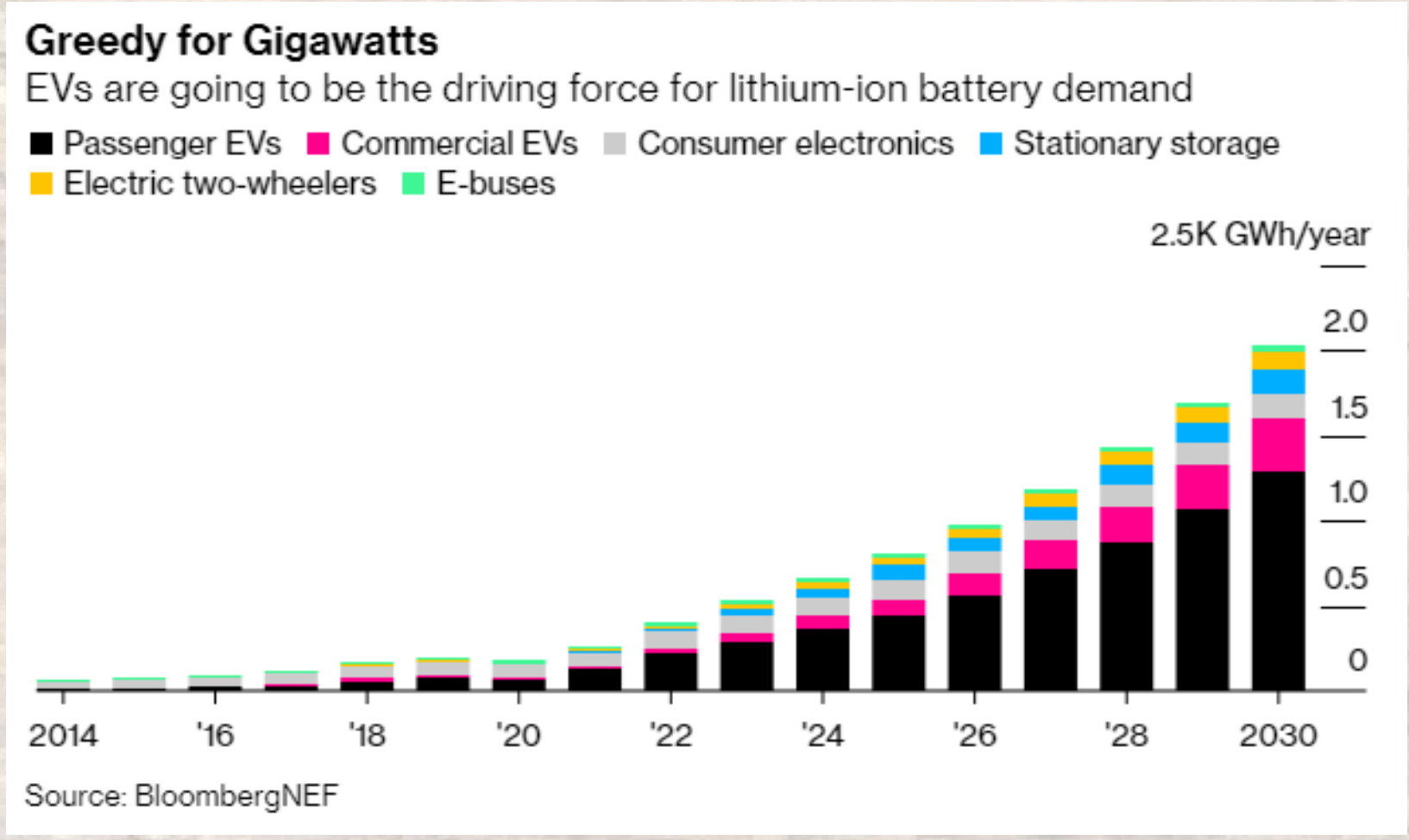
EV Car Sales Fuel Lithium Demand

- Car sales declined in 2020. But if you look under the hood, global EV sales soared by 43% to 3.24 million units.
- This year, global demand for EVs surged another 154% … so far.



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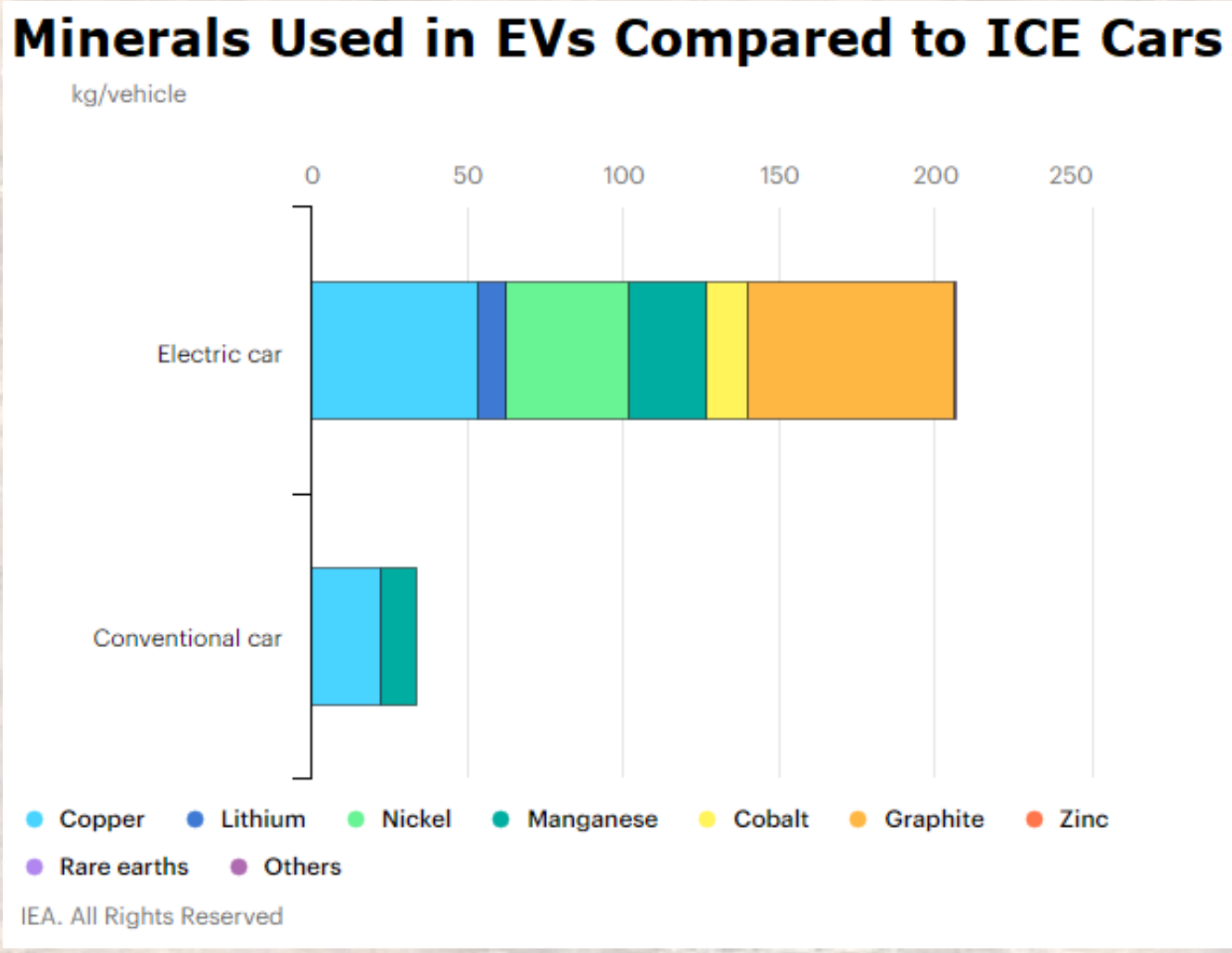
EVs & Renewables Need Commodities

Typically, EVs require 6x the mineral inputs of a conventional car.

Lithium … copper … nickel … zinc … graphite … cobalt … rare earths … and more!



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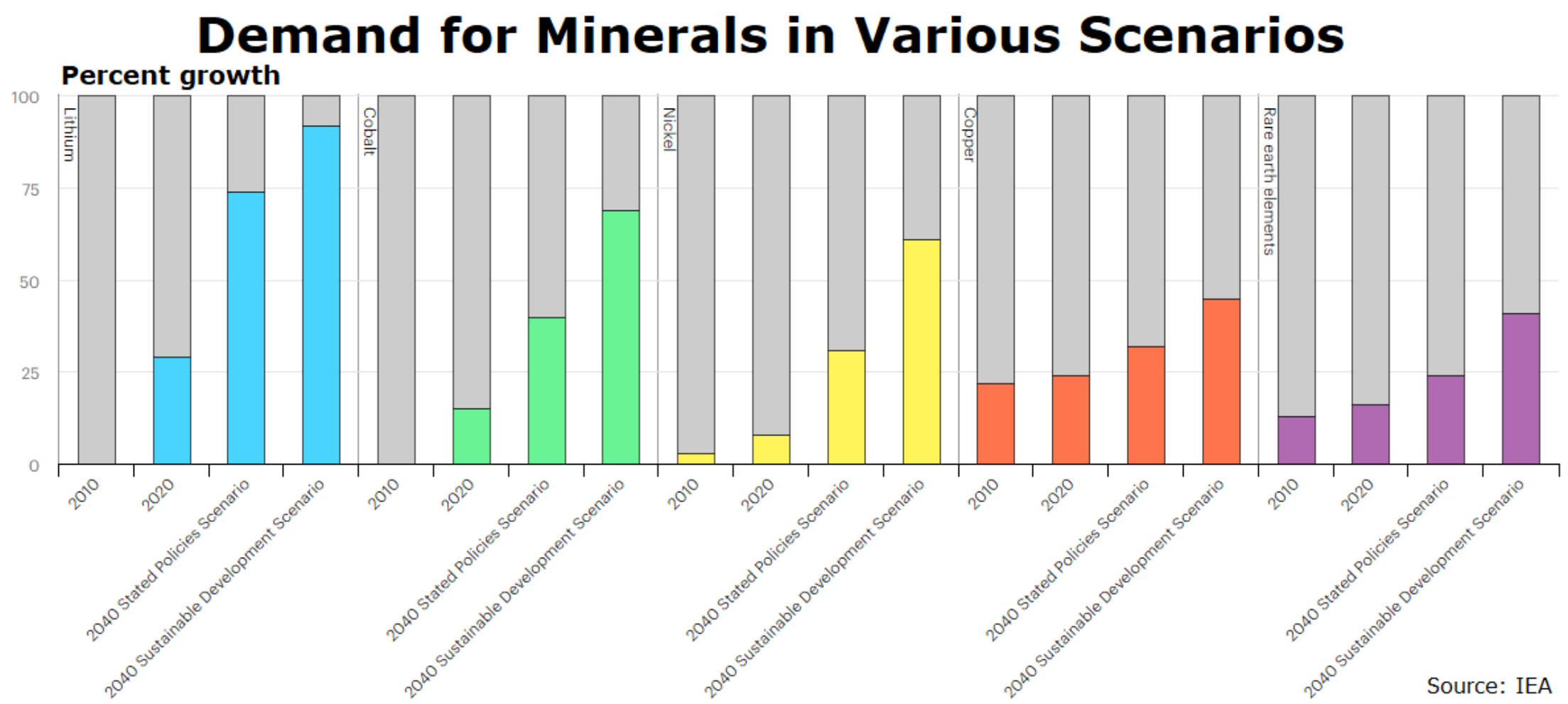
IEA Forecast: More, More, and MORE!



Depending on demand scenario, we need more …
or a heck of a lot more!

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2 Different Scenarios

	Lithium	Graphite	Cobalt	Nickel	Manganese	Rare Earths
IEA "Stated Policies" Scenario	13X	8X	6X	7X	3X	3X
IEA "Sustainable" Scenario	42X	25X	21X	19X	8X	7X

"We don't think that the raw material supply-side is ready for the wave of demand that is coming should our [electric vehicle] outlook hold," UBS analysts said.

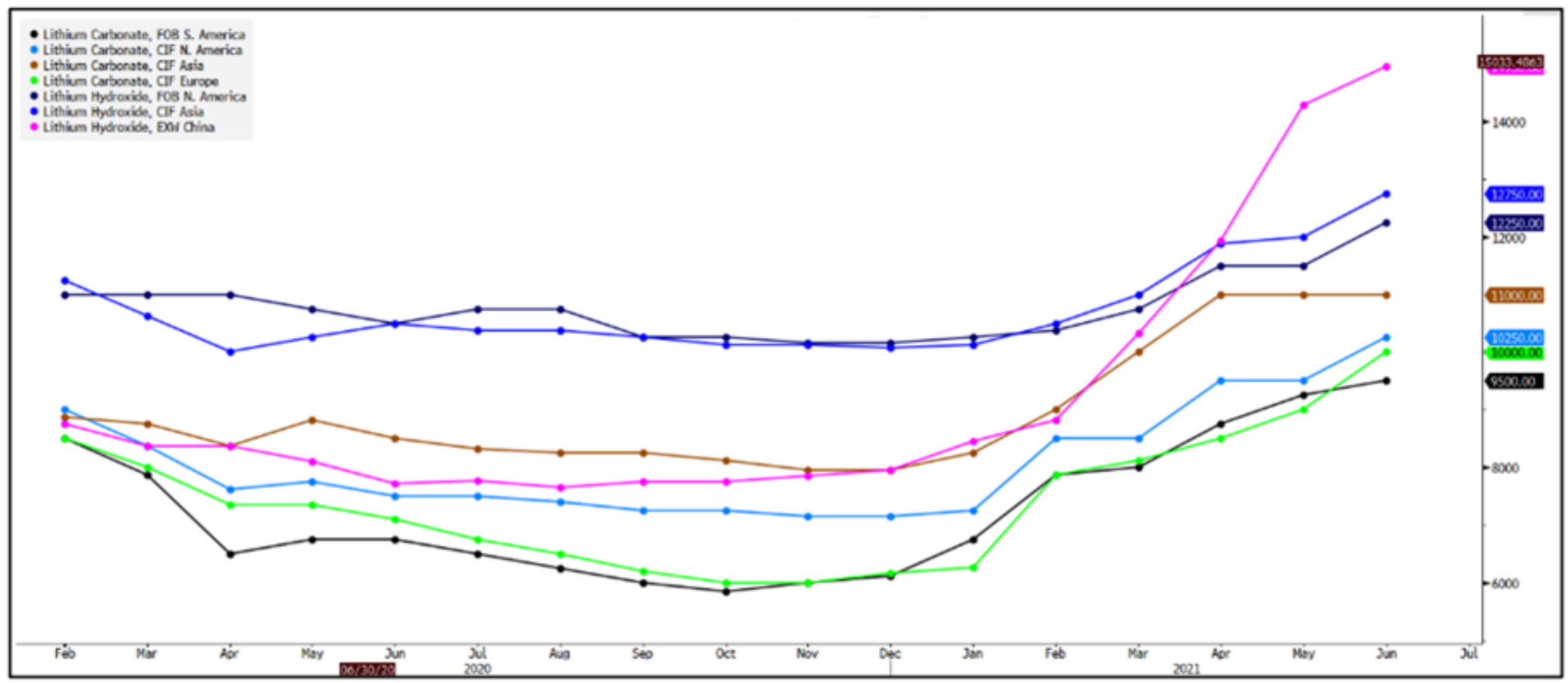
Let's Focus on Surge in Lithium Demand

- I could make a bullish case for any of the metals I mentioned earlier. But it is lithium, the key to lithium-ion batteries, that presents the best opportunity now.
- Today we'll talk about the forces driving lithium demand higher … the supply/demand squeeze.
- I'll give you picks that can kick your portfolio into higher gear.
- And we'll explore what might come next.

Where Does Lithium Come From?

- **Lithium brine** is concentrated in South America. Spodumene, or "**hard rock**" lithium production, focuses in Australia. North America has both, but mostly undeveloped (for now).
- Hard rock production costs (roughly) half as much as brine.
- **Lithium hydroxide** decomposes at a lower temperature compared to lithium carbonate. This allows the process of producing battery cathodes to be more sustainable and the final product to be longer lasting.
- **Lithium carbonate** can be converted into lithium hydroxide, but at an additional cost.

Lithium Prices Are Already Surging



Prices jumped 90% in Q1 YoY. Q2 saw lithium prices increase 20% to 40%, and prices are still climbing.

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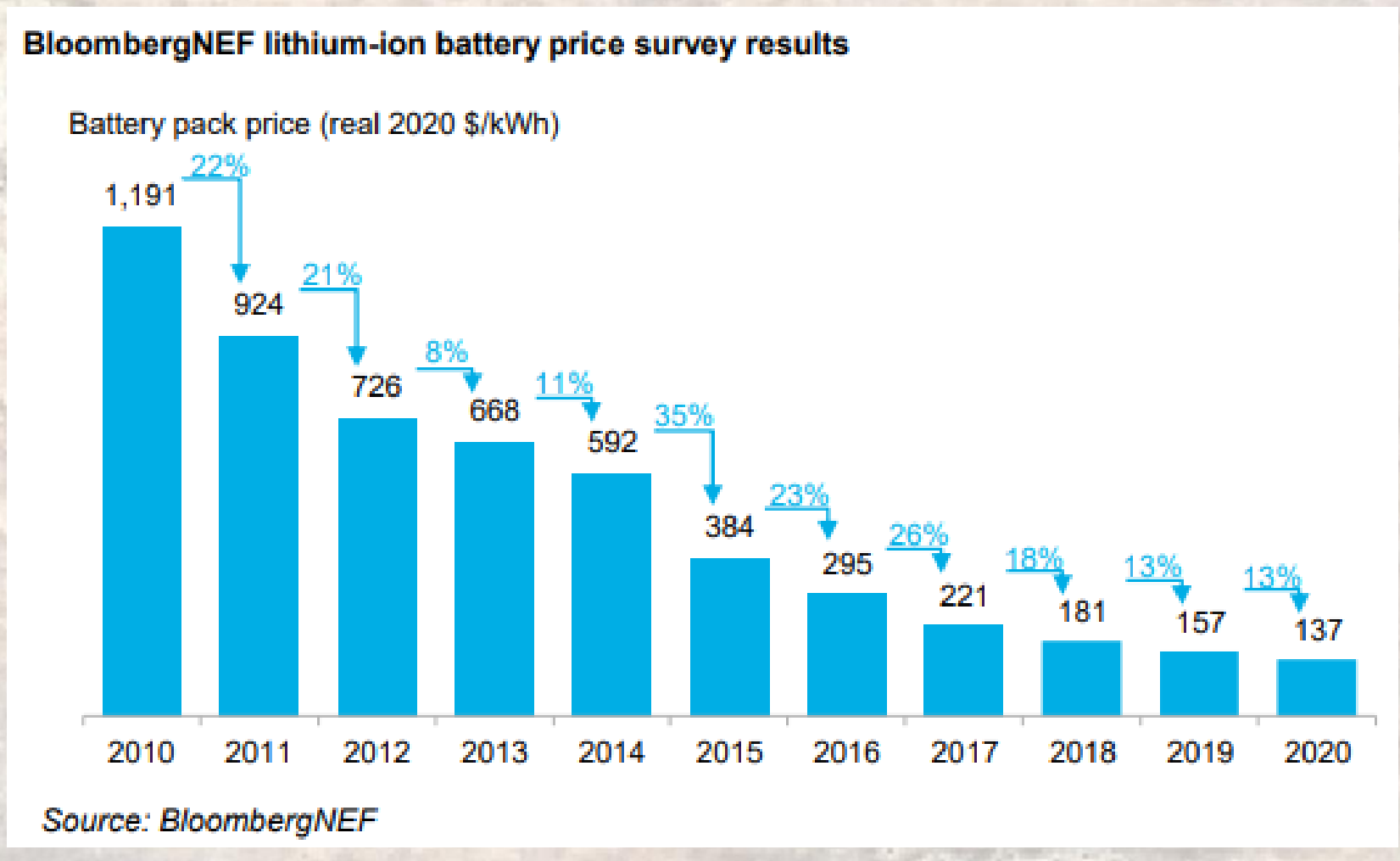
Driving Force: Falling Battery Prices

- Price parity by 2030?
- EVs could be CHEAPER than ICE cars in 5 years.



Biden's Stated Green Energy Goals

- Building out EV charging infrastructure, adding at least 500,000 more charging stations, in the U.S.
- White House announced a new plan to replace 645,000 vehicles in the U.S. federal fleet with domestically produced EVs.
- Surpassing China in the manufacturing of EVs (including materials and parts).
- Giving rebates to consumers who trade in less-efficient vehicles for newer, greener cars made in the U.S.
- Increasing battery related research and development, domestically.

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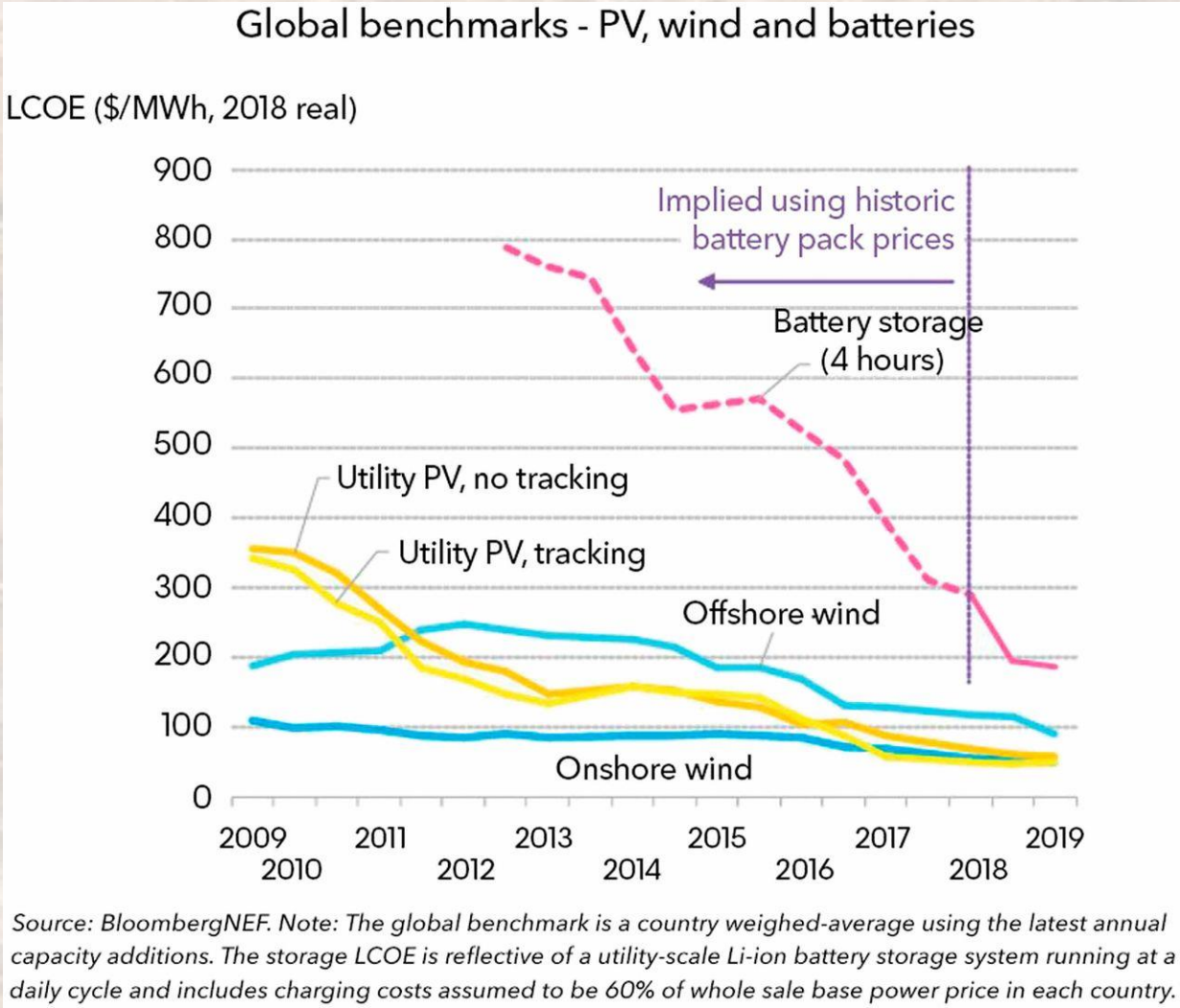
Then There's Energy Storage!

- Energy storage for Solar and Wind power generation may consume even more lithium batteries than transportation in the future.
- The steep decline in battery costs is often compared to the plunge in the cost of solar photovoltaic cells, with the comment that batteries are 10 years behind solar.



Source: BloombergNEF. Note: The global benchmark is a country weighed-average using the latest annual capacity additions. The storage LCOE is reflective of a utility-scale Li-ion battery storage system running at a daily cycle and includes charging costs assumed to be 60% of whole sale base power price in each country.

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Battery Companies Are Charging Up!

- Driven by technological advances, facilities are being built with storage systems that can hold enough renewable energy to power hundreds of thousands of homes.
- The advent of “big battery” technology addresses a key challenge for green energy — the intermittency of wind and solar.
- The global battery energy storage system market size is expected to grow at a CAGR of 32.8% from 2020 to 2025, reaching $12.1 billion by 2025 from $2.9 billion in 2020.

U.S. Is "Playing Catch Up"

Lithium Mining				
USA	China	Australia	Chile	Argentina
1%	14%	46%	28%	11%

Lithium Chemical Processing				
USA	China	Chile	Argentina	Russia
7%	51%	29%	11%	2%

Lithium Battery Cell Production				
USA	China	Japan	Korea	Europe
11%	57%	15%	10%	7%

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The Road to the Future

- **Technology is NOT static**. Change is coming.
- Ultra-fast charging is around the corner.
- Next-generation batteries.
  - Solid-state batteries.
  - Aluminum-ion batteries.
  - Sodium-ion batteries.
  - Zinc-air batteries for utility-scale energy storage.
- **Be Flexible**. Be ready to adapt when the facts change.

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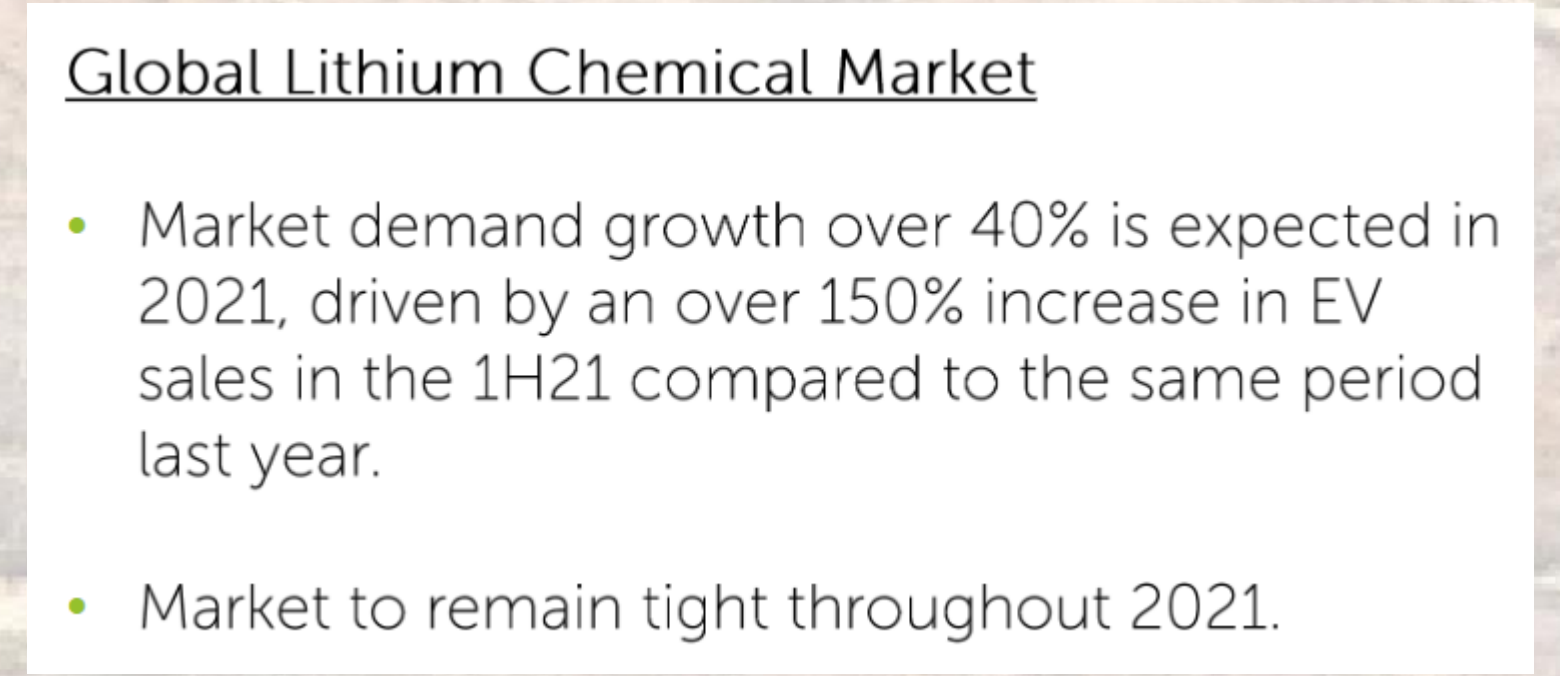
Wait! Extra! Extra!

- **Sociedad Quimica y Minera de Chile S.A. (NYSE: SQM**), one of the world's largest lithium producers, just dropped a bombshell in its earnings report:



Wait! Extra! Extra!

- Lithium prices in China surged last week due to strong demand for lithium-ion batteries.
- Strong momentum and tight supply in China spot market.
- Battery-grade lithium prices in Europe and U.S. rose on tight availability despite summer lull.

BATTERY-GRADE LITHIUM SPOT PRICES

	New price	Previous price	% Change
Lithium carbonate 99.5% Li2CO3 min, battery grade, spot price range exw domestic China, yuan/tonne	105,000 -110,000	95,000 -100,000	▲ 10.3
Lithium hydroxide monohydrate 56.5% LiOH.H2O min, battery grade, spot price range exw domestic China, yuan/tonne	120,000 -123,000	110,000 -120,000	▲ 5.7
Lithium carbonate 99.5% Li2CO3 min, battery grade, spot prices cif China, Japan & Korea, $/kg	14.00 -15.00	14.00 -15.00	0
Lithium hydroxide monohydrate 56.5% LiOH.H2O min, battery grade, spot price cif China, Japan & Korea, $/kg	15.50 -17.00	15.00 -16.50	▲ 3.2
Lithium carbonate 99.5% Li2CO3 min, battery grade, spot price ddp Europe and US, $/kg	15.00 -16.00	14.50 -15.50	▲ 3.3
Lithium hydroxide monohydrate 56.5% LiOH.H2O min, battery grade, spot price ddp Europe and US, $/kg	16.50 -17.50	16.00 -17.00	▲ 3.0
Spodumene min 6% Li2O min, cif China, $/tonne	880-950	690-750	▲ 27.1

Source: Fastmarkets

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Sean's Top Investment Ideas for This Battery Metals Supercycle

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3 ETFs to Play the EV/Battery Boom

- **Global X Lithium & Battery Tech ETF (NYSE: LIT).** Top 3 holdings are Albemarle Corp. (NYSE: ALB), Ganfeng Lithium (OTC Pink: GNENY) and Yunnan Energy. 50.9% of its assets are in China. Expense ratio of 0.75%.
- **Amplify Lithium & Battery Technology ETF (NYSE: BATT).** Top 3 holdings are Tesla (Nasdaq: TSLA), Contemporary Amperex Technology and BHP Group (NYSE: BHP). 35.8% of its holdings are in China. Has a wider range of clean energy and alternative technology. Expense ratio of 0.59%.
- **VanEck Vectors Rare Earth/Strategic Metals ETF (NYSE: REMX).** Top 3 holdings include China Northern Rare Earth Group, Ganfeng Lithium (OTC Pink: GNENY) and Zhejiang Huayou Cobalt Co. 47.28% of its holdings are in China. Expense ratio of 0.59%.

Stock Pick #1: A Producer

- **Livent Corp. (NYSE: LTHM)** is one of the world's top five lithium producers. It has a mine in Argentina that can produce 25,000 metric tons of lithium carbonate and is doing a two-stage expansion. Each stage will add 10,000 metric tons of lithium carbonate starting in 2023.
- Livent also has a lithium hydroxide facility in Bessemer City, North Carolina. And it's set to expand that facility by 5,000 tons. The expected startup will be in the second half of next year.
- Subscribers to *Gold & Silver Trader* own this already.

Stock Pick #2: A Near-Term Producer

- **Lithium Americas (NYSE: LAC)** is partnered with Ganfeng Lithium on a brine project in Argentina with an initial production target of 40,000 metric tons per year. On track for mid-2022 production.
- The two companies are already at work on a second-stage expansion that should add at least 20,000 tons per year to production.
- Lithium Americas is also advancing its Thacker Pass near Reno, Nevada. Thacker Pass is the largest known lithium resource in the U.S.
- *Supercycle Investor* subscribers own this one.

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Stock Pick #3: A Developer

- **Standard Lithium Ltd. (NYSE: SLI)** says its new lithium extraction technology could revolutionize the industry.
- Standard Lithium has partnered with a company called Lanxess, on one of the world's largest salt brine reservoirs, in Arkansas. Lanxess uses that brine to make bromide. Standard Lithium can "bolt on" its tech — called LiSTR Direct Lithium Extraction — and produce high-purity lithium carbonate.
- Standard Lithium built a demonstration plant to show how its technology works. That's been operating full time since May. Now, it wants to build stage one of a real production plant.
- *Gold & Silver Trader* subscribers own this, too.

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Sean's Lithium Watchlist

- **Sociedad Quimica Y Minera De Chile (NYSE: SQM):** Forecast to quadruple net income from 2020 to end-2023.
- **Orocobre (OTC Pink: OROCF).** Just-completed merger w/ Galaxy created world's fifth largest lithium producer.
- **Pilbara Minerals (OTC Pink: PILBF).** Owns the massive Pilgangoora Lithium mine in Western Australia.
- **Neo Lithium (OTCQX: NTTHF).** Possible 2023 producer. I own this one personally.
- **Piedmont Lithium (NYSE: PLL).** Working on a scoping study; needs to work on community relations.
- **Sigma Lithium Resources (OTCQB: SGMLF**). Production target at Brazilian project is H2 2022.

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