

# METALS DAILY

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## BATTERY METALS

### Seaborne lithium prices stay rangebound in thin trade

Seaborne lithium carbonate prices remained unchanged this week despite the persistence of bearish market fundamentals.

No concluded deals have been reported in recent weeks, providing stability to the current price levels despite the general perception that there is still room for further decreases.

S&P Global Platts assessed battery-grade lithium carbonate and lithium hydroxide unchanged at \$9,900/mt and \$11,700/mt, respectively. Both assessments are on a CIF North Asia basis, reflective of deliveries to the main ports of China, Japan and South Korea.

A consumer source in North America who was away from the spot market said they expected hydroxide to be trading at \$12,000-13,000/mt, but agreed that seaborne prices have currently been under strong pressure.

Chinese Tianqi's announced earlier this week the postponement of the 24,000 mt/y second stage of the Kwinana conversion plant in Australia -- which added to Albemarle's announcing a few weeks ago the temporary reduction in its expansion

[\(continued on page 2\)](#)

## BATTERY METALS

### Weekly Prices

#### Lithium Carbonate

CIF North Asia (\$/mt)	9900	+0	13-Sep-19
DDP China (Yuan/mt)	59500	-1000	13-Sep-19
CIF North Asia Import Parity (Yuan/mt)	79255	-10	13-Sep-19

#### Lithium Hydroxide

CIF North Asia (\$/mt)	11700	+0	13-Sep-19
DDP China (Yuan/mt)	65000	-3000	13-Sep-19
CIF North Asia Import Parity (Yuan/mt)	93665	-12	13-Sep-19

#### Cobalt Sulfate

CIF North Asia (\$/mt)	7650	+150	12-Sep-19
DDP China (Yuan/mt)	53000	+2000	12-Sep-19

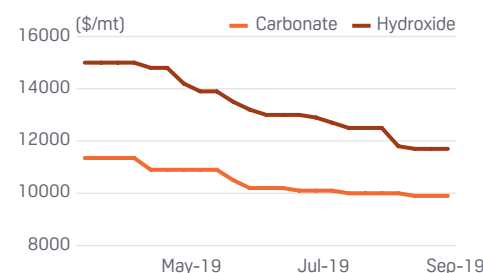
### Monthly Prices

#### Lithium Spodumene

FOB Australia (\$/mt)	550	-30	30-Aug-19
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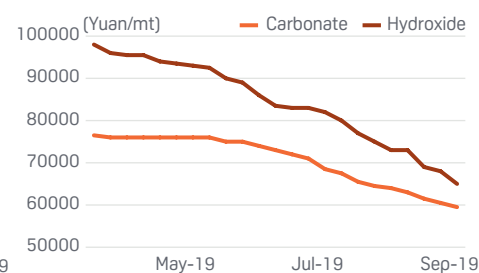
## PLATTS LITHIUM CARBONATE AND LITHIUM HYDROXIDE

### CIF North Asia



Source: S&P Global Platts

### DDP China



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plan. No pricing impact, however, is expected for the short run as the market is already oversupplied.

On Wednesday, Chile-based producer SQM said that its average price between June 2018 and June 2019 was \$14,500/mt, and that the targeted level for 2025 is in a range of \$10,000-15,000/mt in an

investors' presentation.

However, in late August, SQM CEO Ricardo Ramos said during its second-quarter earnings call that the company's prices should average \$10,000/mt during the third quarter.

"Considering both demand fundamentals and supply cost structure,

equilibrium price could be higher than historic average, even in double digits," the company said Wednesday. The producer estimated that in 2025 demand will reach 800,000 mt versus 960,000 mt of supply, both on a lithium carbonate equivalent (LCE) basis.

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## Lithium prices soften further in China despite some see stability

Chinese domestic lithium prices continued to move down this week, although some market participants saw stability in their numbers.

S&P Global Platts assessed battery-grade lithium carbonate at Yuan 59,500/mt Friday, down Yuan 1,000/mt from last week, and lithium hydroxide at Yuan 65,000/mt, falling Yuan 3,000/mt week-on-week. Both assessments are on a delivered, duty-paid China basis.

A producer source who saw lithium carbonate stabilizing at Yuan 60,000/mt said there is "not much room for a further drop as it's approaching the production cost." He added that the demand for LCO picked up significantly entering the traditional peak season.

"Demand from ternary materials industry hasn't increased, but there is no profit margin for converters either and we would rather choose to cut production if we could not stand to the lower prices," said a second Chinese seller source who saw the carbonate's tradable value ranging Yuan 58,000-61,000/mt, with small producers being at the low end.

Two Chinese consumers also reported paying Yuan 60,000/mt for lithium carbonate, and one of them said that probably he could get Yuan 2,000/mt if buying for minor sellers. "Ternary demand hasn't shown obvious signs of recovery [yet]," he added.

According to the data released by China Automobile Power Battery Industry Innovation Alliance, ternary battery output totaled 4.6 GWh in August, up 7.3% month on month, accounting for about 68.5% of total power battery output. It ended the monthly drop seen over the past two months. Power battery output totaled 6.7GWh in August, up 17% month on month.

Lithium iron phosphate (LFP) output reached 2.1 GWh in August, up 48% from a month earlier, taking up 31.3% of the total.

The loading volume of ternary battery reached 2.7 GWh in August, up by 31% on the month, thanks to the increase in pure electric passenger car output. Meanwhile, that for the LFP battery on special vehicles dropped by a large 75% month on month to 0.6 GWh, due to the significant decline in

pure electric power bus output.

A third consumer source pegged the tradable value at Yuan 60,000-61,000/mt for battery grade carbonate and as low as Yuan 47,000-49,000/mt for industrial grade material.

As for lithium hydroxide, several market participants agreed that coarse sand is currently trading at virtually the same Yuan 60,000/mt price from battery grade lithium carbonate, while fine powder was reported at as high as Yuan 68,000/mt.

The outlook for hydroxide is "very bad, no demand at all," said a Chinese supplier who expects to finish September with no hydroxide deals achieved.

A second seller who declined bids at as low as Yuan 57,000/mt for hydroxide coarse sand said that there are "not many buyers in the market and it is countable." He said he expected Chinese brine producers might cut production in October when the weather gets cold, "which perhaps will help stabilize the declining prices."

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## Uptrend in cobalt sulfate prices continues on restocking

Chinese domestic cobalt sulfate prices rose for an eighth consecutive week, even though demand showed little obvious signs of recovery, as end-users were obliged to replenish some inventories at higher prices.

S&P Global Platts assessed cobalt sulfate with 20.5% cobalt content at Yuan 53,000 (\$7,486)/mt delivered, duty-paid China Thursday, up Yuan 2,000/mt from September 5.

A small number of deals were booked at Yuan 55,000/mt this week and a deal of 360

mt was concluded at Yuan 53,000/mt last week, said a Chinese producer. Large cathode materials producers began to replenish some inventories from last week, he added.

A second Chinese producer said that tradable values were still around Yuan 53,000-54,000/mt this week. End-users were taking a cautious attitude now and would not stock up in large quantities as they have done over the past few years, he added.

"Cathode materials producers would definitely not place orders in large quantities now as demand doesn't boost significantly," he said.

A Chinese consumer didn't think it was wise to replenish inventories at current high prices. He agreed that the uptrend might continue at least in the near term but it remains unclear how far the price increase might go.

Cobaltous oxide prices increased by a large margin thanks to the rising demand as

its main consumer, the lithium cobalt oxide industry, is entering the traditional peak season. However, some market sources said cobalt sulfate prices might lack momentum for any significant rise as demand from the ternary materials industry hasn't shown any obvious signs of increasing so far.

According to data released by China Automobile Power Battery Industry Innovation Alliance, ternary battery output

totaled 4.6 GWh in August, up 7.3% month on month, accounting for about 68.5% of total power battery output. That followed drop seen over the previous two months. Power battery output totaled 6.7 GWh in August, up 16.6% month on month.

Meanwhile, seaborne prices edged up from the prior week, given the ongoing rise in domestic prices and cobalt metals prices.

The Platts seaborne 20.5% Co cobalt

sulfate assessment was at \$7,650/mt CIF North Asia, up \$150/mt from a week earlier.

A Chinese producer agreed that the tradable level should be between \$7,000 and \$8,000/mt now and a Western producer maintained his offer at around \$9,000/mt this week. The latter reflected that cobalt metal supply might see structural tightness in the short term.

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## \$24 billion investment in lithium required to meet battery demand: BMI

Investments of \$24 billion are still required in mining to meet lithium ion battery production demand over next decade despite lithium's recent price plunge on market oversupply and tepid demand, according to Benchmark Mineral Intelligence analysis.

Cobalt, nickel and graphite will also all need "significant" investments to meet projected demand, BMI said.

Head of consultancy at BMI Adam Panayi, told the Global Mining Finance conference in London this week that the "overly buoyant sentiment in battery metals in 2017 has come out of the market." However, significant ongoing investments are still needed in the supply chain for all battery metals to meet expected demand growth, he said.

Lithium ion cell production capacity is seen growing to 2.027 TWh by 2028, from a capacity of 1.550 TWh in January 2019, according to data from 99 plants tracked, Panayi said.

As well as the \$24 billion investment seen necessary for lithium, mining cobalt will require investment of \$50 billion, nickel

\$39 billion and graphite \$13 billion by 2030 to allow the battery production foreseen, the analyst said. Cobalt is seen to require the greatest investment as it is a by-product of other metals, with around 75% of cobalt currently sourced from the Democratic Republic of Congo, entailing geopolitical risk. Nickel projects are also costly as they tend to be large, and sometimes geologically challenging.

Opportunities for substitution of battery metals by other materials are limited, although there is a trend to replace graphite with silicon, and to reduce the percentage of cobalt used in batteries, Panayi said.

Lithium prices have been steadily trending lower this year on oversupply and weak demand. S&P Global Platts lithium carbonate CIF North Asia price was down 22% since the start of the year to \$9,900/mt early September, with further falls expected by some market sources, and the lithium hydroxide price was down 27% over the same period at \$11,700/mt. Platts monthly spodumene concentrate with 6% lithium oxide content (SC6) assessment has fallen \$90 since

January to \$550/mt FOB Australia in August.

Cobalt prices spiked in late 2017 on speculation around growth in demand for electric vehicles, only to crash later in line with other battery metals, Panayi said. Battery metals price volatility at that time was "driven by the naïve assumption that electric vehicles demand can happen overnight," he said, adding that repurposing OEMs for what is viewed as an exponential rise in demand for EVs is alone estimated to cost around \$300 billion.

China will continue to dominate global lithium ion cell production, with its share in global production capacity set to rise to 70.35% in 2028, from 67.9% in 2018, according to BMI's research. Europe will however expand its capacity to 16.33% of the total in 2028, from a 6.67% share in 2018, becoming a more significant player than North America, whose share of production capacity is seen falling to 7.68% of the total in 2028, from a 10.55% share in 2018. Other Asian countries are also producers, BMI's research showed.

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## Tianqi Lithium delays 2nd stage after Australian lithium plant start

China's Tianqi Lithium has launched operations at its lithium conversion facility at Kwinana in Western Australia, while flagging it will delay the project's second stage amid subdued global demand.

The plant, which is the first fully automated lithium chemical manufacturing facility outside of China, is designed to produce 48,000 mt/year of battery-grade lithium hydroxide once fully operational.

"We expect significant growth in the

lithium market, driven primarily by electric vehicles and energy storage over the next 10 years, and with the Kwinana plant we are very well placed to take significant advantage of that," Tianqi's president Vivian Wu said in a statement.

Ramp-up to the 24,000 mt nameplate capacity Stage 1 of the project is expected to take 12-18 months, the company said. It had previously been scheduled to come online in late 2018.

"All of our focus for the coming months is on getting Stage 1 into steady production and all resources have been channeled towards this," the company's general manager Phil Thick said. "Once we have achieved this, we will return our focus to completion of Stage 2 as customer demand continues to build," he added.

There have been recent delays in the construction, commissioning and ramp-up of chemical conversion facilities that handle

lithium concentrate supply in China, while Australia's Pilbara Minerals has slowed production of lithium concentrate at its Pilgangoora Project amid subdued demand.

"The situation is further complicated by the difficult lithium chemicals trading conditions that have arisen [in the June and September quarters] as a result of modifications to the Chinese government's subsidy regime for New Energy

applications," Pilbara Minerals said in late August.

The Kwinana facility is to source its raw material from the Talison Lithium Greenbushes mine, which is majority owned by Tianqi and located about 250 km south of Perth in Western Australia, which made its first major deliveries of spodumene last week.

Australia's Department of Industry in

July forecast global production of lithium as a lithium carbonate equivalent at 403,000 mt for 2019, outpacing consumption at 264,000 mt. Production is then forecast to edge higher to 411,000 mt in 2020 and 420,000 mt in 2021 while consumption is expected to increase more strongly to 305,000 mt and 349,000 mt, respectively, over the same period.

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## Europe could add 1 million EVs in 2020: research

Europe could see an additional 1 million electric vehicles on its roads in 2020 as automakers ramp up output to meet government emission standards, consultancy Transport & Environment said Monday.

Transport & Environment estimated that in 2020, EV sales will be about 5% of total vehicle sales, with 2021 EV sales coming in around 10%, depending on the strategies pursued by automakers to comply with EU carbon dioxide emission targets for new cars.

CO<sub>2</sub>, climate change, emission standards and the electrification of mobility are all hot topics for global governments.

"This shows that after years of limited efforts, car manufacturers are finally preparing to bring to market the large numbers of more fuel efficient and affordable electric cars required to comply with Europe's car CO<sub>2</sub> law," the report read.

EU parliamentary negotiators informally agreed that new cars must emit 37.5% less CO<sub>2</sub> on average by 2030 compared with 2021 in talks with EU national governments concluded in December.

The rules include a target for average CO<sub>2</sub> emissions from new cars and vans to be 15% lower by 2025 compared with 2021.

Julia Poliscanova, director of clean vehicles at Transport & Environment, said: "For years, carmakers did nothing to reduce their emissions. Now, thanks to the EU car CO<sub>2</sub> law, they are finally preparing to start selling the more fuel efficient and electric cars the climate emergency demands. This

means we are going to see good quality, affordable EVs in the next year or two, not 10, and that's excellent news for consumers who'll be saving lots of money at the pump."

Still, not everyone was excited about the swift adoption rates of EVs.

BMO has lowered its global EV estimates by 12-25% through 2021, as well as global light vehicle sales forecasts, because of recent sales weakness and more muted midterm consensus expectations.

The bank said in a note it had lowered overall EV penetration rates to 2.9% in 2019 from the previous 3.2%, 3.9% in 2020 compared with the previous 4.5%, and 5% in 2021, down from 6.1%.

This translates into EV sale estimates of 2.6 million in 2019, down 500,000 from the previous forecast; 3.5 million in 2020, down from the previous 4.5 million; and 4.7 million in 2021, down 1.5 million on last expectations.

The lowered assumptions are expected to affect cobalt and nickel forecasts, with BMO now expecting the cobalt market to be oversupplied until 2023, assuming Glencore's Katanga operation in the Democratic Republic of Congo ramps up.

Analyst Colin Hamilton said the bank now estimated consumption of cobalt in the EV sector at 86,000 mt in 2025, down from 97,000 mt.

"Over the 2019-2025 period, we have removed a cumulative 100,000 mt of cobalt demand, representing 11% of total expected

demand over this time frame. As a result, even with the cut to Glencore's Mutanda operation, we see a relatively substantial market surplus over 2020-21," he said.

Hamilton added that while the recent supply cuts had supported cobalt prices somewhat, it was hard to see any aggressive further gains in the near term given the ongoing need to keep supply out of the market.

Platts' weekly cobalt prices have recently gained \$600/mt over a four-week period to last week's \$7,500/mt CIF North Asia, although this is still down from \$13,400/mt at the year's start.

The outlook wasn't as bearish for nickel, as EVs represent a much smaller proportion of the overall nickel market, which is still massively reliant on the stainless steel sector.

BMO dropped its 2025 forecast by 50,000 mt to 347,000 mt, resulting in EVs consuming 11% of global nickel by then, rather than the previously expected 13%.

Citi analyst Max Layton remained bullish on the EV theme.

"We remain optimistic on the outlook for EVs despite some near-term hurdles, given the long-term regulatory support likely to ensure their success in the hope of meeting climate change goals and reducing global pollution," he said.

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## UK unveils GBP400 million funding for electric vehicle charging

The UK government Tuesday announced new funding of GBP400 million (\$493 million)

to boost the country's electric vehicle-charging infrastructure.

An initial GBP70 million will be used to create 3,000 new rapid-charge points, more



than doubling the number across the UK to 5,000 by 2024.

"Britain already boasts one of the biggest networks of charging infrastructure in Europe and soon we will have the fastest thanks to this investment," Exchequer Secretary Simon Clarke said in a statement.

Rapid-charge points can recharge a family car in about 20 minutes — about half the time required using existing technology, the government said.

Transport secretary Grant Shapps said the UK now has a rapid-charge point at

almost every motorway service station, and wants to see thousands more installed across the country.

"This fund will help drum up further investment in charging infrastructure from the private sector, so charging an electric car becomes as easy as plugging in a smart phone," Shapps said in the statement.

The Charging Infrastructure Investment Fund will be managed and invested on a commercial basis by private sector partners, and the government will invest up to GBP200 million to be matched by private investors.

Tuesday's announced funding compliments an existing GBP1.5 billion of UK support to boost the uptake of electric vehicles and make cleaner vehicles more accessible to everyone, the government said.

The funding is part of the government's efforts to achieve a target to end the sale of petrol and diesel vehicles by 2040. The rise of EVs was expected to increase global demand for electricity over the long term, while reducing demand for liquid fuels in the road transport sector.

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## Ford aims for bulk of sales from EVs in 2022

In a move to lower carbon dioxide emissions, automaker Ford plans on electric vehicle sales outstripping conventional engines by 2022, the company said this week at the Frankfurt Motor Show.

The show, one of the biggest in Europe, was an opportunity for global car producers to show off their new electric vehicles and outline their strategy going forward, as they bid to please shareholders and governments alike while also lowering their carbon footprint.

Many automakers not only outlined new models, but also charging solutions and technology to make the move from conventional engines to EV as seamless as possible.

Ford is launching 17 electrified vehicles in

Europe by 2024, including eight in 2019. It expects electrified powertrains to account for more than half of the company's passenger vehicle sales by the end of 2022. By that time, the company also expects to have sold 1 million passenger EVs.

"By making it easier than ever to seamlessly shift into an EV, we expect the majority of our passenger vehicle sales to be electrified by the end of 2022," Stuart Rowley, president, Ford of Europe, said.

Ford will partner with six energy suppliers across Europe to provide home charging wall box installation services and green energy tariffs for plug-in hybrid customers, "enabling simpler, faster and more affordable charging of electrified vehicles."

EU parliamentary negotiators informally agreed that new cars must emit 37.5% less CO<sub>2</sub> on average by 2030 from 2021, in talks with member states concluded in December.

The rules include a target for average CO<sub>2</sub> emissions from new cars and vans to be 15% lower by 2025 from 2021.

Japanese automaker Honda said earlier this week it plans to sell only electrified cars in Europe by 2025.

Europe could have an additional 1 million electric vehicles on its roads in 2020 as automakers ramp up output to meet government emission standards, consultancy Transport & Environment said earlier this week.

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## Honda looks to fully electrify European vehicles by 2025

Japanese automaker Honda plans to sell only electrified cars in Europe by 2025 in an effort to comply with new carbon dioxide emission standards.

The first step in Honda's 'Electric Vision' strategy was the launch this week of the Honda e brand at the Frankfurt Motor Show.

EU parliamentary negotiators informally agreed that new cars must emit 37.5% less CO<sub>2</sub>, on average, by 2030 compared with 2021 in talks with member states concluded in December.

The rules included a target for average CO<sub>2</sub> emissions from new cars and vans to be 15% lower by 2025 compared with 2021.

Honda said that alongside building a

fleet of EVs it will also offer solutions to the charging infrastructure. In partnership with charging specialists ubitricity, the automaker has developed a technology solution which allows the installation of charge points within existing lamp posts.

The system will utilize a dedicated cable featuring a mobile metering device allowing charging cost to be linked to the customer's existing power tariff/supplier, removing the need for subscription to several suppliers.

An increasing number of the big automotive manufacturers are seeking out solutions to make the transition to EV as headache free as possible. Consumers often

fret over costs, ease of charging and battery range. Car companies want to remove those fears and prompt more people to buy into the electric revolution.

At the same time the system will offer the ability to flow power back to the grid when not needed, a move to smooth out any spikes in the supply.

"The development of these charging functions will integrate electric vehicles further with existing power networks, allowing energy stored in the vehicle battery to power the home, or to flow back into the energy grid during periods of high demand. The vehicle battery can then be replenished at a time when demand is

lower, subject to limits defined by the user,” Honda said.

Europe could have an additional 1 million

electric vehicles on its roads in 2020 as automakers ramp up output to meet government emission standards,

consultancy Transport & Environment said Monday.

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## German automakers have potential for competitive EV edge: S&P Ratings

German carmakers could make competitive gains in the industry’s transformation to electric vehicles over the coming few years, by leveraging major brands such as VW, S&P Global Ratings said in a report published Monday.

CO<sub>2</sub>, climate change, emission standards and the electrification of mobility are all hot topics for global governments. This means automakers are under increased regulatory pressure to electrify their fleet in a bid to lower global CO<sub>2</sub> emissions.

EU parliamentary negotiators informally agreed that new cars must emit 37.5% less CO<sub>2</sub> on average by 2030 compared with 2021 in talks with EU national governments concluded in December.

The rules include a target for average CO<sub>2</sub> emissions from new cars and vans to be 15% lower by 2025 compared with 2021.

“We think Germany’s premium car segments will be able to leverage their strengths of higher profitability and somewhat lower sensitivity to demand shocks than mass producers,” S&P Global Ratings credit analyst Tobias Mock said.

However, the major research and development costs, and extra investment in

supply chain and associated technology, will weigh on profitability in the coming years, the report cautioned.

“Disruptive industry trends and the deterioration of market conditions globally may also strain their profitability over a prolonged period and trigger rating transition,” S&P Global Ratings credit analyst Vittoria Ferraris said.

The three big premium automakers Volkswagen, BMW, and Daimler held only 12.5% of the fully electric car market in 2018. But plug-in hybrids and mild hybrids are also key in their strategy to meet increasingly more stringent emissions regulations. By the end of this year, the three automakers will offer at least one fully battery electric vehicle (BEV) and at least one plug-in hybrid electric vehicle (PHEV) in nearly all their existing models -- totaling 38 electrified models. They plan to launch another 23 models next year.

Although for the time being US automaker Tesla is currently the bestseller in the premium EV market, and S&P expects German carmakers will exert a strong challenge by building on their brand reputation, ability to produce high-quality cars at scale, and consumer loyalty.

The large price premium for electric cars is less of a hurdle in the luxury segment than in the mass market.

“We believe electrification will support higher leasing activity at manufacturers’ financial businesses, as we believe that drivers will prefer to lease, rather than buy, cars to reduce residual value risk,” Ferraris said. “As a result, we expect that they will gain greater exposure to residual value risk, which could weigh on their ratings.”

The report does not constitute a rating action, it added.

Last week VW and Northvolt finalized a 50/50 joint venture to build a “gigafactory” for lithium-ion batteries in Germany, a further sign of the growing importance of the EV movement to automakers.

VW is investing more than Euro30 billion (\$33 billion) in the electrification of its fleet by 2023.

Europe could have an additional 1 million electric vehicles on its roads in 2020 as automakers ramp up output to meet government emission standards, consultancy Transport & Environment said Monday.

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## Philippine H1 2019 nickel ore output up 3% on year to 11.3 mil dmt

Philippine direct shipping nickel ore production rose 2.7% on the year to 11.31 million dry mt in the first half of 2019, despite more than half of the country’s nickel mines remaining under maintenance or shutdown over environmental violations.

Nickel content of ore mined in Philippines -- the world’s second biggest nickel producer after Indonesia -- jumped 6.9% year on year to 141,584 mt, according to data released Thursday from the country’s Mines and Geosciences Bureau, or MGB.

Value of H1 2019 nickel ore production rose 14.7% year on year at Philippine Peso 12.24 billion (\$236.24 million), the

data showed.

Of the 31 nickel mines in the Philippines, 16 reported zero production over H1 2019 as they were either put on care and maintenance or their operations remained suspended as ordered by the government over environmental breaches.

In H1 2018, the country had a total of 18 producing nickel mines, while 11 were under suspension or maintenance, according to MGB’s previous quarterly data.

The bureau reported a 1.7% year on year rise in H1 2019 mixed nickel-cobalt sulfide production to 43,363 dmt, with nickel production value over the six-month period

surging 24.4% to Philippine Peso 14.21 billion.

MGB was optimistic about prices of base metals in the remaining quarters of 2019 amid expected economic growth and increased demand from China, rising popularity of electric vehicles and possible disruptions in the operations of main nickel producers in the world market.

It further noted the Indonesian government’s recent announcement of bringing forward the resumption of low-grade nickel ore export ban by two years to January 1, 2020 “will naturally result in a lower supply vis-à-vis higher demand.”

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## Hyundai, Kia join global EV charging venture Ionity

South Korean automakers Hyundai and Kia are investing in Ionity, a joint venture established by a handful of global automakers in a bid to make the future of electric vehicle charging as customer friendly as possible.

Original equipment manufacturers are under increased regulatory pressure to electrify their fleet in an attempt to lower global carbon dioxide emissions.

"The decision to join the network will provide enhanced benefits for Hyundai and Kia's European customers. Starting in 2021, Hyundai and Kia EVs will be equipped with 800 volt charging systems to accommodate IONITY's maximum charging power of 350 kilowatts. Customers will be able to use Ionity's HPC facilities, which are equipped with digital payment options, to significantly

reduce charging times and better facilitate long-distance travel," a statement from the companies read.

Ionity was established in 2017 between BMW Group, Daimler AG, Ford Motor Co. and Volkswagen Group with Porsche AG. It currently has nearly 140 charging stations in Europe in operation, with 50 more under construction.

It aims to offer a universal charging system and bring ease of use to consumers.

Ionity is expanding its network to 400 fast-charging stations by 2020, with an average of at least one site every 120 km along major European highways. Its European distribution and brand-agnostic approach is expected to improve the image and accessibility of EVs for both current users and prospective buyers.

"Our participation in this joint venture reaffirms the group's commitment to future electro-mobility," Thomas Schemera, head of product at Hyundai Motor Group, said.

Hyundai Motor Group comprises the Hyundai and Kia brands.

"I am confident that our work with Ionity will open a new era of high-power charging experiences, where charging will be seamless and easier than refueling for our customers," he added.

The Group will obtain equal shares in Ionity as those of the founding partners, listed above.

Charging is a hot topic for the EV revolution, with consumers often fretting over difficulties in both charging and battery range.

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## Eramet, BASF, SUEZ to develop lithium-ion battery recycling process

The battery recycling project ReLieVe, led by French miner Eramet, with Germany's BASF and France's SUEZ, has been selected by the EU to develop an innovative closed-loop process for the recycling of lithium-ion batteries from electric vehicles, Eramet said in a statement Wednesday.

The EU and the three members will commit €4.7 million (\$5.17 million) to develop the process and to structure "a well-integrated recycling industry," the French mining and metallurgy group said.

"As of January 2020, and over a two-year period, the project ReLieVe will carry out a series of activities for the large-scale development of this innovative process and

the structuring of an integrated industrial sector: ... SUEZ for collection and dismantling of end-of-life batteries; Eramet for the development of the recycling process; and BASF for the manufacturing of cathode active materials," it said.

The recovery of nickel, cobalt, manganese and lithium elements into battery-quality products is at the center of Eramet Group's current R&D developments, the company said.

"Around 50,000 tons of batteries are expected to be recycled by 2027 in Europe and it could be multiplied almost tenfold by 2035," SUEZ Chief Operating Officer Jean-Marc Boursier said in a statement Wednesday.

"Thanks to this funding, the ReLieVe project will be able to accelerate its work and progress towards the construction of a lithium-ion battery recycling sector with an innovative and competitive process on a European scale," Chairman of Eramet Ideas, the Group's R&D Center, Laurent Joncourt said.

EIT Raw Materials, the largest consortium in the raw materials sector worldwide, co-finances the ReLieVe project, Eramet said.

Eramet has manganese ore operations in Gabon and nickel ore production in New Caledonia.

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## Key Capture Energy installs 20-MW battery energy storage system in NY

The New York State Energy Research and Development Authority said Thursday Key Capture Energy has completed a 20-MW battery energy storage installation, the state's largest to date, making progress toward legislation that mandates 3,000-MW of energy storage capacity by 2030.

"This first project under NYSERDA's energy storage incentive program -- the

largest battery installation in the state to date -- will enhance our electric system and demonstrate the value of large-scale energy storage systems that will accelerate our ability to meet the state's commitment to a carbon-free electric system by 2040," Alicia Barton, NYSERDA's president and CEO, said in a statement.

The lithium-ion battery storage project,

called KCE NY1, is located at a transmission sub-station in Stillwater, about 20 miles north of Albany. The project is connected to the wholesale transmission network and will generate revenue for the Albany-based independent utility-scale battery storage developer through participation in the New York Independent System Operator's wholesale power markets, according to a

state press official.

“New York State has the most ambitious energy storage deployment target in the US, and NYSEDA plays a vital role in promoting the state’s clean energy future,” Dan Fitzgerald, co-founder and chief operations officer at Key Capture Energy, said in the statement.

The company is also developing the KCE NY 3 battery storage project in Rockland County in conjunction with Orange and Rockland Utilities as part of O&R’s Pomona Non-Wires Alternative (NWA) Project, according to a March statement.

That project will connect to the O&R system through its overhead distribution lines, allowing the utility to delay building new infrastructure and support peak energy demand.

Key Capture’s 20-MW system is the first completed since Governor Andrew Cuomo announced the Market Acceleration Bridge Incentive Program in April, which included \$150 million for bulk storage projects -- for systems over five MW that primarily provide wholesale market energy or distribution service, according to the statement.

Key Capture Energy was awarded \$1.3 million from NYSEDA under the Bulk Storage incentive program for this project, the agency said.

In December 2018, the New York Public Service Commission approved its Energy Storage Order adopting Governor Cuomo’s target for 1,500 MW of energy storage by 2025 and establishing the 3,000-MW target by 2030.

The NYISO expects battery storage to

slightly increase load due to inefficiencies associated with converting and storing electricity, according to its 2019 Power Trends report.

The NYISO projects growth in grid-connected energy storage resources that will participate in wholesale markets as competitive suppliers. The grid operator also projects growth in behind-the-meter storage deployments that will reduce peak demand as customers use the technology to better manage their energy use in response to market signals and system conditions, according to the report.

The NYISO forecasts that New York will have slightly less than 4,000 MW of nameplate energy storage capacity installed by 2039, including both wholesale and BTM.

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## Battery Metals weekly wrap

It was a stellar week for the European, and indeed global, battery business as the Frankfurt Motor Show resulted in a wave of headlines firmly underlining automakers’ commitment to the electric vehicle revolution.

Let’s have a look at some of the big-ticket brand announcements.

In a move to lower carbon dioxide emissions, automaker Ford plans on EV sales outstripping conventional engines by 2022.

That’s no mean feat, especially when the company also says it realizes that most consumers are still very unsure of what an EV will actually do for them.

“While our customers understand some of the benefits of electrified vehicles, we believe that there is a perception gap. The capability of all-electric vehicles has changed significantly recently and hence the need for education to help them in making the switch,” said Darren Palmer, global product development director at Ford.

In 2020 Ford aims to launch an all-electric SUV with a range of 370 miles, or 592 km; it hopes that this will ease some of that deeply embedded range anxiety.

Ford will partner with six energy suppliers across Europe to provide home charging wall box installation services and green energy tariffs for plug-in hybrid

customers, “enabling simpler, faster and more affordable charging of electrified vehicles.”

A lot of this move to electric is being driven by government policy. EU parliamentary negotiators agreed that new cars must emit 37.5% less CO<sub>2</sub> on average by 2030 from 2021, in talks with member states concluded in December.

The rules include a target for average CO<sub>2</sub> emissions from new cars and vans to be 15% lower by 2025 from 2021.

Also in Frankfurt, Japanese automaker Honda said that as a result of such regulation it plans to sell only electrified cars in Europe by 2025.

All this talk of new models could see Europe add 1 million EVs to its roads in 2020, according to consultancy Transport & Environment.

Still, latest global EV sales data was less inspiring. July saw global plug-in electric vehicle (PEV) markets stumble, with sales flat year-on-year at 145,900 units, according to data from S&P Global Platts Analytics.

That didn’t stop Platts Analytics senior transportation technology analyst Zane McDonald remaining bullish on the bigger picture.

“PEV sales do not, however, look so drab when viewed as a percentage of the total light duty vehicle market. Looking at a three-

month rolling average, July PEVs account for a greater share of total LDV sales in both the US and China (2% and 6.3% respectively) than in 2018 (1.7% and 4.9% respectively),” he noted.

Another arm of the S&P Global family was also publishing research on the EV space this week.

German carmakers could make competitive gains in the industry’s transformation to electric vehicles over the coming few years, by leveraging major brands such as VW, S&P Global Ratings said in a report published Monday.

“We think Germany’s premium car segments will be able to leverage their strengths of higher profitability and somewhat lower sensitivity to demand shocks than mass producers,” S&P Global Ratings credit analyst Tobias Mock said.

However, the major research and development costs, and extra investment in supply chain and associated technology, will weigh on profitability in the coming years, the report cautioned.

The automakers are for sure taking big bets on the move to electric, with investment after investment. Hopefully all this spending will result in ease of adoption and get us all to plug in.

Finally, on the point of plugging in, South Korean automakers Hyundai and Kia are



investing in Ionity, a joint venture established by a handful of global automakers in a bid to make the future of electric vehicle charging as customer friendly as possible.

Ionity was established in 2017 by BMW,

Daimler, Ford, Volkswagen and Porsche. It currently has nearly 140 charging stations in Europe in operation, with 50 more under construction.

It aims to offer a universal charging

system and bring ease of use to consumers.

So, come on people, what more do you need, the future is starting to feel ever so almost here.

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