

# METALS DAILY

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### **BATTERY METALS**

## Seaborne lithium hydroxide falls further; carbonate still under pressure

Low demand combined with oversupply of spodumene continued to weigh on seaborne lithium hydroxide prices this week, while lithium carbonate held flat despite the persistent bearish sentiment.

S&P Global Platts assessed lithium hydroxide down \$200/mt, to \$13,000/mt, and lithium carbonate flat at \$10,200/mt. Both assessments refer to battery-grade quality products on a CIF North Asia basis, meaning deliveries in the main ports of China, Japan and South Korea.

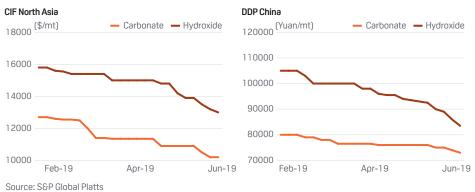
Hydroxide prices "have been moving down gradually, weakening every week," said an international brokerage source, who saw the usual \$2,000-3,000/mt premium over carbonate shrinking to "\$1,500/mt or even \$1,000/mt in some situations." He pegged the hydroxide tradable level at around \$11,500-\$13,000/mt CIF North Asia basis.

A Chinese seller source who sees the market trading at \$13,000/mt CIF, "with slightly lower prices in Japan compared to South Korea," rated that this level is "within the expectations." Despite the current

(continued on page 2)



#### PLATTS LITHIUM CARBONATE AND LITHIUM HYDROXIDE



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downtrend, however, he expects the conversion capacity of hydroxide to become a big concern in the next three-five years.

Industry participants expect the vast majority of the conversion into hydroxide will come from spodumene, allowing the price to get closer to the levels of battery-grade lithium carbonate — which also has room to keep falling in the short term, sources said.

The Chinese seller "heard two clients wanted to negotiate contracts at around \$10,000/mt or below on a CIF basis, but personally I think it's almost impossible," he said, adding he had offered at \$12,000/mt. "I can sell at Yuan 75,000/mt in [the Chinese] domestic market, there's no

reason to sell cheaper in Japan and South Korea," he said.

A second Chinese supplier source, however, said that "\$8,500/mt CIF China is a logical price [for carbonate], but only in theory." He heard about offers from South American supplier at \$9,000/mt CIF China "but didn't know details". It's not totally clear if these offers would be for battery-grade material or technical grade.

The broker source saw offers below \$10,000/mt CIF "but the quality is bad, it's not really battery grade, more like technical grade," he said, adding that the sodium and calcium levels were too high. Battery grade lithium carbonate should be trading at

around \$10,000-\$11,000/mt on a CIF Asia basis, he added.

Another Chinese seller commented that the imports of Chinese consumers would shrink significantly given the lower domestic prices.

The Platts \$10,200/mt CIF mark for carbonate was equivalent to Yuan 79,238/mt, including 13% VAT, based on the Platts' import-parity formula, while hydroxide's price of \$13,000/mt was equivalent to Yuan 100,989/mt on the same basis. The Yuan was assessed at 6.8747 to the dollar at 4:30 pm Singapore time Friday.

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## Chinese domestic lithium prices slip further on weaker demand

Lithium carbonate and hydroxide fell further in China this week amid the bearish sentiment triggered by weakening demand and persistent oversupply.

S&P Global Platts assessed battery grade lithium carbonate down Yuan 1000/mt this week to Yuan 73,000 (\$10,631)/mt, while lithium hydroxide fell Yuan 2,500/mt to Yuan 83,500/mt. Both assessments are on a DDP China basis.

"Demand is shrinking sharply and oversupply is still there," said a Chinese consumer source who heard about carbonate trading at as low as Yuan 70,000/mt DDP.

"Lithium converters are in a thorny situation," said a Chinese supplier source who is offering carbonate at Yuan 73,000-74,000/mt, although "major cathode makers can definitely get Yuan 72,000/mt and below" with other suppliers.

"On the one hand, demand is not keeping up; on the other hand, production cost restrains us from lowering sales prices," he added. "There is no hope to boost sales volume even if you slash the offers."

Lithium hydroxide is trading at Yuan 82,000/mt for coarse sand and Yuan 88,000/mt for fine powder, the supplier source said.

The sluggish demand, which has been reported at least since the beginning of the year, has deepened further recently of the summer, seasonal slowdown, sources said. During summer, many sources also expect the increasing output from local brines to add more pressure on prices.

A second Chinese consumer source, who also reduced his production to reduce losses, expects a reheat in demand after that, "in late August or September." He paid Yuan 73,000/mt for carbonate last week, but believes it would already be possible to reach deals at Yuan 72,000, although large producers are offering at Yuan 74,000/mt.

A second Chinese supplier believes "converging hydroxide and carbonate prices are actually the natural process to return to a healthy market environment for everyone." He believes a "reasonable" spread should be

at around Yuan 5,000-10,000/mt.

This would enable spodumene converters to reduce the competitiveness from companies converting lithium carbonate into hydroxide, he added, reporting tradable values at Yuan 74,000/mt for carbonate and about Yuan 80,000/mt for hydroxide.

"Chinese producers would not stop delivery until the prices drop below their production costs," said another Chinese supplier, adding that he hasn't signed any contracts for lithium hydroxide yet. A third Chinese consumer corroborated that he bought a very small amount of lithium hydroxide.

Some market participants expected the prices might rebound in late August or early September after the seasonal lull. But some others doubted whether the demand could lend support to the price rebound at that time.

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# Australian spodumene concs fall again as sellers find reluctant buyers

Weak fundamentals in spodumene concentrate continued to pull down spot prices, as sellers piled up inventories amid no buying interest.

S&P Global Platts assessed lithium spodumene concentrate, 6% lithium oxide

content (SC6) at \$600/mt FOB Australia in June, down 2.5% from \$615/mt in May, reflecting the spot price of a minimum volume of 1,000 mt cargoes exported from Western Australian ports.

In mid-June, a Japanese trader offered a slot at minimum \$630/mt CIF China, 5,000-

10,000 mt for August loading from Western Australia. However, Chinese buyers said they were not interested in the spot cargo, because there was no additional demand in spot market since they had secured supply with major miners on term contracts.

The trader source said nothing was booked for the cargo this Wednesday, keeping offer at \$630/mt CIF China, standard L/C payment, but he is willing to give 60 days and up to 90 days credit terms to long term partners.

Several Chinese market participants heard market talks about spodumene concentrates traded below \$600/mt, to as low as \$580/mt, details unknown. Lower spodumene prices are putting heavy pressures on high cost miners, sources said.

Two major Chinese lithium converters agreed about slow demand and abundant supply. "Spodumene concentrate market is facing the most serious oversupply issue," said one East China based lithium converter, expecting a further price correction to \$550/mt CIF China in the fourth quarter. Yet he pegged reasonable spot market value at \$620-\$630/mt CIF China, standard letter of credit payment without any other additional conditions.

"Every miner is eyeing on us to buy," said a third lithium converter, who has no intention for spot procurement but said \$600/mt FOB Australia makes sense.

A major cathode maker said he also heard numbers ranging from \$580-\$630/mt from other sources, but \$580/mt "sounds more like an FOB price."

Another Tokyo trader said he was not surprised at "hearing \$580/mt FOB Australia rumors. [It is] possible given the current bearish fundamentals. Just too many supply out there." Starting this month, Australian mining companies cut output to ease pricing pressure from excessive supply, he added.

Pilbara Minerals decided to moderate production in June and July because of delays in delivering Chinese lithium conversion capacity, according to the company's announcement on the Australian Stock Exchange June 17.

A miner source was aware of short term pricing pressures, though the company has no plan to limit output. He would offer \$630/mt CIF China for forward loading cargoes, commenting \$600/mt FOB Australia is "probably consistent with what we are seeing" and "\$640-\$680/mt CIF China are still there".

A second miner said that it was possible to see trades done at \$580-\$600/mt FOB Australia. The oversupply might continue, in the short term at least, he added.

Platts surveyed market participants on freight rates from Western Australia to major Chinese ports and how they convert CIF China values to FOB Australia throughout June. Several indicated CIF values would typically be at around \$20/mt above FOB. Others cited price differentials ranging from \$25-\$45/mt, depending on load and discharge ports, vessel sizes and whether the cargoes were co-load or a full-ship load.

Platts assessed the handysize dry bulk freight rate from Bunbury to Lianyungang at \$16.20/mt on Friday. Both spodumene sellers and buyers previously said freight costs were similar for spodumene concentrate from Port Hedland and Bunbury to Zhangjiagang, as the routes were similar.

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# Asian cobalt sulfate prices continue to drop on bearish fundamentals

Cobalt sulfate prices continued to decline for a third straight week, with poor demand from the automotive batteries segment remaining the key driver of the downtrend.

S&P Global Platts assessed cobalt sulfate with 20.5% cobalt content at Yuan 38,000/mt delivered, duty-paid China Thursday, down Yuan 1,000/mt from June 20, while the seaborne market was assessed at \$7,300/mt CIF North Asia, down \$200/mt from last week.

Market sentiment remained pessimistic as demand was described as "very bad" at present by one source. Prices had yet to reach bottom and the downtrend could continue in the near term, market sources said.

Buyers can easily buy from the biggest two producers in Zhejiang province and Jiangxi province, said a major precursor and cathode maker in south central China, "but there is simply; no demand." Another consumer reported buying 60 mt at Yuan 35,000-36,000/mt, delivered basis, but this could not be verified with the selling side as the buyer said both parties had signed non-disclosure agreements. He also pegged market prices at the same level.

A third consumer said Yuan 38,000-39,000/mt was possible, but added: "I believe there are desperate sellers that can sell at Yuan 35,000/mt."

Several major producers expressed resistance to sell anything below Yuan 38,000/mt to downstream clients, and a Zhejiang-based producer said it would not offer at below Yuan 40,000/mt.

Producers are facing the dilemma of high costs and low buying interest. The second consumer said production costs are as high as Yuan 44,000/mt. Sources said several producers, faced with lackluster demand, had started to cut production in

order to minimize losses.

"Producers resist to sell on losses. More or less 20%-30% production will be cut," the third consumer said.

In the seaborne market, global demand is also "not good," a Western producer said, adding that the "South Korean market is worse [and] the Japanese market is relatively conservative and not sensitive to prices."

The producer was offering \$8,200/mt CIF Japan and South Korea, but said there was no spot liquidity at the moment.

An East China producer saw price levels at around \$7,000/mt as "relatively reasonable" as that price was still profitable. "Demand overseas is much better than domestic. Chinese prices now are very unsustainable," he said.

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# Lithium prices to stabilize on constrained capacity; refineries being built outside of China: sources

Lithium prices look set to stabilize in the near term on constrained refining capacity, though more refining capacity is being developed outside China, sources at the Mining Journal Select conference in London said this week.

Prices are seen remaining lower than in 2018 due to insufficient refining capacity to process the recent high production of spodumene (lithium ore).

"There are shedfuls of spodumene waiting to be processed in China," said John de Vries, managing director of graphite project developer Black Rock Mining.

de Vries noted that battery technologies are moving away from lithium carbonate to lithium hydroxide, where refining capacity is particularly tight. This is seen by some to be a factor suppressing Lithium prices to stabilize on constrained capacity; refineries being built outside of China: sources prices of lithium carbonate, being produced by many new projects.

Jeremy Dowler, of the Dowler Corporate Consultancy DF Mining Fund, said: "There's a lot of lithium around."

#### Increasing transparency

Transparency is considered a major factor in the current greater price stability.

"The market is becoming more and more informed," as increasing amounts of data on

the sector are published, UK-based Bacanora Lithium chief financial officer Janet Boyce said. Bacanora is raising funds to develop a lithium carbonate project in Mexico and also plans to establish lithium fluoride processing in Germany.

De Vries said the creation of more refining and battery production capacity outside of China, for instance in Europe and in Australia, would help raise production data transparency. The Western Australian government is backing the establishment of this kind of capacity in the Kwinana "lithium valley," he noted.

Spot market lithium carbonate batterygrade prices are seen remaining in the region of \$11,500/mt, while long term contracts — representing around 80% of the market — were expected to stay around \$13,000/mt, a level which gives projects such as Bacanora's a "solid foundation for growth," Boyce said.

Lithium prices have been extremely volatile over the last few years, as numerous junior miners piled into a market booming on the back of burgeoning demand for battery metals for the electric-vehicle sector.

Spot market lithium carbonate prices, mostly used by market participants in China, jumped from around \$6,500/mt in the 2009- 2010 period to a peak of some \$24,000/mt in 2018, before sinking back to

current levels of \$11,500/mt on the specter of oversupply. Contract prices, used by major producers including FMC, SQM and Albemarle, doubled during this period, Boyce noted.

#### Strong demand growth

Lithium demand is seen continuing to grow between 14% and 16% annually, according to congress participants.

Spodumene comes mainly from China and Australia and the quantity of material has brought spodumene prices down to around \$600-\$800/mt, from a recent peak of around \$1,300/mt.

Frontier Lithium president and CEO Trevor Walker said spodumene prices have the potential to double.

Frontier is developing a spodumene concentrates project in what the company calls "Electric Avenue" a premium-quality lithium district in Canada's northwestern Ontario. The project plans to link up with Glencore's Expert Process Solutions to produce lithium hydroxide.

"Quality is king in lithium," Walker said.

A relative shortage of some batterygrade lithium products is expected to continue, supporting prices at current levels, as some producers struggle to secure financing for new projects, Boyce said.

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## Battery metals recycling to be small part of market for 8-10 years: Roskill

Recycling of battery metals will remain a relatively small part of the overall battery-metals market for the next eight to 10 years, industry consultancy Roskill said this week.

"Recycling will become increasing important but not at the volumes that will create critical mass" for this period of time, said David Merriman, Roskill's battery and electric-vehicles materials manager, at the Mining Journal Select conference in London. This is because eight to 10 years will be the length of the initial warranty of the electric vehicles now coming onto the market, after which the metals could be reused, Merriman said.

In a later interview, Merriman noted that battery materials recycling is expected to occur for only a relatively small portion of lithium supply when compared to nickel and cobalt, which are more widely recovered.

"We forecast lithium from recycling sources to reach 115.9 kt LCE (lithium carbonate equivalent) by 2028, increasing from 8.1 kt LCE in 2018. Though this is a very rapid growth rate, recycling of lithium is only forecast to form over 5% of total refined lithium supply in 2025, increasing to over 10% by 2028," the consultantcy said.

A recent surge in the number of new

lithium-mine projects has promoted the specter of oversupply in this market, provoking price volatility.

"Nickel recycling from batteries is reported to total 133.8 kt Ni in 2018," Merriman said, citing data from Roskill's Nickel Market Outlook report. "Recovery from Li-ion technologies remains a small portion of battery recycling, with processing of NiMH and NiCd forming the majority of recycled out," he said.

Rebecca Gordon, divisional director of consultant CRU Group, said at the Mining Journal event that Chinese companies are promoting battery metals recycling by scraping metal cathodes to retrieve high deposits of nickel and cobalt, but they

generally do not take any lithium present. "Nickel and cobalt are quite heavily recycled

already," she noted.

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## Chile blames trade war after lithium exports to China fall 90%

Chilean exports of lithium to China fell 90% during the first three months of the year, a move the Chilean authorities have blamed on the effects of the trade war between Washington and Beijing.

A report by Chile's international trade department DIRECON showed that the South American country exported \$4 million worth of lithium products to China during the first quarter, compared to \$39 million in the same period of 2018.

Speaking earlier this month, DIRECON director Rodrigo Yanez said that US tariffs of

25% on Chinese lithium batteries were behind the decline.

Chile is one of the world's largest producers of lithium thanks to huge reserves on the Salar de Atacama which are exploited by Albemarle Corp and SQM.

Central Bank data showed that Chile exported 19,352 mt of lithium carbonate during the first quarter with a value of \$242 million and an average price of \$12,525/mt.

The principle markets for Chilean lithium carbonate during the quarter were South Korea (\$107 million), Japan (\$91 million) and

Belgium (\$15 million)

DIRECON also blamed the trade war for falls in exports of copper, molybdenum, iron ore, timber and fruit to China.

China is Chile's largest trade partner accounting for a third of the country's exports last year.

"Our exports to China fell by 5% during the first quarter as a series of Chilean products were impacted by the decline in trade between the two major powers," DIRECON said.

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## Battery Metals Weekly wrap-up

It was another eventful week in the battery world, with talk from European sources that car companies could finally be starting to realize that sourcing lithium domestically is going to be real thing rather than imaginary, and with more charging developments coming to market.

Talking to S&P Global Platts this week, a couple of European lithium market sources said it appears the OEMs, or car companies to the man on the street, could be starting to warm up to the need to start to investing, or at least giving proper contract terms, to mine developments in the region.

"OEMs in Europe need to get involved, look at what's happened in Asia," one CEO source said. This isn't a new development, but one that so far the autos seem to be skirting. "They are just too conservative," he added.

Still, for the time being the outlook for lithium seemed a little, shall we say, tepid. At best.

"There's a lot of lithium around," said Jeremy Dowler, of the Dowler Corporate Consultancy DF Mining Fund.

Lithium prices have been extremely volatile over the last few years, as numerous junior miners piled into a market booming on the back of burgeoning demand for battery metals for the electric-vehicle sector.

Mitsubishi Motors UK division was dishing out the cake this week, celebrating the its 10th anniversary of advanced electric vehicle technology.

In 2009, when the idea of mainstream electric vehicles was considered a novelty by many, Mitsubishi Motors introduced the ground-breaking all-electric i-MiEV city car into the UK, with 25 vehicles used in the CABLED (Coventry and Birmingham Low Emission Demonstrators) trial, the largest of public trials supported by the government at the time.

Combining a range of 80 miles with comfortable seating for four, the cleverly-packaged Mitsubishi i-MiEV impressed early adopters with its nippy performance and low running costs, winning awards around the world in the process. Perhaps most importantly though, it paved the way for the 2013 launch of the Mitsubishi Outlander PHEV, accelerating Mitsubishi Motors' understanding of taking EV powertrains to the mass market.

"The Mitsubishi i-MiEV has played a significant role in getting us to where we are today," said Rob Lindley, managing director, Mitsubishi Motors in the UK.

According to the car company "where it is today" is the Mitsubishi Outlander PHEV [plug in hybrid] which has achieved over 200,000 global sales since its debut in 2013.

The vehicle has proved particularly popular in the UK with over 47,000 units sold making it "the nation's favourite plug-in vehicle every year since it went on sale." There you have it. And if you're crippled by fear of where exactly you can plug that baby in, fret not.

IONITY, a joint venture between Daimler, Ford, BMW and Volkswagen, has partnered with UK motorway services operator Extra MSA Group to install a series of electric vehicle fast-charging points across the UK, the group said Friday.

IONITY and MSA will install eight stations initially, each comprising up to six state-of-the-art High Power Charging 350 kW units. The agreement is another step forward for IONITY's European expansion, which will see up to 2,400 chargers installed by end of 2020.

"The government's ambition is for the UK to be the best place in the world to own an electric vehicle," UK transport minister Michael Ellis said. "To achieve this, we are working to ensure high-quality charging infrastructure is in place to support the clean, green vehicles travelling across the country. Our 'Road to Zero' strategy outlined plans to support the delivery of an electric vehicle infrastructure network that is accessible, reliable, affordable and secure and so we welcome IONITY's plans to install

HPC networks across UK motorways." It doesn't stop there.

In a further sign that automakers are serious about the electric revolution, Alliance Ventures — the venture capital division of the world's largest car alliance, Renault-Nissan-Mitsubishi — said Thursday it is investing in charging solutions company The Mobility House.

The Mobility House specializes in "Vehicle-to-Grid" technology, which aims to ease the burden placed on the grid by increased EV usage. When the car is

stationary it returns the electricity to the grid for other usage.

Germany's government and car industry have agreed to develop a masterplan for the rollout of up to 10.5 million EVs needed to achieve 2030 climate targets, the head of the auto lobby VDA said Tuesday.

"The masterplan will clear up everything necessary to expand the charging infrastructure so that seven to 10.5 million EVs can be on the road by 2030," VDA chief Bernhard Mattes said after a meeting with Chancellor Angela Merkel, key ministers and

the heads of German car makers VW and BMW.

VDA highlighted the gap between a 2020 target of 100,000 public charging points and currently only 17,400 installed.

The government plans to double EV charging point subsidies to Eur600 million (\$670 million) and extend cash incentives of Eur4,000/EV targeting 1 million EVs on the road by 2022.

It really does seem that, sooner or later, we'll all be living in electric dreams. Or should that be electric reality?

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