

Commodity Matters | Europe

# Lithium looking up

Lithium spot prices are bouncing after a 5-month sell-off, as sentiment is improving, midstream inventories have fallen and actual supply growth has disappointed so far this year.

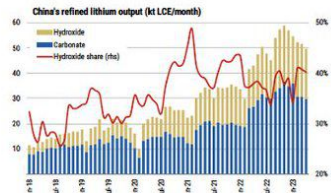
**The turning point in lithium markets?** Yes, it looks like that for now at least. After a 5-month and 70% sell-off, China's lithium spot price appears to have found the way up again. The China ex-works carbonate price bottomed at \$21/kg (ex-VAT), close to what we believe to be the cost support level from China's high-cost and low-grade lepidolite supply. At the time of writing, the carbonate spot price has bounced 30% from its low to \$27.5/kg and hydroxide by 20% to \$30/kg (Exhibit 1). While lithium chemicals are gaining, the spodumene concentrate price (6% Li<sub>2</sub>O) continued its downward trajectory, now at \$4,050/t. Although China's EV sales and battery production are back in growth mode after a lackluster start of the year, cathode and battery cell producers are still not fully back buying in the spot market, but sentiment is clearly improving and their lithium inventories appear to have eroded. Further upstream, China's carbonate producers still have 1 to 2 months of inventory on hand, according to Argus. Unlike for nickel and cobalt, we still model a **full-year lithium market deficit** for 2023 (on very conservative China pure BEV sales growth of +13% yoy), and we expect the **recently oversupplied lithium market to become tighter again for the remainder of 2023**. We see some upside risk to our 2H23 base case forecast of an average **China lithium carbonate price of \$25/kg**.

**Exhibit 1:** China's bouncing lithium chemicals spot prices ...



Source: Thomson Reuters Eikon, Morgan Stanley Research

**Exhibit 2:** ... while China's refined output has been on a downtrend since Nov-22

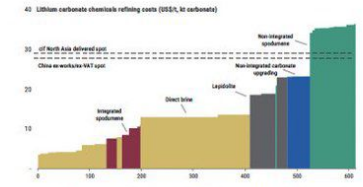


Source: Thomson Reuters Eikon, Morgan Stanley Research

**Refining margins are rapidly improving too.** We wrote previously about the challenges for China's cash-negative non-integrated converters – see **Lithium converters' pain**. Their position has significantly improved since then, as the spodumene price moved lower and carbonate prices recovered, but these non-integrated converters still remain cash negative (Exhibit 4). At a current spot spodumene price of \$4,050/t (6% Li<sub>2</sub>O), non-integrated spodumene refiners have all-in operating costs of c.\$36/kg for carbonate (Exhibit 3) and about \$33/kg for hydroxide. This means that the lithium chemicals vs spodumene concentrate

pricing relationship is still in an unsustainable equilibrium. Something will still have to give here; either spodumene prices have to fall further and/or chemicals prices need to recover more.

**Exhibit 3:** Lithium carbonate refining costs (US\$/kg, ex-carbonate)



Source: Morgan Stanley Research, Wood Mackenzie. \*Using spot spodumene price. Includes royalties at spot price levels. Note these are costs from a refining perspective, which is different from extractive cost curve

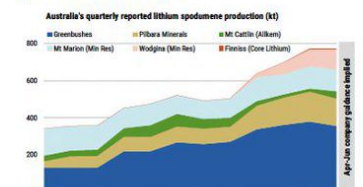
**Exhibit 4:** ... but margins of non-integrated spodumene carbonate refiners have recovered significantly already



Source: Morgan Stanley Research, Thomson Reuters Eikon

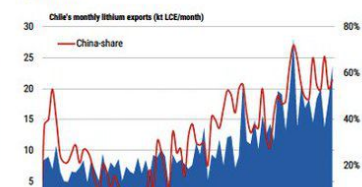
**Supply off to a slow start to the year as well.** Many investors have pointed out that a spodumene price of \$4,000/t is still >4x the marginal cost of supply for Australian spodumene concentrate, so it's not unthinkable that spodumene prices can still decline further from here. At the current carbonate spot price of \$27.5/kg, non-integrated refiners will break-even at a spodumene spot price of \$2,900/t. That said, production of Australia's spodumene concentrate disappointed in 1Q23, with cumulative production reported by Australian producers of 774kt, which is flat vs 4Q22. Production at **Greenbushes** and by **Pilbara Minerals** was even down on the quarter due to operational issues/planned maintenance. Company guidance implies that 2Q23 Australian production might be up just 5% vs 1Q. Chile's export growth in 1Q23 wasn't stellar either (+5% qoq and +6% yoy) – though March was pretty strong again – which might also be attributed to China's weaker demand pull at the start of the year. Meanwhile, there are 5 new operations/expansions starting production in the Americas in 1H23 (cumulative capacity of 145kt LCE), but these will take time to ramp up. Therefore, we think the market can stay relatively tight for the remainder of 2023, but the overall shortfall will be much less than last year.

**Exhibit 5:** No sequential growth in Australia's spodumene concentrate production in 1Q23...



Source: Company data, Morgan Stanley Research

**Exhibit 6:** ...while Chile's lithium exports saw only modest growth over the full quarter



Source: Chile customs data, Morgan Stanley Research

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