

LITHIUM

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Lithium is mainly extracted from minerals in igneous rocks such as pegmatites (mainly spodumene), clay minerals (mainly hectorite) and from naturally enriched brines hosted within salars (salt lakes) in hyper-arid regions. Lithium produced from brine sources during 2019 accounted for about 50 percent of global lithium production — the remaining half being produced from hard-rock sources, mostly spodumene. 2019 saw several junior developments halted as well as established miners' expansion plans postponed, mostly due to lower lithium prices and an oversupply scenario.

Production and consumption

Global lithium production in 2019 decreased by 17 percent to 410 kt lithium carbonate equivalent (LCE) (77 kt of lithium metal) from 492 kt LCE (92.5 kt of lithium metal) in 2018 in response to lithium production exceeding consumption and decreasing lithium prices.

Silver Peak in Nevada remains the only producing lithium mine (brine) in the United States. Two companies produced a range of downstream lithium compounds in the United States from domestic or imported lithium carbonate, lithium chloride and lithium hydroxide.

Global consumption of lithium in 2019 was estimated to be about 57.7 kt of lithium metal, an increase of 18 percent from 49.1 kt of lithium metal in 2018. Consumption was lower than anticipated by the lithium industry owing to significant cuts in the value of subsidies in China in 2019 that halted Chinese growth, consumers reducing lithium inventories, and lower electric vehicle sales volumes. Lithium consumption for batteries has increased significantly in recent

years, because rechargeable lithium batteries are used extensively in the growing market for portable electronic devices and increasingly are used in electric tools, electric vehicles and grid storage applications. Lithium minerals were used directly as ore concentrates in ceramics and glass applications.

Pricing

Lithium prices declined during 2019 due to mostly oversupply and reduced electric-vehicle growth. Lithium prices saw a general decrease of 35 percent compared to the end of 2018.

Trends and outlook

During 2019, several brine- and mineral-based operations were under development around the world. Production start for these developments has been further delayed due to the impacts of low prices, lower demand and, more recently, COVID-19-related delays. The downturn in the lithium market during the last 12 months has stimulated a range of supply cutback measures, with most of these being in Australia. A sustained shutdown in Europe, or a second wave of COVID-19 infections later on in 2020, could cause global industry to slow down significantly more than expected.

There are no signs of new domestic mine developments in the United States for 2020. Production is expected to remain unchanged from 2019 numbers. COVID-19-related impacts could result in a reduction of up to 10-15 percent of global lithium production compared to 2019 production levels. ■

Figure 1

Lithium prices declined in 2019 due mostly to oversupply and reduced electric-vehicle demand. Source: S&P Global, Market Intelligence, May 2020.

