

## INDUSTRY OVERVIEW

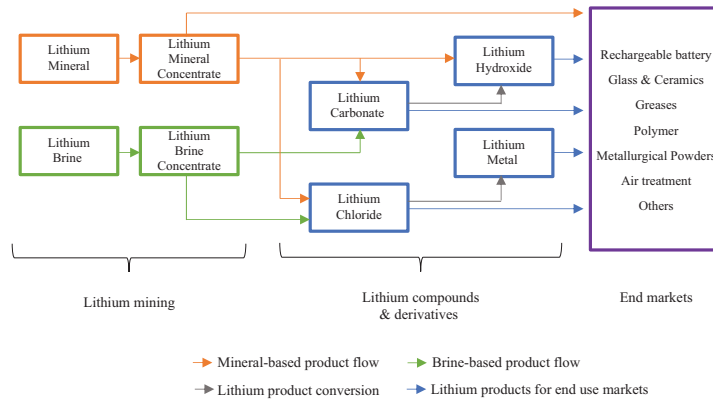
*The information that appears in this Industry Overview contains information and statistics on the industry in which we operate. The information and statistics contained in this section have been derived partly from publicly available government and official sources. Certain information and statistics set forth in this section have been extracted from a market research report by Wood Mackenzie (Asia Pacific) Pte. Ltd., an Independent Third Party which we commissioned. The information from official government sources has not been independently verified by us, the Joint Sponsors, Joint Representatives, the Joint Global Coordinators, the Joint Bookrunners, the Joint Lead Managers, any of the Underwriters, any of our or their respective directors, supervisors, officers, employees, advisors, agents or representatives or any other party involved in the Global Offering and no representation is given as to its accuracy.*

### 1. OVERVIEW OF LITHIUM INDUSTRY

Lithium is the lightest and least dense solid element in the periodic table. In its metallic form, lithium is a soft silvery-gray metal, with good heat and electric conductivity. As a result of its reactive properties, lithium does not occur naturally in its pure elemental metallic form, instead occurring within minerals and salts.

The production of refined lithium products such as lithium carbonate, lithium hydroxide and lithium metal is derived from output from mineral conversion, brine production, low-grade compound upgrading/ reprocessing and recycling refineries.

*Overview of the flow of material through the lithium industry supply chain*



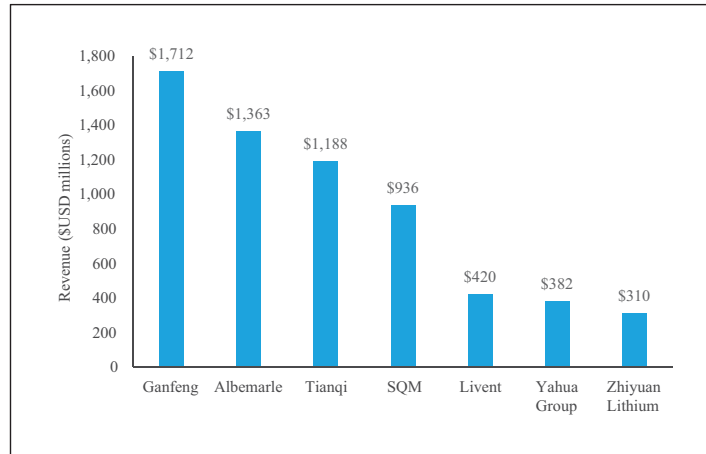
As measured by sales revenue from lithium business in 2021, the largest five lithium producers are (1) Jiangxi Ganfeng Lithium Co., Ltd. (“**Ganfeng**”), (2) Albemarle Corporation (“**Albemarle**”), (3) our Company, (4) SQM; and (5) Livent Corporation.

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## INDUSTRY OVERVIEW

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*Lithium revenue by major producer in 2021*



## 2. LITHIUM RESOURCES AND RESERVES

### Occurrence of Lithium

The two commercial sources of lithium extraction currently are lithium pegmatites and continental lithium brines.

Pegmatites, also referred as “hard rock” occurrences, product lithium ores including spodumene, petalite, lepidolite and amblygonite (collectively, “**Lithium Minerals**”). Through beneficiation, Lithium Minerals are processed into concentrated products for direct consumption or used as raw materials for on-ward conversion and manufacturing of refined lithium products and derivatives.

Lithium-bearing brines (“**Lithium Brines**”) occur in salars, or dried salt lakes. Lithium Brines are pumped to the surface and typically undergo solar evaporation, ion-exchange or other upgrading technique to produce a concentrated lithium brine concentrate of 3.0-6.0% Li content, which can be processed further into refined lithium products.

### Lithium reserves by country

In 2021, the majority of lithium reserves are located in Chile, Australia, Argentina and United States, which accounted for 40%, 21%, 12% and 5% of the total amount of reserves in the world, respectively.

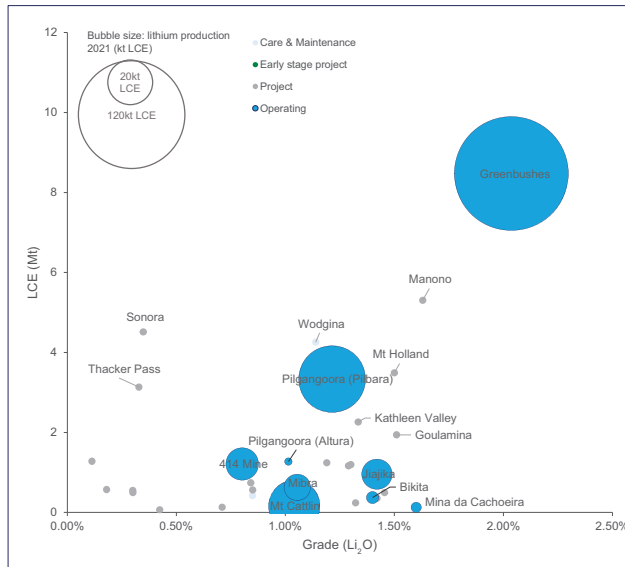
### Lithium reserves and resources by company

#### Lithium minerals and clay deposit

The Greenbushes Mine, operated by our subsidiary Talison, has the largest lithium mineral reserves in the world, with a reported mineral reserve of 168.3Mt grading 2.04%  $\text{Li}_2\text{O}$ , containing 8.5Mt LCE as of December 31, 2021.

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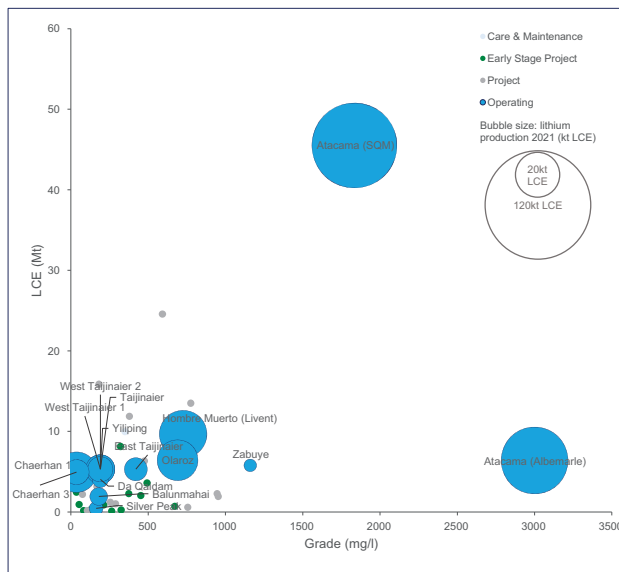
### *Mineral reserve estimates for lithium mines and projects, mineral and clay deposits, 2021*



### Lithium brines deposit

SQM's Salar de Atacama operation in the Atacama region of Chile has the largest brine reserves with 45.51 Mt LCE, with the advantages of high lithium grade, large reserves and integrated low cost processing capacity. SQM is also the largest lithium brine producer in the world measure by output in 2021.

### *Mineral resource estimates for lithium brine deposits, 2021*



*Note: SQM reports lithium reserves but not resources, however as reserves are a subset of available resources, SQM's reserves have been represented as resources in the chart above.*

### 3. LITHIUM MINE SUPPLY

Lithium mine supply we discuss here refers to marketable lithium concentrate production from Lithium Minerals.

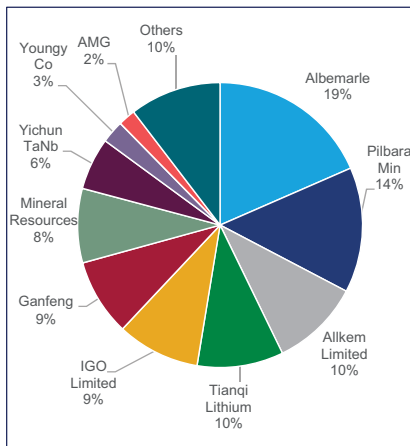
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### Lithium mine production by company

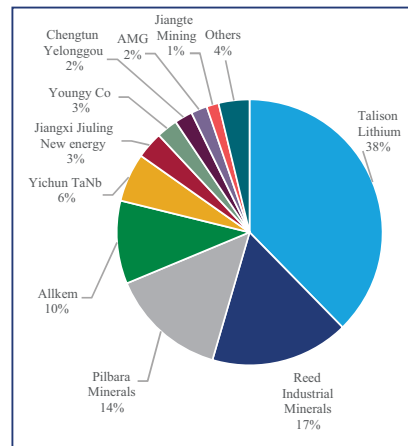
By corporate control, the majority of lithium mine supply is controlled by seven companies, operating mines in Australia and China. In 2021, Tianqi produced 33.1 kt LCE which made up 9.8% of global mined supply.

By operator, in 2021, the global lithium mine supply is dominated by five producers: (1) Talison Lithium in Australia; (2) Reed Industrial Minerals in Australia; (3) Pilbara Minerals in Australia; (4) Allkem in Australia; and (5) Yichun TaNb in China.

*Mined lithium output market share by corporate control, 2021*



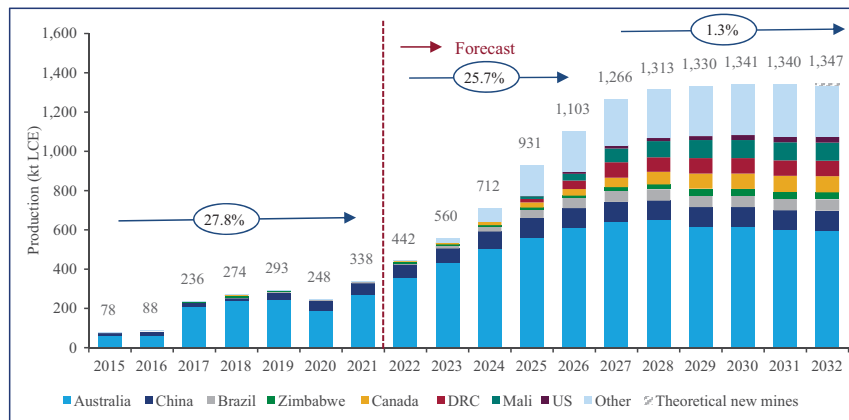
*Mined lithium output market share by operator, 2021*



### Historical and forecast lithium mine supply

The total lithium mine production was approximately 338kt LCE in 2021, among which 266kt LCE is mined in Australia predominantly, accounting for approximately 79% of global mineral production in 2021. The Greenbushes Mine is the world's largest lithium mining operation in the world as measured by spodumene concentrate output in 2021, accounting for approximately 38% of the global lithium mine output in 2021. We expect the global mine production of lithium will increase to 931kt LCE in 2025 and further reach 1,347kt LCE by 2032.

*Global mine production of lithium by country from 2015 to 2032*



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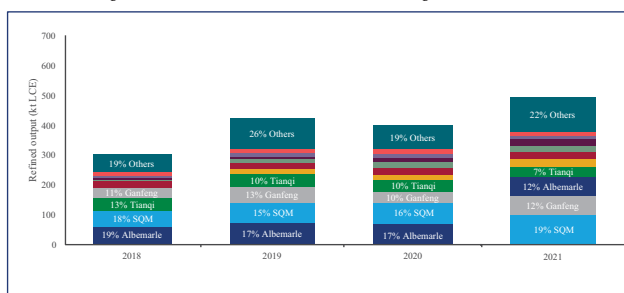
### 4. LITHIUM PRODUCTS SUPPLY

Lithium products primarily include lithium compounds (including lithium carbonate, lithium hydroxide and other lithium chemicals) and lithium metal. The supply of lithium products consists of output from brine-based production, mineral-based production and a small amount of recycling.

#### Supply of refined lithium products by company

The supply of refined lithium products is dominated by a small number of integrated producers such as SQM, Albemarle and Tianqi. In 2021, SQM was the largest producer of refined lithium with 101.0kt LCE (19%) reported, from the company's Salar de Carmen operations. Tianqi follows to complete the top four producers, with Tianqi producing 34.2kt LCE (7%) in 2021. It is also the only Chinese producer that has achieved 100% self-sufficiency and fully vertically integrated lithium mines through a large, consistent and stable supply of lithium concentrates.

*Global refined lithium market share from 2018 to 2021*



#### Historical and forecast lithium products supply

In 2021, Tianqi was the second largest supplier of lithium compounds and derivatives in China and Asia. The total global refined capacity was 1,198 kt LCE in 2021 and is expected to increase to 2,169 kt LCE in 2025 and further to 2,726 kt LCE in 2031.

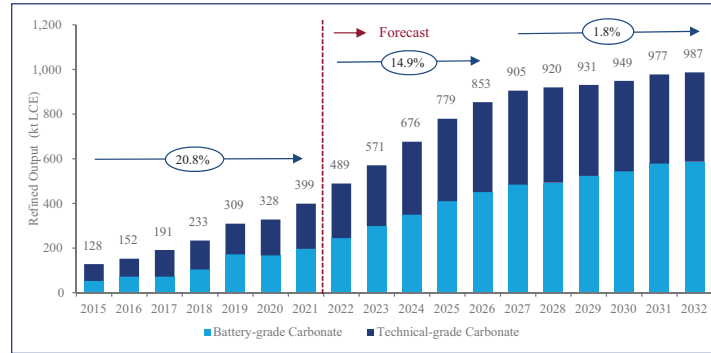
#### Supply of lithium carbonate by product grade

In 2021, global lithium carbonate production totalled 399Kt LCE, including production from both brine and mineral conversion sources, in addition to carbonate produced from recycled materials and reprocessing of lithium compounds, and be close to 779kt LCE in 2025 and 987kt LCE in 2032. Tianqi produces lithium carbonate at the company's Shehong facility (battery-grade and technical-grade) and at the Zhangjiagang facility (battery-grade only). Tianqi's Zhangjiagang plant in Jiangsu is the world's only fully automated battery-grade lithium carbonate production plant in operation as of the Latest Practicable Date. Tianqi's lithium carbonate products are considered benchmark products in the Chinese market. SQM also produces large volumes of lithium carbonate (battery-grade and technical-grade).

The strong growth in demand for lithium carbonate for use in the Li-ion battery industry has caused producers to target production of battery-grade lithium carbonate, which formed 49% of production in 2021, compared to 41% in 2015. This trend is expected to continue, with battery-grade lithium carbonate production expected to grow to 587kt LCE by 2032, accounting for 59% of total lithium carbonate supply.

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### *Lithium carbonate production by product classification from 2015 to 2032*

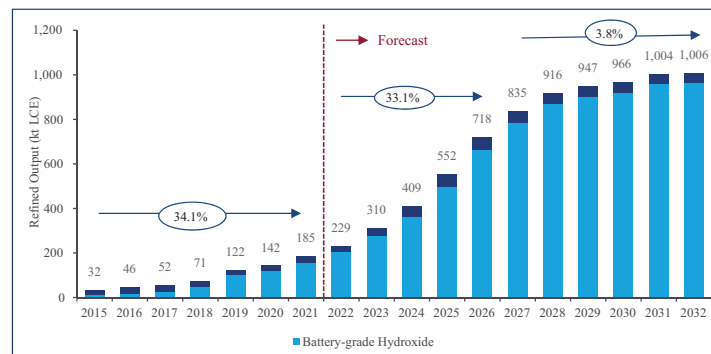


### Supply of lithium hydroxide by product grade

From a product point of view, producers have responded to end-user's shifting demand preferences to battery-grade products for use in lithium-ion batteries. Battery-grade hydroxide supply totalled 157kt LCE in 2021, representing 85% of lithium hydroxide production compared to 36% in 2015. In 2022, battery-grade lithium hydroxide production is expected to total 205kt LCE, increasing the share to 89% of the overall lithium hydroxide market.

Tianqi is now focused on the production of battery grade lithium hydroxide and is no longer producing technical grade at its Shehong facility. The new Kwinana facility will solely produce battery-grade lithium hydroxide. SQM currently produces both technical-grade and battery-grade lithium hydroxide and the company has announced a final investment decision on the integrated greenfield Mt Holland facility with JV partner Wesfarmers, where they plan to produce battery-grade lithium hydroxide from 2024.

### *Lithium hydroxide production by product classification from 2015 to 2032*



### Lithium metal

Lithium metal makes up a very small part of the overall lithium market, in metallic form, the element is used in polymer and primary battery applications. Demand for lithium metal could increase if solid state battery technology becomes widespread.

Production capacity for battery-grade lithium metal is at 2.9kt (15.3kt LCE), almost half total metal production capacity which stands at 6.7 ktpa Li. There has been significant expansion in China over the last few years, although output at most plants is still minor. Tianqi Lithium has a majority

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shareholding in lithium metal producer Chongqing Tianqi and also produces lithium metal at the company's Shehong facility.

### Lithium chloride

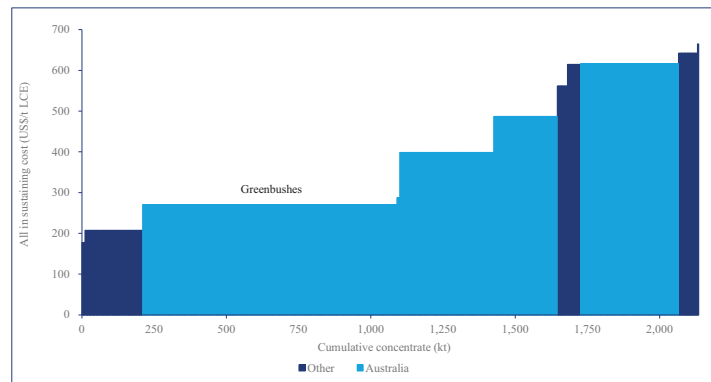
There are a limited number of lithium chloride producers globally, all being integrated upstream with lithium brine or mineral operations. In China, both Tianqi Lithium and Ganfeng produce lithium chloride via mineral conversion, Tianqi's lithium chloride is produced at the company's Shehong facility.

## 5. COST OF SUPPLY

### Lithium spodumene concentrate costs

Greenbushes is the one of the lowest cost major spodumene producers globally. Other mineral concentrate producers generally sit above Greenbushes with production costs upwards of US\$386/t of concentrate on an all-in sustaining cost (CIF China) basis, compared to Greenbushes which had costs of US\$271/t concentrate in 2021.

*Spodumene production cost curve in 2021*



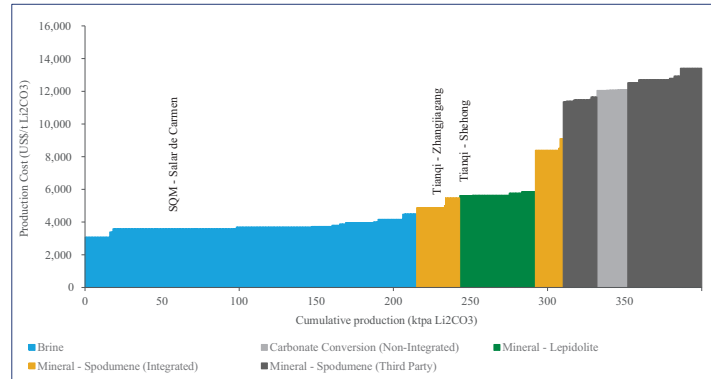
*Note: Production costs have been normalized to a 6% Li<sub>2</sub>O spodumene content.*

### Lithium carbonate cost curve

In 2021, the production costs were higher for lithium carbonate derived from mineral concentrate feedstocks as the market price for spodumene rose. Global average production costs for lithium carbonate were US\$5,830/t in 2021. Tianqi's Zhangjiagang operation had below average production costs of US\$4,889/t in 2021, while the company's Shehong facility had average costs of US\$5,481/t.

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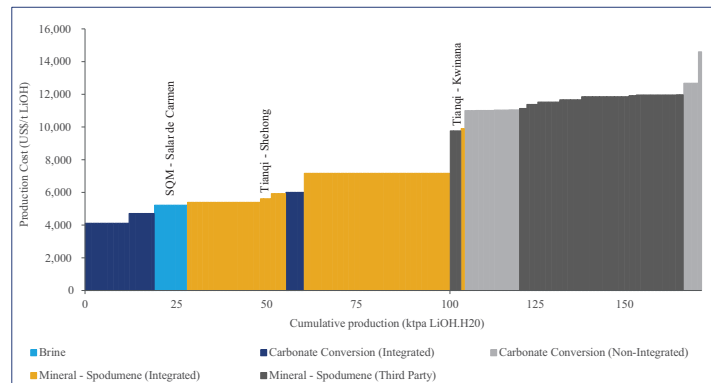
*Lithium carbonate cost curve in 2021*



### Lithium hydroxide cost curve

In 2021, the average lithium hydroxide production costs were US\$8,269/t, with integrated producers maintaining lower production costs compared with those buying third party spodumene or converting from lithium carbonate, as costs for these products rose during the year. Integrated mineral producers also have some of the lowest costs, aided by the ability to convert spodumene directly to lithium hydroxide (without going via a carbonate intermediate) and their access to low-cost feedstock from Greenbushes. Tianqi's Shehong facility with costs of US\$5,617/t. Tianqi's Kwinana facility began operations in 2021 and had an average production cost of US\$9,910/t in 2021.

*Lithium hydroxide cost curve in 2021*



## 6. LITHIUM PRODUCTS DEMAND

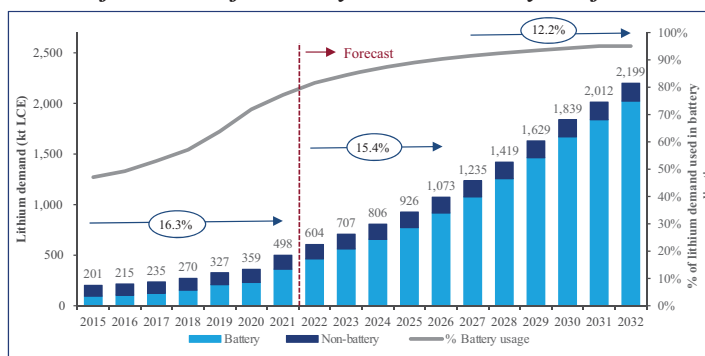
### Lithium demand by first use

The volume of lithium demand in rechargeable batteries is now starting to have a much greater impact on overall refined lithium demand. The automotive sectors influence on the battery industry, and in turn the lithium sector, will continue to increase out to the forecast period end in 2031. In 2015, less than half of lithium consumption was in battery applications. However, rechargeable battery use has increased rapidly over the last 6 years. In 2021, 73% of lithium was consumed in battery applications, with market share expected to grow to 92% by 2032.



## INDUSTRY OVERVIEW

### Global demand for lithium for battery and non-battery use from 2015 to 2032



## 7. KEY END MARKETS FOR LITHIUM PRODUCTS

### Electric Passenger Vehicles

#### Electric passenger vehicles sales

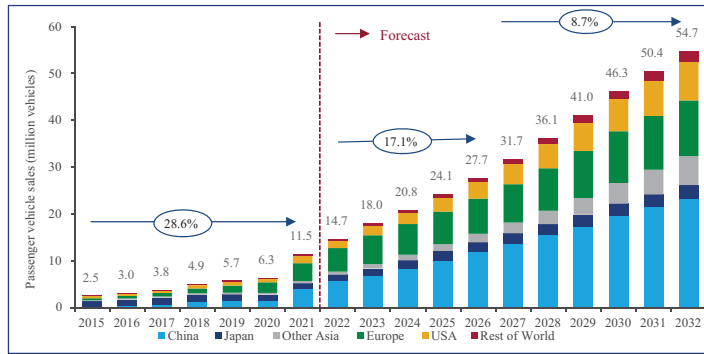
The penetration rates of electric vehicles will undoubtedly increase. This is expected to be caused, firstly, by regulatory forces, and secondly, by a continuous fall in battery cost as a result of increasing economies of scale and technological developments. The sales volume of electric passenger vehicles is expected to increase by 17.1% CAGR from 2022 to 2026, growing at 8.7% CAGR thereafter from 2027 to 2032, reaching 54.7 million units in 2032.

The two largest electric passenger vehicles markets as measured by sales volume in 2021 are China and Europe. In May 2021, the U.S. Senate Finance Committee passed the “Clean Energy for America Act proposal, increasing subsidies for electric passenger vehicles to stimulate the development of the U.S. EV market. As a result, sales of electric passenger vehicles in the United States more than doubled in 2021 with the US market now larger than that of Japan. In the next five years, assuming continuous incentive policies, global electric vehicles sales are expected to grow at a CAGR of 17.1%, reaching 27.7 million units per year by 2026.

In September 2020, the Chinese government proposed a plan for peak carbon by 2030 and carbon neutrality by 2060, heralding the official arrival of China’s carbon-constrained era. In 2020, the Chinese government issued numerous policies to encourage the development of New Energy Vehicles (NEVs). The meeting of the Standing Committee of the State Council passed the “NEV Industry Development Plan (2021-2035),” which has set out the direction for the development of NEVs in the next 15 years. China became the largest market for electric passenger vehicles globally in 2021 and is expected to maintain this position throughout the forecast. It is expected that China’s electric passenger car sales will reach 10 million units by 2025 and over 20 million units annually by 2032.

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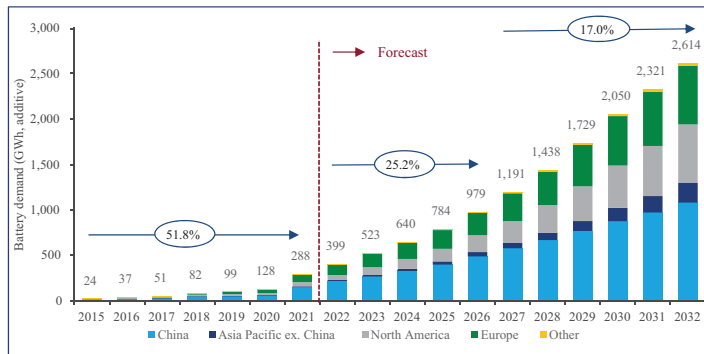
### Global penetration rate of electric passenger vehicles from 2015 to 2032



Note: The above information includes sales of BEV – battery electric vehicle, PHEV- plug-in hybrid vehicle, HEV – hybrid electric vehicle, 48V – mild hybrid vehicles with a 48V battery for start-stop regenerative braking and supportive features.

### EV battery demand by country/region

#### EV battery regional demand from 2015 to 2032

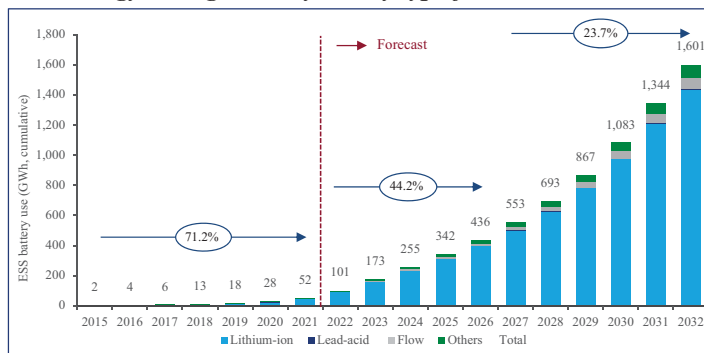


### Energy Storage System

#### Energy storage battery use by type

The ESS electrochemical battery market is expected to achieve a size of 1,601GWh by 2032, of which 90% will correspond to Li-ion technology. Overall, the growth of the Li-ion ESS market is projected to grow at 44.2% CAGR between 2022 and 2026, slowing to 23.7% CAGR from 2027 to 2032.

#### Energy storage battery use by type from 2015 to 2032



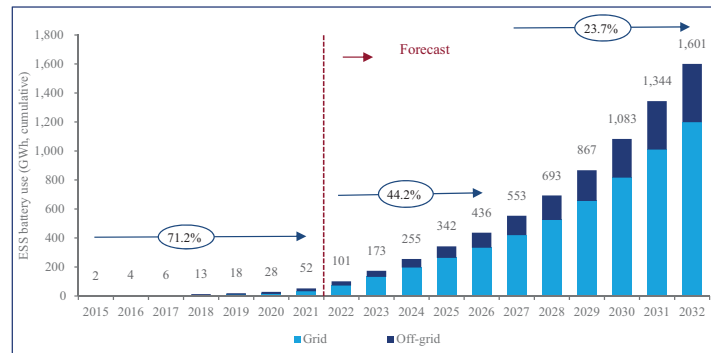
## INDUSTRY OVERVIEW

### Energy storage battery use by application

The use of Li-ion technology in the grid and utility spectrum will be pivotal as the energy deployed by individual energy storage system utility-scale projects will range up to 1 GWh. Most of the new ESS usage is expected in grid applications, with market share increasing from 62% in 2021 to 75% in 2032 compared to off-grid use. This can be attributed to further decreases in cost per kWh and the practical need of energy storage system given the rise in renewable energy assets. The role of these systems is expected to be dominant in power quality and bridging power applications such as for instance, grid management to stabilise renewables' output or frequency shifting.

Grid energy storage system capacity surpassed off-grid energy storage system installations in 2020. The use of Li-ion technology in the grid and utility spectrum will be pivotal as the energy deployed by individual ESS utility-scale projects will be in the order of several hundred MWh. In 2021, there was 19.8 GWh of off-grid energy storage system battery use, with 32.2 GWh of grid use. Grid application usage is expected to grow at 44.2% CAGR between 2022 and 2026. Consequently, the lithium consumption in energy storage system is also expected to increase annually by 13.8% CAGR from 2022 to 2032, reaching 138.2 ktpa LCE by 2032 as grid storage becomes more prevalent.

**Energy storage battery use by application from 2015 to 2032**



## 8. MARKET BALANCE

### Lithium market balance

With the emergence of rechargeable batteries as the main end-use, the market has seen and is still seeing a significant transformation. In the last few years, supply growth outpaced the growth in actual demand and prices started to fall in 2018. From 2018 to 2020, the entire EV supply chain saw significant capital commitment toward electrification. Towards the end of 2020, the demand caught up with supply and excess inventories were largely depleted. Supply from current operations and upcoming projects is insufficient to meet the increasing demand long term. The global interest in the transition towards lower-emission transportation has facilitated many new projects to supply lithium chemicals both from mineral concentrate, brine and emerging sources.

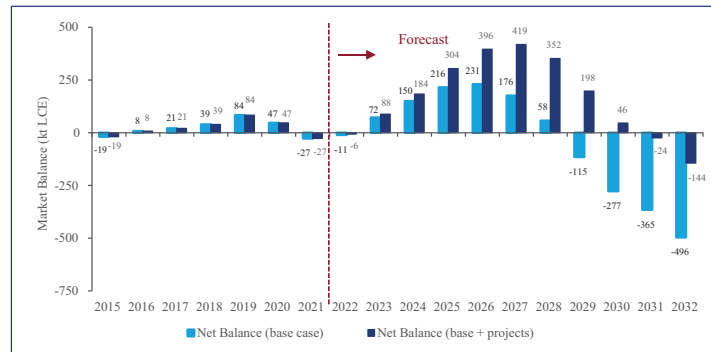
The base case shows that the overall lithium chemical market experienced a slight supply deficit in 2021 despite the increasing production of lithium chemicals from both brine and minerals. Following a lower deficit in 2022, a growing oversupply is forecast to peak in 2026 at 230.9kt LCE. The market moving from being oversupplied in 2028 is forecast to show a deficit in 2029. The forecast deficit will continue to grow and reach a 496kt LCE in 2032 and continue growing beyond this.

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The “Base plus projects” case includes supply from theoretical brine projects, theoretical mines, theoretical mine extensions and theoretical conversion projects in a separate case. The size and frequency of new projects being added are based on historical averages.

In the “Base plus projects” case where we include probable and possible projects as well as theoretical supply, the market is forecast to show a surplus from 2023 to 2030. The surplus is forecast to peak in 2027 at 419kt LCE or 35% of demand. The market is forecast to enter a sustained supply deficit in 2031 reaching 144kt LCE by 2032.

**Refined lithium chemical market balance from 2015 to 2032**



Note: Net balance accounts for forecast annual supply, demand and change in stock levels

## 9. LITHIUM PRICES

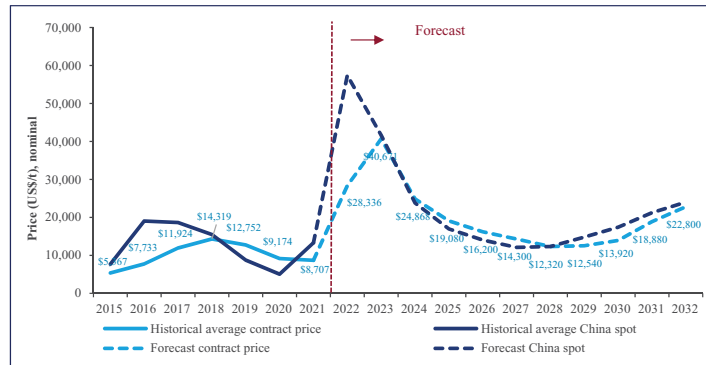
### Average annual prices for battery-grade lithium carbonate

Contract prices for battery-grade lithium carbonate peaked in 2018 at US\$14,319/t and declined to US\$9,174/t in 2020. Spot prices by nature fluctuated even further over this period falling to US\$5,051/t in 2020. Prices for battery-grade lithium carbonate increased in 2016 and 2017 due to growing interest and perceived demand for rechargeable batteries for electric vehicles. Increased prices lead to investment in new lithium extraction projects, as a result supply growth outpaced actual demand growth from 2018 to 2020. The short term market surplus led to a contraction in spot price for lithium carbonate from 2018 to 2020, which flowed through to contract prices, causing annual average contract prices for lithium carbonate to decline from 2019 to 2021. Similarly, the spot prices reflected the rapid market buoyancy in 2021 and increased faster than the contract prices. In 2021, the average annual contract price was US\$8,707/t as the lag built into price calculations is slower to impact the contract prices.

During 2022, it is forecast that a continued increase in contract pricing with an expected average contract price in 2022 of US\$28,336/t, rising to a maximum of US\$40,671/t in 2023. As new supply enters the market prices are expected to stabilize, followed by declining prices throughout the middle of the decade. As demand continues to rise a supply deficit is forecast to occur from around 2030, which will cause prices to return to growth.

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### Average annual contract and spot price forecast for battery-grade lithium carbonate (2015-2032, US\$/t CIF Asia)



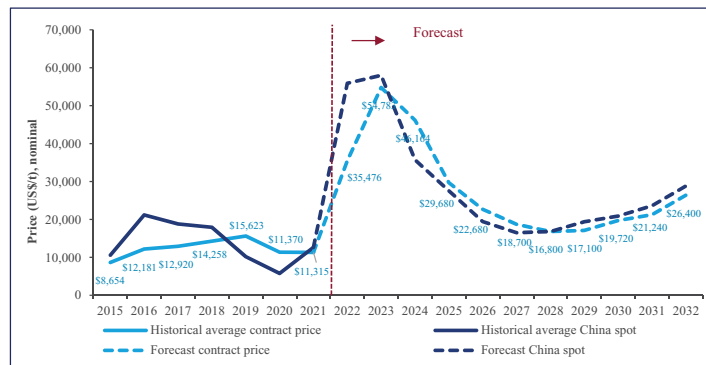
Note: The China (excluding VAT) spot price data from Argus, Asian Metal and Fastmarkets, which is then aggregated to give the annual average spot prices. Contract prices represent each contract price as an average of the CIF prices of Japan, Korea, Taiwan and China imports.

### Average annual prices for battery-grade lithium hydroxide

In 2020, the contract prices for battery-grade lithium hydroxide reached a short term low of US\$11,370/t LCE and remained relatively similar in 2021 at US\$11,315/t LCE. As spot prices reflect the immediate market conditions, a significant spot price was seen in 2021 compared with 2020, while higher price conditions are expected to influence contract prices from 2022. Battery-grade lithium hydroxide is expected to have high average contract prices in 2022 of US\$35,476/t LCE, rising further to US\$54,783/t in 2023, as rapidly increasing demand begins to impact contract prices. Prices are forecast to decline from these highs from 2024 as new supply enters the market. Towards the end of the 2020s, an increasing supply deficit will occur and prices will start to increase.

With demand increasingly coming from electric passenger vehicles and growth in high nickel cathode chemistries continuing, battery-grade lithium hydroxide is expected to become the premier lithium product and main pricing benchmark.

### Average annual contract and spot price forecast for battery-grade lithium hydroxide (2015-2032, US\$/t CIF Asia)



Note: The China (excluding VAT) spot price data from Argus, Asian Metal and Fastmarkets, which is then aggregated to give the annual average spot prices. Contract prices represent each contract price as an average of the CIF prices of Japan, Korea, Taiwan and China imports.

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### 10. MARKET BARRIERS TO ENTRY

New producers looking to enter the lithium market have several barriers to entry to overcome as follows:

1. **Security of feedstock supply:** Most compound producers have one or two sources of feedstock supply and have been operating assets for several decades or have established relationships. Potential new suppliers are basing their lithium compound production on a counter-party that often has equally limited experience.
2. **Production technology and know-how:** Recent mineral projects in Australia have suffered delays in construction and commissioning as existing plants are re-engineered or new plants are built. Brine projects are perhaps even more challenging given the complex chemistry of the deposit and chemical processing at remote sites at high altitude.
3. **Investment:** Exploration and mining project development is considered to carry moderate investment risk; therefore it is generally harder to raise funds with low commodity prices or during volatility. Any negativity in the market can affect capital raises, making it harder for developers to raise funds and progress projects.
4. **Capital availability:** Potential new lithium projects, exploration programs and expansion plans could sustain delays or cancellations if sentiment in the wider mining sector worsens, for example, as a result of another global downturn (generally or specifically in the lithium sector).
5. **Product development:** The two main products in demand, lithium carbonate and hydroxide, are considered relatively basic compounds distinguished only by battery- or technical- grade, the reality is that most product is produced to customer order and to customer specification. Incumbent producers have significant R&D capability to keep pace with the requirements of their customers.
6. **Marketing, sales, logistics and support:** Most of the major producers have marketing and sales in-country, a global logistics network or agents and distributors acting on their behalf and can offer 24/7 support to their customers. New producers may not have such resources or have not begun to think about the complexity.
7. **Accreditation:** Approval as a new supplier is not just about product quality but the customers may also audit their suppliers on a multitude of levels, and the requirements are becoming more stringent with the major battery users not wanting to issue a costly recall because of product impurity, or often more damaging for brand reputation, the practices of the supply base.

### 11. THE WOOD MACKENZIE REPORT

In connection with the Global Offering, we commissioned Wood Mackenzie (Asia Pacific) Pty Ltd (“**Wood Mackenzie**”), an Independent Third Party, to prepare a report on the lithium market. We have agreed to pay a total of US\$85,000 in fees for the preparation of the Wood Mackenzie Report. Wood Mackenzie is a market research and consulting company with over 40 years of experience covering the metal markets, and its subsidiary Roskill has published 18 editions of a report on the lithium industry.

In preparing the report, Wood Mackenzie relied on data from its in-house database, reputable industry and trade organizations’ reports, official national statistics and other reliable international sources. Wood Mackenzie’s research and forecasting methodology integrates several techniques with measurement-based system and relies on expertise of the analyst team in integrating the critical market

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elements, including (1) expert-opinion forecasting methodology; (2) integration of market drivers and restraints; (3) integration with the market challenges and trends; and (4) integration of econometric variables. In compiling the Wood Mackenzie Report, Wood Mackenzie has adopted the following assumptions: (1) the social, economic and political environment in the forecast period; and (2) related key industry drivers likely to take place in the forecast period. The Wood Mackenzie Report was mainly prepared by four analysts with extensive relevant experience and supported by Wood Mackenzie's in-house research team.