



ALKEMY

**INVESTING IN THE CRITICAL
MINERALS SUPPLY CHAIN
FOR THE BIGGEST ENERGY
TRANSITION IN HISTORY**

Creating a dividend stream for
UK investors

**ALKEMY CAPITAL
INVESTMENTS PLC**

(ALK.LSE) (JV2.FRA)

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TEES
VALLEY
LITHIUM

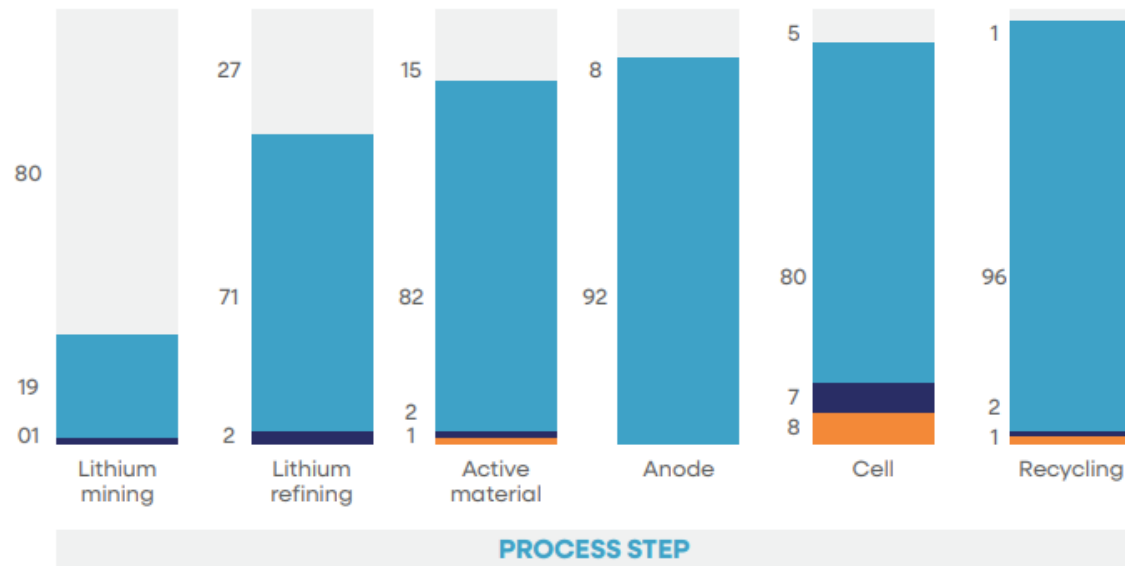
Building the UK's Flagship Lithium Refinery

1st October 2025

Who Controls the Battery Supply Chain

Compared with Europe and the United States, China has captured a significant share of upstream production across the global battery value chain.

Total production capacity along the battery value chain in 2024, by region, %



Represents only market share for lithium critical to Li-ion battery material. For simplification, no other metals are represented.
Source: McKinsey Battery Insights, McKinsey MineSpans

SOURCE: ACTION PLAN FOR THE EUROPEAN AUTOMOTIVE INDUSTRY | MCKINSEY

- China dominates every step of the value chain
- In lithium refining, China controls > 70% of global capacity
- Europe: just ~2% share
- The UK: 0% today
- By 2030, Europe will need more than 1m tonnes of battery-grade lithium every year

Introducing Tees Valley Lithium

- Building the UK's first large-scale lithium conversion facility
- Train 1 capacity: 25ktpa battery-grade lithium hydroxide
- Scale to 100ktpa in future phases
- Capital cost of Train 1: <\$250m
- First production targeted in 2028



Progress So Far



Technology Selected & Optimised

Tried and tested Veolia refining route, proven at scale globally, optimised for UK use and aligned with European standards



Feedstock Agreements

Binding framework agreements and Heads of Terms in place that covers 100% of Train 1 requirements



FEED Study Underway

Delivering detailed design. On target for FID in Q1 2026, with optimised cost and schedule.



HQ Opened in Darlington

Building out local presence and team with our new HQ in central Darlington

Why Teesside



Chemical Heritage

150+ years of expertise in large-scale process industries



Infrastructure

Deep-water port, rail and road connectivity, Freeport status



Skilled Workforce

Process Engineers, operators, and strong local training base



Strategic Location

Close to UK and European battery supply chains



Clean Energy Potential

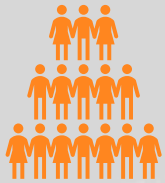
Access to renewable power via Dogger Bank and other PPAs

Benefits for Teesside



- **Jobs:** Hundreds of high-quality roles during construction and operations
- **Supply Chains:** Multi-million-pound opportunities for local SMEs in construction, logistics, and services
- **Regeneration:** transforming Teesside's industrial base into a hub for clean energy and advanced manufacturing
- **Skills:** Creating career pathways for young engineers, supported by local colleges and universities

FEED Study Progress



Team Mobilised

Owners team supported by experts including Gardiner & Theobald



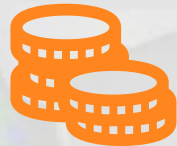
Modularisation Design Advanced

Reduces site safety risks and accelerates construction schedule



Feedstock Flexibility

Feedstock acceptance specification widened



Capital Control Maintained

CAPEX estimate now below \$250m

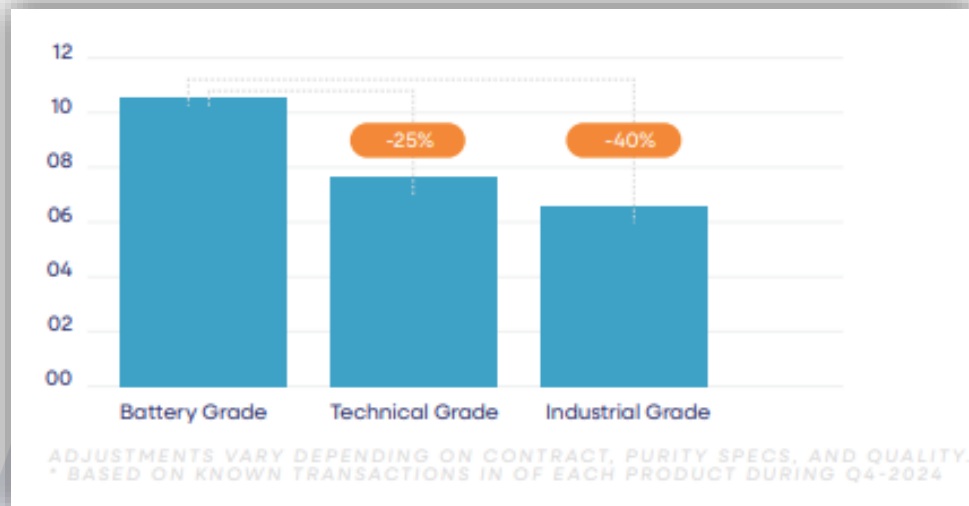


Operational performance optimised

Plant availability increased from 85% to 90%

Project Economics

- **Low-cost feedstock:** targeting technical-grade carbonate at 25-40% discount to battery-grade
- **Margin protection:** refining fee model secures stable revenue per tonne, regardless of lithium market volatility.



Metric	Unit	Train 1
Life of Project	Years	25
CAPEX	USD m	< \$250m
NPV	USD m	475

- **Capital efficiency:** CAPEX now <\$250m, competitive \$/tonne compared to global peers
- **Scalable growth:** Train 1 at 25ktpa, expandable to 100ktpa, improving economies of scale.

Next Steps



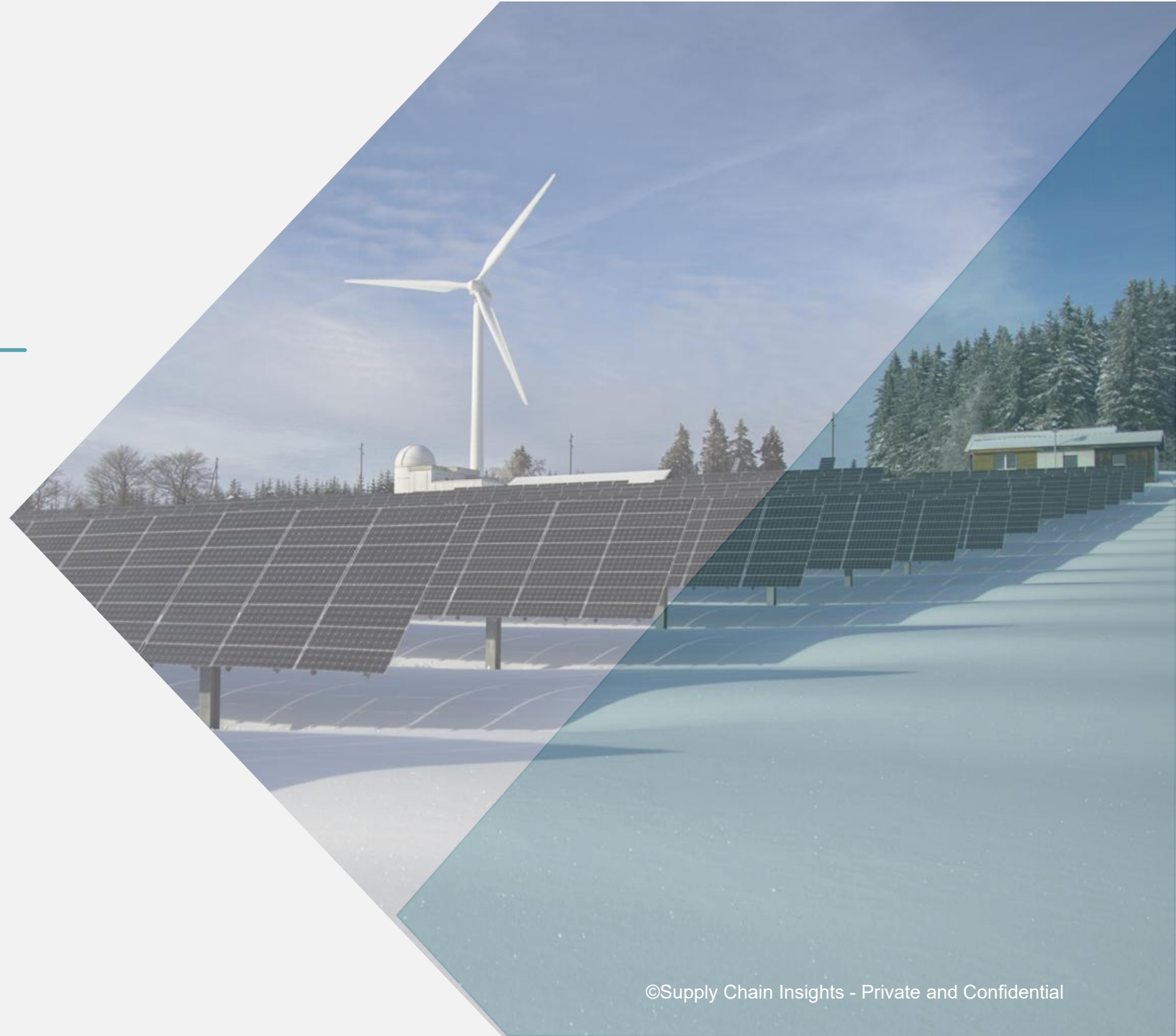
On track for first production in 2028

Supply Chain Insights

Tees Valley Lithium –
Investor Day Presentation

October 2025

**TEES
VALLEY
LITHIUM**



SC Insights - Introduction & background

About SC Insights

Since its inception in 2022, SC Insights has supported due diligence processes for over \$25 billion in investments spanning the entire lithium-ion supply chain — from mining to battery production. Our team of industry experts has also provided guidance on various term sheets and take-or-pay offtake agreements in the lithium and battery raw materials market. With extensive experience in due diligence and commercial advisory, SC Insights offers a unique perspective on the lithium-ion battery value chain. In addition to customized consulting, we also provide regular forecasts on supply, demand, costs, and prices.

Services

- 1

Due diligence and asset valuation

 - Economic, technical and financial review of specific assets
 - Market forecasts for Scoping Studies, PFS, DFS, 43-101
- 2

Commercial advising

 - This includes support on offtakes, term sheets and strategic partnerships
 - Pricing mechanisms and commercial terms advisory
- 3

Workshops

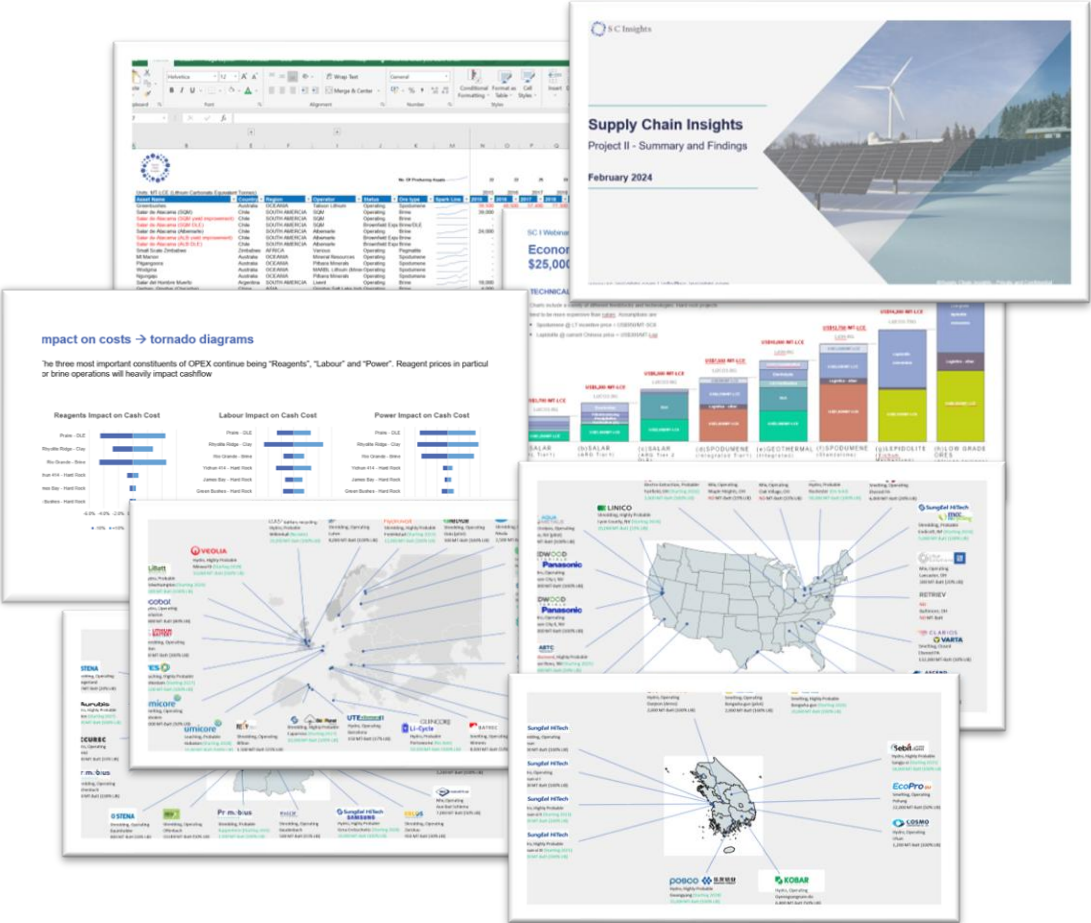
 - Targeted sessions on technology, market dynamics and commercials
- 4

Expert witness and arbitration testimony

 - Abundant projects regarding expert witness support
- 5

Regular Product

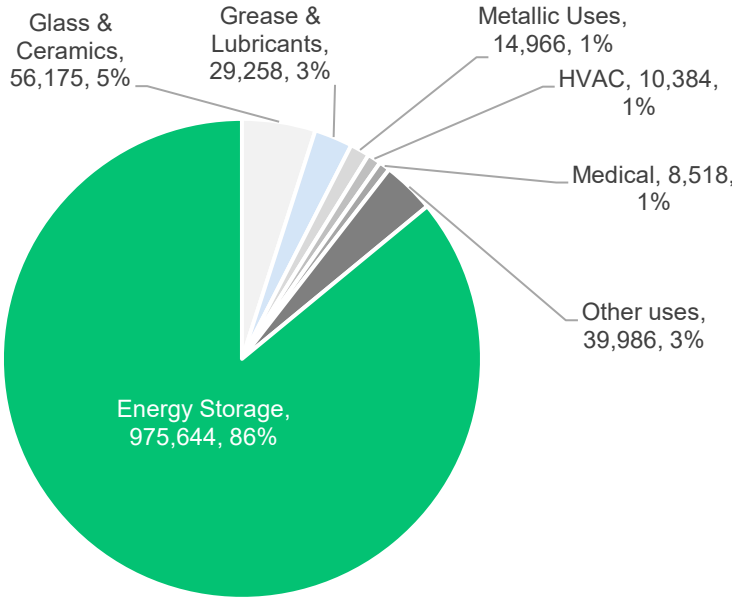
 - SC Insights Database includes more than 3,5000 projects (georeferenced)
 - Our model includes all battery materials



The main use of lithium chemicals is Energy Storage; which includes EVs, ESS and Portable Devices

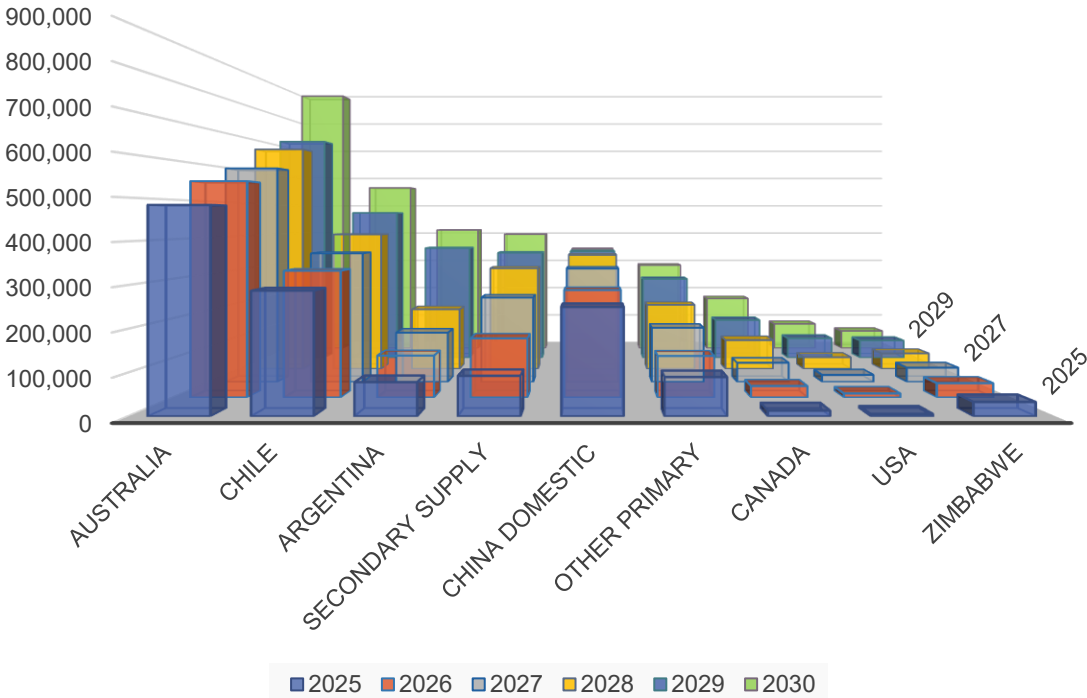
Lithium demand in 2024 reached 1.1 mMT-LCE (million tonnes lithium carbonate equivalent), this represents a 10 times increase since 2015 (186 kMT-LCE in 2015). Th market is forecast to continue growing to more than 5 mMT-LCE in 2035.

Demand of lithium chemicals



For the past 5 years, Energy Storage has accounted to more than 80% of lithium demand. This sector comprises four (4) subsectors: i) Transportation, ii) Energy Storage Systems, iii) Communications-Computing-Power Tools, and finally iv) New Applications

Supply of lithium feedstock by country



Lithium feedstock can be found in hard rock deposits, continental and geothermal brine, and finally from recycling of batteries

Today, lithium feedstock from brines (continental and geothermal) account for almost 40% of total supply, while hard rock deposits (mainly spodumene) account for more than 50%. Despite recycling being a sustainable alternative, it's still in development and will only become an important source of material during next decade.



Lithium ponds in the Atacama Desert, the largest brine resource globally



Mine pits in Greenbushes, Western Australia, the largest hard rock resource globally

The battery industry faces a bottleneck from lithium mining and refining without more investment

Increasing Lithium Supply three times (x3) in ten years time, will be almost impossible without improved price signals, therefore a price rebound in the industry is expected. Today’s price levels of US\$10,000/MT-LCE are a fraction of future incentive prices.

Hard Rock vs Brine

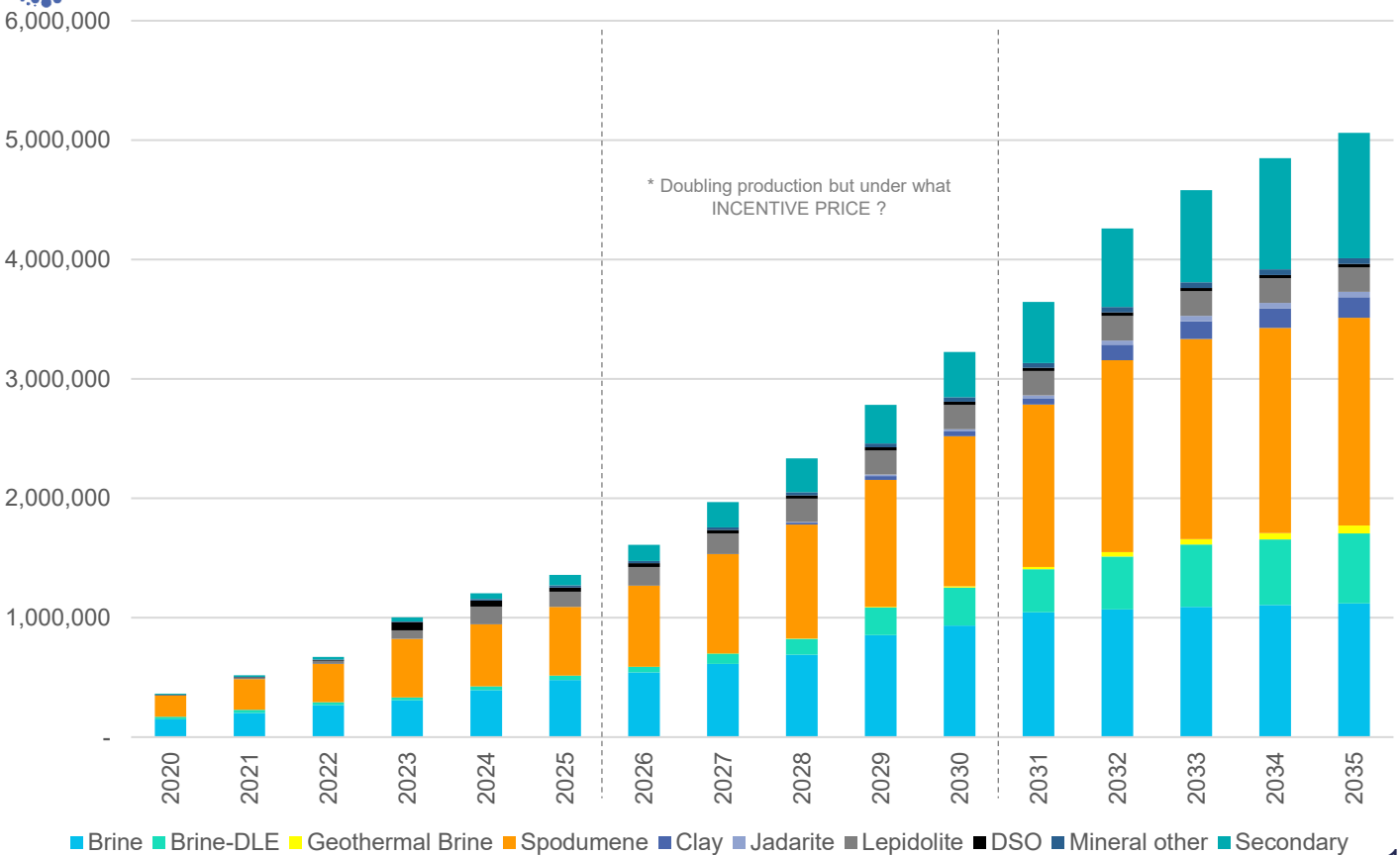
Year	Total Supply (Total) MT-LCE	Total hard rock market share %	Total brine market share %
2015	160,000	40%	59%
2020	363,000	50%	47%
2025	1,380,000	56%	38%
2030	3,250,000	50%	39%
2035	4,840,000	46%	37%
2040	5,770,000	38%	32%

* Hard rock group includes species such as spodumene, lepidolite, petalite and jadarite.

**Production from brine includes both “conventional evaporation” and DLE.



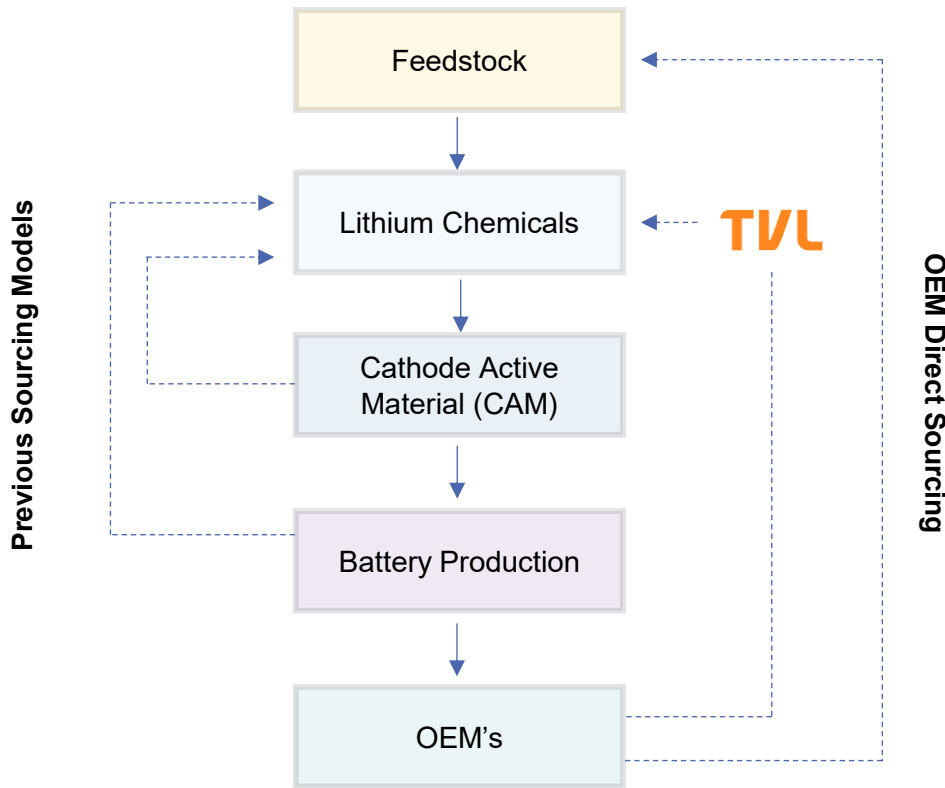
Lithium mine supply by sources - 2020 to 2035 - MT LCE



Who buys lithium has changed. OEM's now buy directly from refineries, with shipments to Cathode (CAM) plants

By sourcing lithium products directly, OEMs (usually car manufacturers) are trying to guarantee the market will provide them enough lithium for the future. They also wish to avoid single points of failure in a supply chain, especially over-reliance on China.

Lithium Supply Chain & Contracting Routes:



Contractual implications:



Local and Regional Sourcing: OEMs increasingly wish to localise supply and avoid single points of failure in supply chains. Single points of failure, especially in China, expose them to trade barriers, export restrictions, shipping disruption, and tariff uncertainty.



ESG Standards: OEMs want to impose their ESG standards and targets on their mining and refining partners including CO2 targets and mining certification such as IRMA.



Compliance Standards: OEMs pushed their upstream partners to comply with their Compliance Standards to be a supplier. This is not always possible with Chinese suppliers.



Pricing Mechanisms: Requirements for greater price transparency from an impartial third-party price reporting agency led in part to the adoption of indexed based pricing formulas.

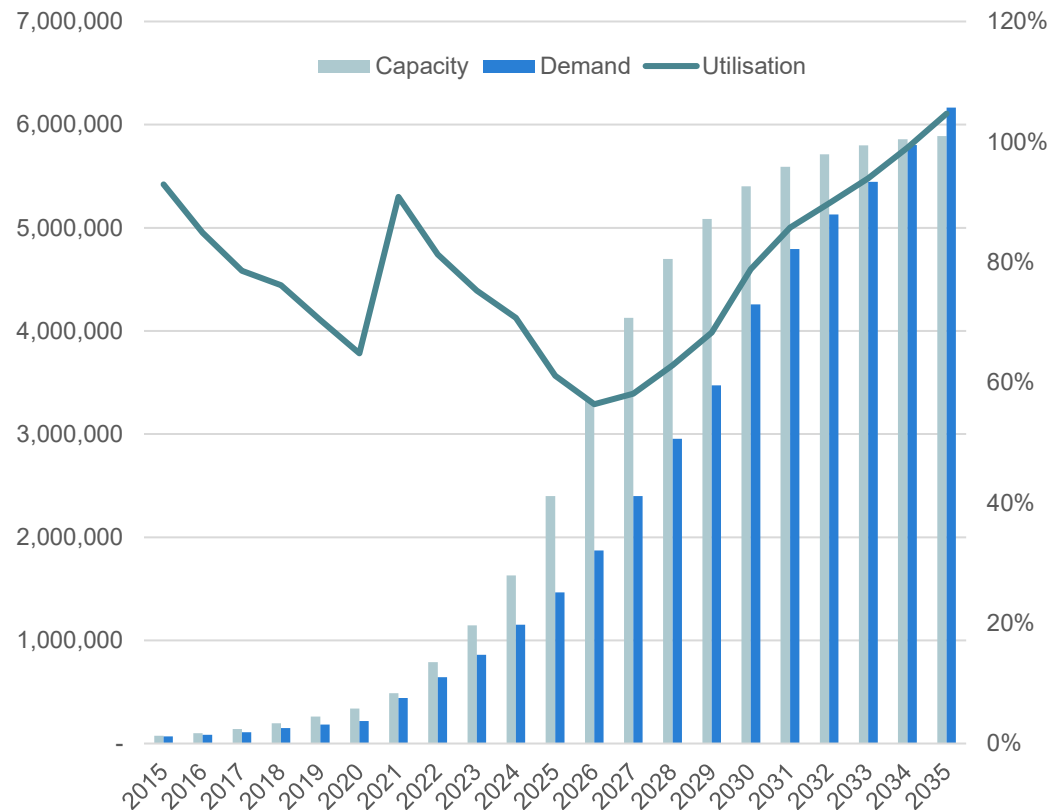
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Lithium market today

There is significant potential for a new lithium price cycle, with refining capacity close to end customer

Today the lithium market is going through a transition period and entering a new price cycle with plenty of opportunities for newcomers

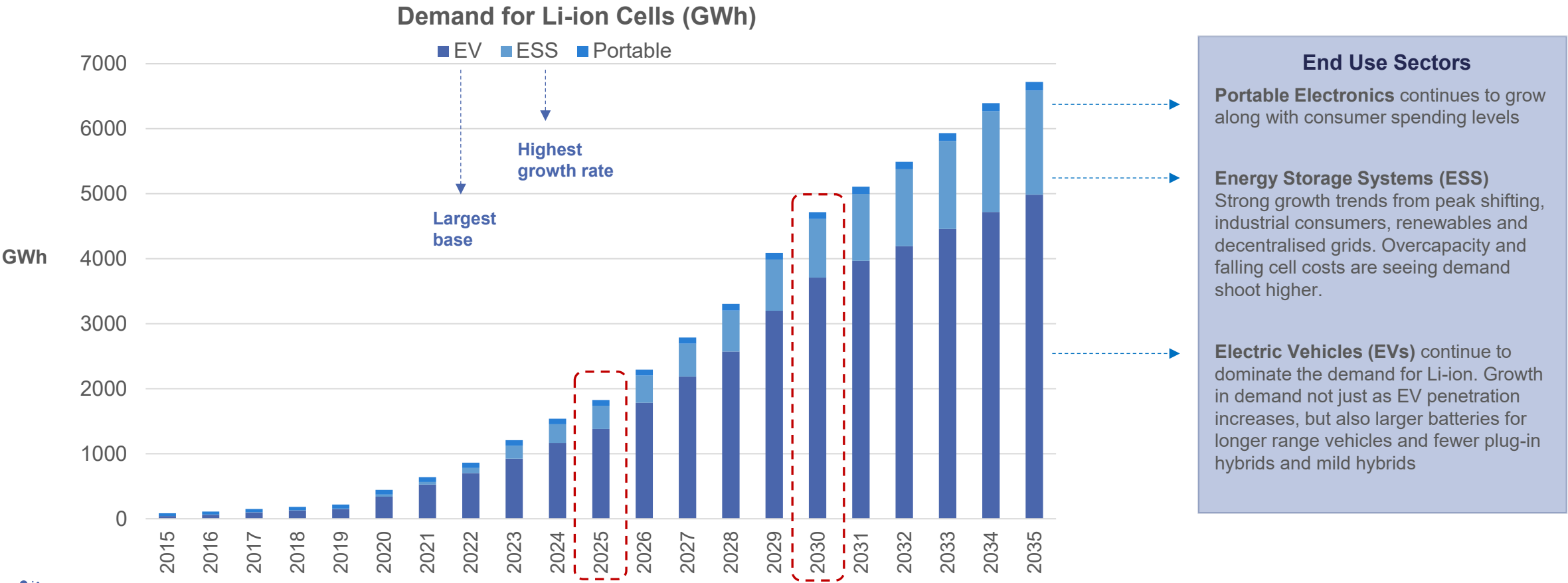
Battery Demand, Capacity and Utilisation*



- ❑ Lithium demand continues to grow at healthy levels: market used to double every 2.5 years, and now every five years.
- ❑ Demand of lithium and battery materials is assured, since there are very few substitutes to the lithium-ion battery on this supply chain. At least not in the EV sector.
- ❑ Building mining and refining capacity takes more time than Lithium-ion Battery cell (LIB) and Cathode Active Materials (CAM), which places a bottleneck on the upstream of the supply chain. Europe is an example of that.
- ❑ For different reasons, refining capacity needs to be closer to the end client: quality, consistency, security of supply, development of own resources.
- ❑ China does not hold the best lithium assets globally: continental salars are low grade, while lepidolite processing entail a huge amount of waste material (environmental concerns).

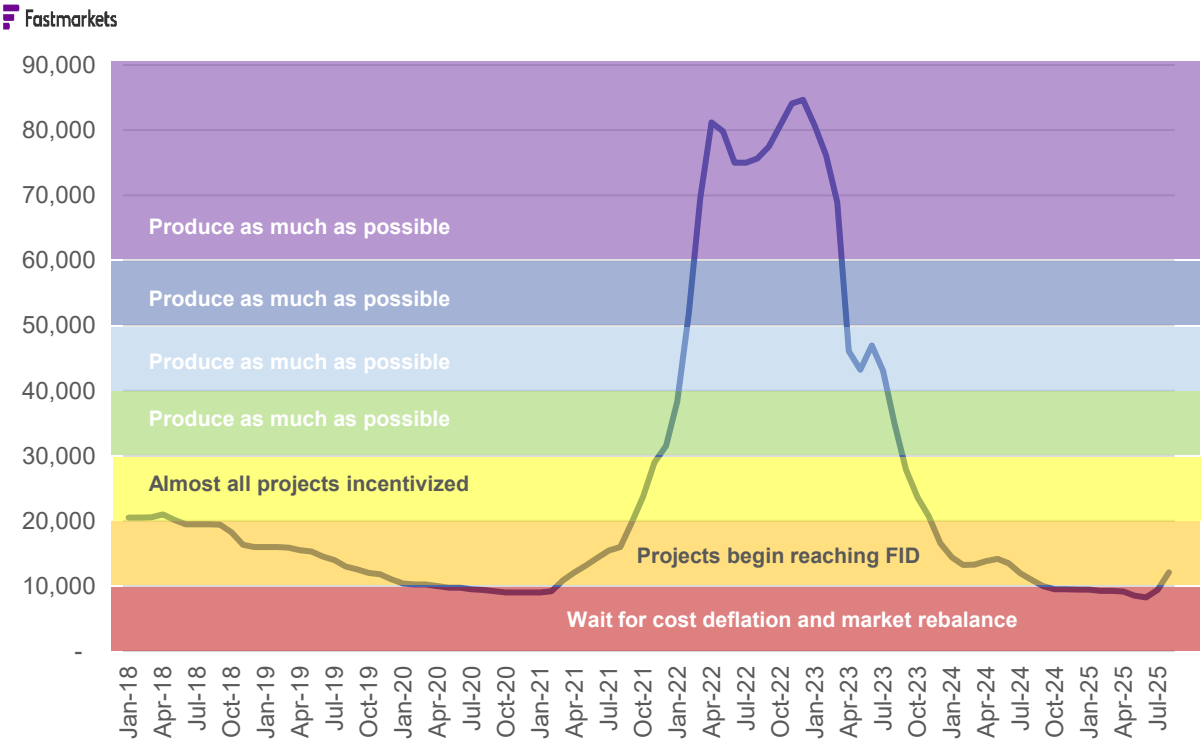
Demand for Lithium-ion battery cells is driven by a political mandate to reduce emissions: over \$1Trillion of investment has been committed.

Total Lithium-ion (Li-ion) battery cell demand is forecast to grow by 20.2% CAGR between 2024 and 2034. China maintains 70-90% market share in many stages of the supply chain, which is pushing governments to support regionalisation.



The lithium price rainbow: are prices structurally increasing?

Prices started to increase during July 2025, with Lithium Carbonate (EXW-CHN) today above US\$10,000/MT-LCE and spodumene above US\$800/MT



Beginning of a new cycle?

- ❑ Companies are quite moderate in their expectations after the last price cycle hype, despite the breath of fresh air coming from a slight price increase starting June-July 2025.
- ❑ Several greenfield projects calculated their PEA, PFS and DFS with prices > US\$20,000/MT-LCE. That has caused a loss credibility in the West.
- ❑ Chinese supported projects in Africa and China will be quicker on the rebound, while well-capitalised projects in South America and USA are more likely to reach FID in 2026 with prices above \$10,000/tonne.

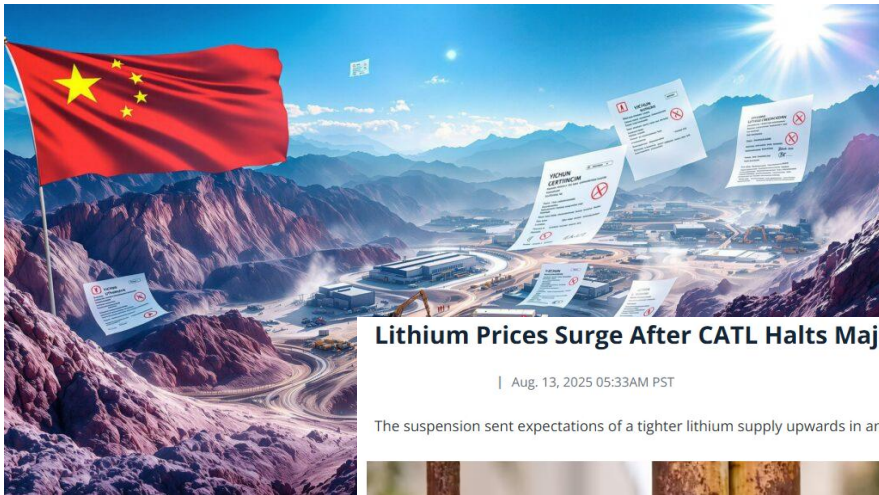
Incentive prices

- ❑ Our view continues to be based on lithium mining and refining incentive price and market fundamentals.
- ❑ Additional supply need to sum up to ~2,000,000 MT-LCE to achieve 2035 demand levels. Most of that additional supply has a Operational Cost over US\$10,000 MT-LCE

Chinese mining assets and environmental concerns

Both lepidolite and Chinese brine operations are suspending their operations. Official reason is regulatory enforcement, but there is an underlying story on costs:

Environment is starting to become a major concern in China



Lithium Prices Surge After CATL Halts Major Mine in China

| Aug. 13, 2025 05:33AM PST

Share

The suspension sent expectations of a tighter lithium supply upwards in an already volatile market.



Jianxiawo, Chinese largest lepidolite mine

- ❑ CATL project in Yichun using lepidolite as feedstock, and one of the largest refining facilities in China.
- ❑ This project is supposed to produce 7,000 MT-LCE every month, but it had a hard stop in 2024. Official reason is regulatory enforcement, same as with Qarhan (Quinghai). It also has to do with price and convenience of lepidolite as a low ore grade material.

Some calculations:

- ❑ For a production of 130 kMT-LCE of lepidolite (2025 estimation)
 - 21 MT of lepidolite concentrate (@2.5%), for each MT-LCE (21:1)
 - 2,590,000 MT-Lepidolite concentrate for 126,000 MT-LCE
 - 100,700,000 MT-Waste for that Lepidolite concentrate (40:1 stripping ratio)
 - If we go to ore, stripping ratios are biblical

Lithium is a fairly new market where sentiment fluctuates between overoptimistic and depressed

Every year the industry becomes more and more creative regarding new theories to move the price expectation at their convenience

Historic lithium myths:

- 1 CHN brine production > 100,000 MT-LCE (2012)
- 2 Wodgina, a colossal mine and game changer (2017)
- 3 The death of lithium carbonate and rise of lithium hydroxide (2019)
- 4 DLE and the story about net zero lithium (2020)
- 5 Lepidolite tsunami and prophecy of eternal low prices (2021)
- 6 Oversupply forever and the financing of lossmaking assets (2025)



Background

- ❑ Lithium continues to be a specialty chemical, and in a rapidly growing market we can expect volatile price cycles
- ❑ Lots of greenfield projects are still required, from a variety of different brine and hard rock sources

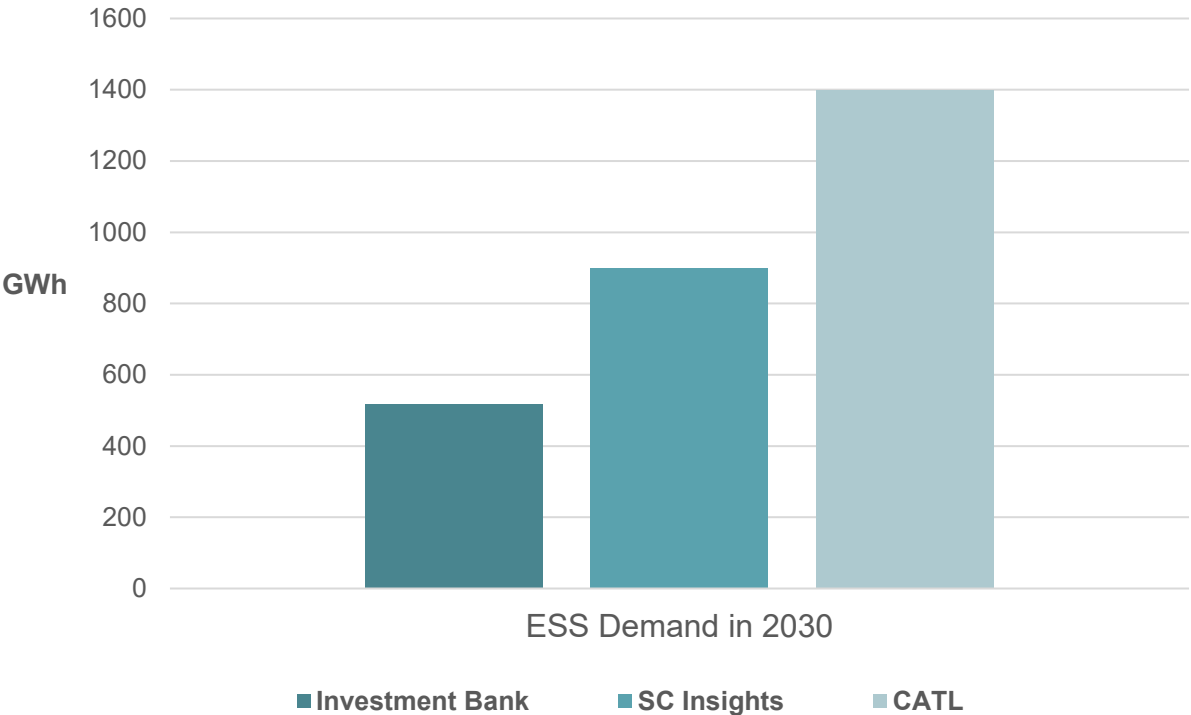
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European Li-ion market

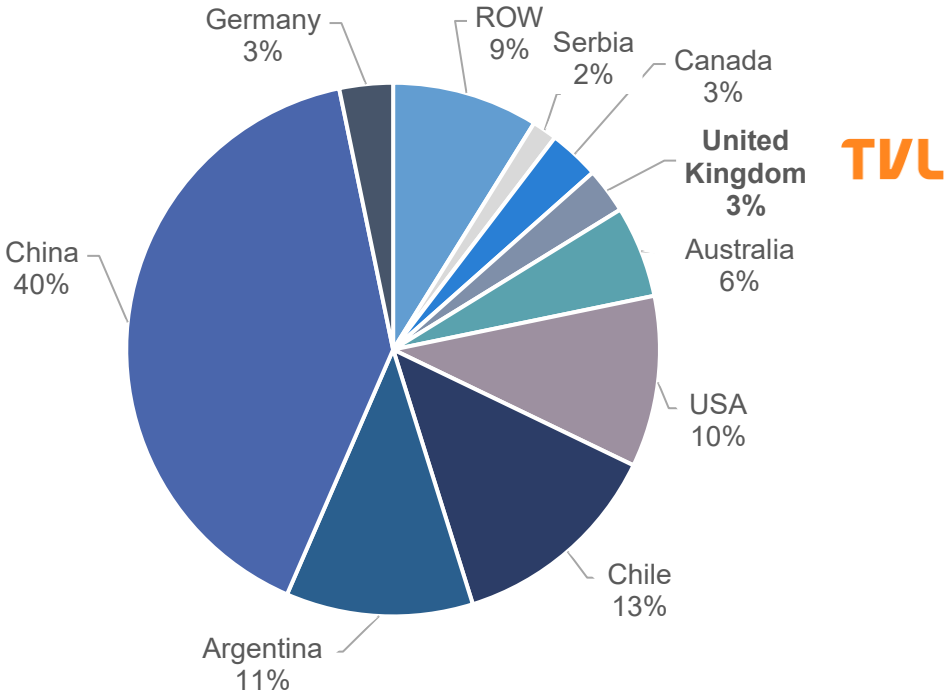
The lithium market offers significant opportunities in the next ten years

The range of forecasts for Energy Storage Systems (ESS) demand in 2030 equates to 20 lithium mines: ESS demand forecasts are highly varied between producers, consumers, banks and analysts, as opposed to EV forecasts. The latter will also lead to successive imbalances and a process of “feast and famine”.

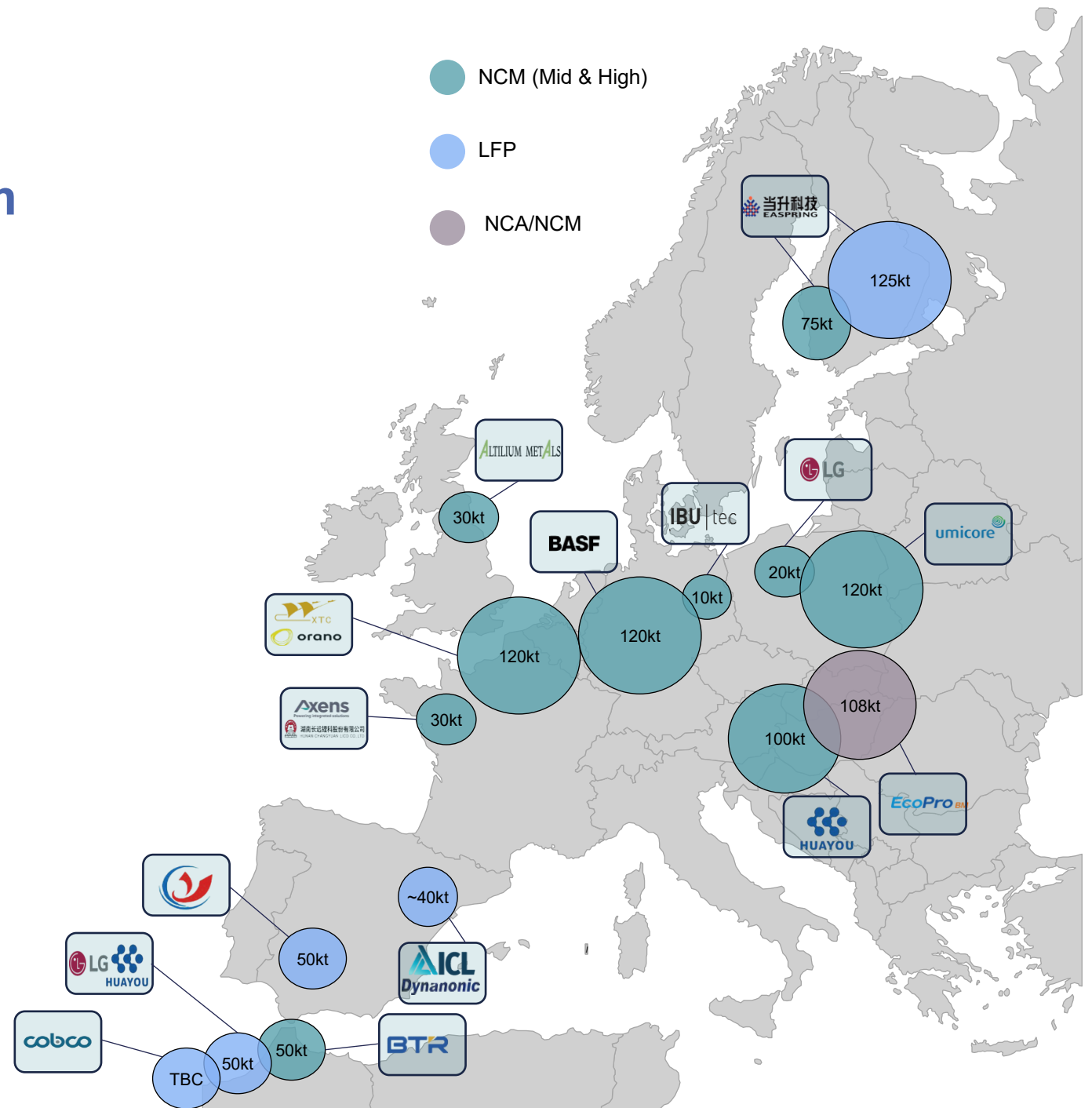
ESS Demand Forecast 2030 example



2030 Lithium refining by country:



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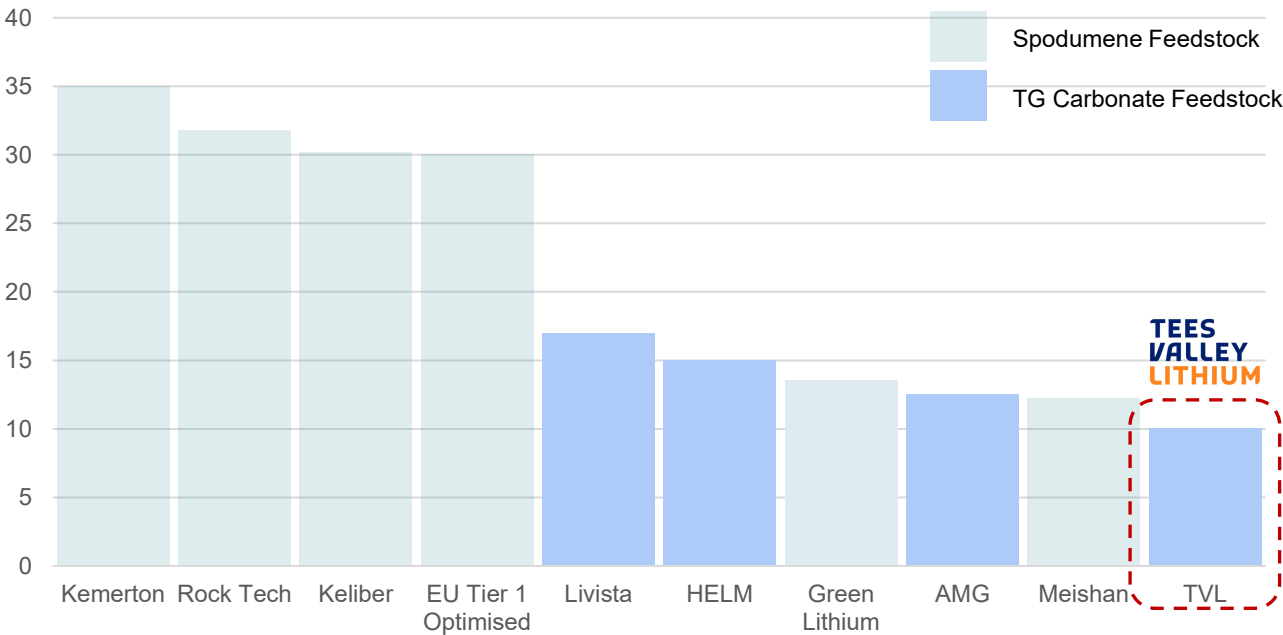
SC Insights: TVL Investor Day

Lithium refining in Europe and
Tees Valley lithium project

Capital intensity across lithium conversion facilities is highly dependent on regional cost structures and the degree of feedstock integration

Processing of intermediate feedstocks including off-spec chemicals often has lower capital intensity than spodumene conversion

Capital Intensity per tonne of LCE (\$/kg)



- Capital intensity is not inclusive of raw material costs
- Blue bars indicate companies that are or have intentions to process off-spec carbonate
- Publicly available announcements combined with internal knowledge
- Some operations are planned and not in commercial production

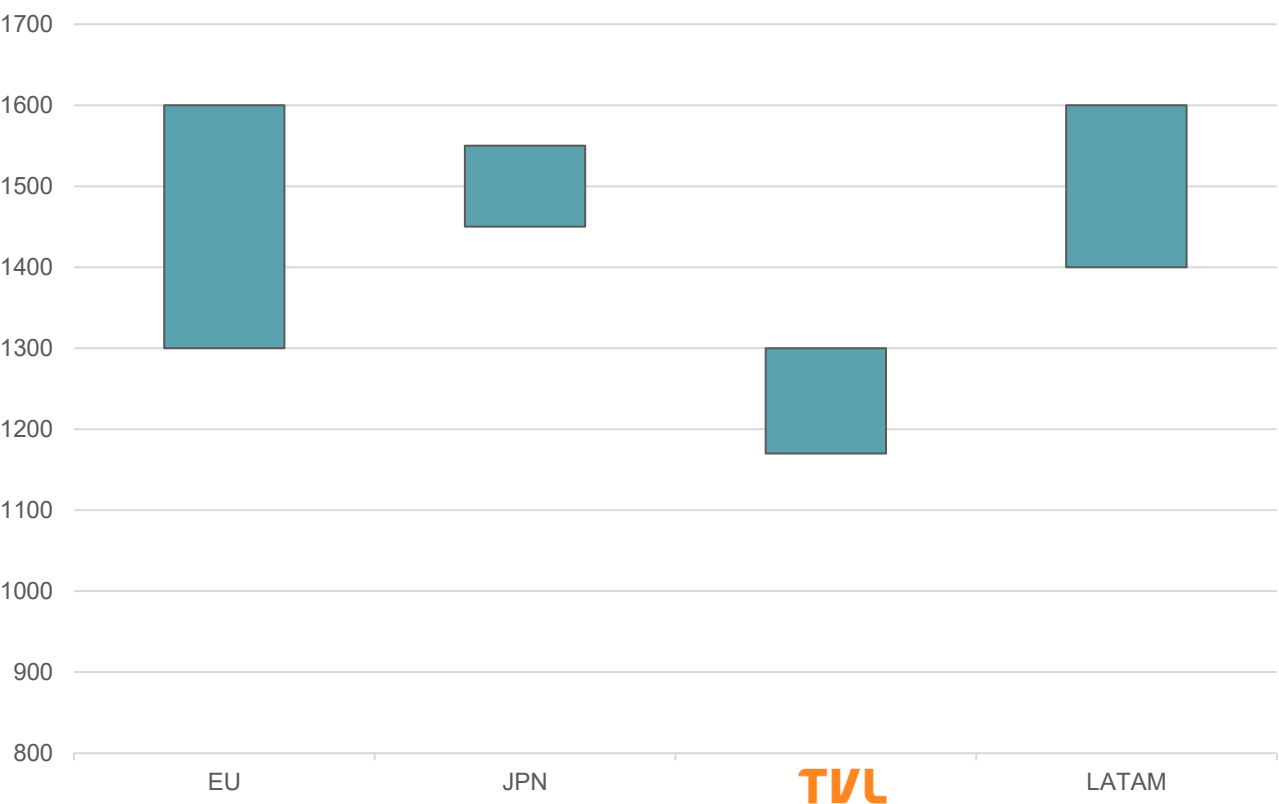
Regional factors play a big part in capital costs:

- EU-based projects face stringent compliance and ESG regulations particularly around waste products, inflating CapEx.
- Capital costs for spodumene conversion facilities in Europe or North America can be 3 to 4 times higher than equivalent facilities located in China.
- Type of processing facility has a significant impact on CapEx requirements. Typically, facilities focused on processing off-spec chemicals or intermediate products have a lower overall CapEx than those focused on raw material conversion (e.g. spodumene concentrate) to the battery grade chemical product.
- Vertically integrated facilities; those tied to captive raw material sources often can optimize CapEx by reducing their exposure to raw material feedstock price volatility.

Benchmarking OPEX costs for lithium refineries without low-cost Chinese players

OPEX costs outside of China will naturally be higher; but these companies will be competing against themselves if OEMs continue to push for localised refining capacity

OPEX for refining tech grade carbonate to chemical products (\$/t)



Competition amongst peers:

- Producers able to reduce their operating costs will have greater flexibility in securing offtakes in low pricing environments.
- Off Spec “technical grade” lithium will play an increasingly pivotal role in the lithium landscape as producers ramp-up and off-spec becomes more readily available in the market.
- Importing spodumene concentrate into EU has many challenges including dealing with expensive waste products and shipping costs associated with a bulk product.
- EU is best suited to process higher grade lithium intermediate or off-spec products.

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