

PRELIMINARY

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2. Background

- A summary of the battery value chain
- Lithium-ion battery manufacturing process
- Cost of lithium-ion battery manufacturing
- Synthetic and natural graphite routes to anode material and costs

3. Demand sectors

- Transportation (by type and size)
- Stationary storage (front and behind meter storage)
- Consumer electronics
- Potential new battery applications

4. Battery manufacturing analysis

- Calculated demand based on battery application production analysis (above)
- Battery investment plans, including gigafactories, etc.
- Supply and demand gap analysis
- Emerging companies

KEY QUESTIONS ANSWERED

Investment guidance for the battery value chain based on parameters like current business line, raw material procurement and cost of the project.

Demand, imports, exports, production, and capacity for each demand sector. Historically from 2021 to 2024 and projected through to 2040.

Demand, imports, exports, production, and capacity for lithium-ion battery cells, broken down to relevant type/sizes historically from 2021 to 2024 and projected through to 2040.

5. Battery materials

- Calculated demand based on our battery manufacturing analysis (above)
- Investment plans
- Location analysis to include cost price margin analysis considering material logistics, investment costs, funding opportunities. Recycle supply (from section 8, below)
- Supply and demand gap analysis
- Emerging companies

6. Deep dive into anode materials

- Manufacturing
 - Cost of manufacturing
 - Estimation of carbon footprint
- Synthetic graphite
 - Coal tar pitch
 - Needle coke
- Natural graphite
- Research new technologies (not volume): Biobased graphite, Graphitized CO₂, Recycled
- Emerging anode material composition (Silicon, Hard Carbon, Lithium Metal, etc.)
- Cost, price and margin analysis for synthetic graphite and natural graphite

7. Countries policy landscape

- Australian policies
- EU critical minerals policy
- North America critical mineral policies
- China's policies

8. Second life use and recycling

- Overview of anode material recycling
- Trend and forecast for battery anode recycling market
- Policy measures to support recycling

9. Challenges and risk mitigation techniques

- Battery value chain challenges
- Risk mitigation techniques

Conclusion

Location analysis based on parameters like electricity, water, land and labor cost, distance from port or subsequent industries, incentives/subsidies offered (From section 7).

Demand, imports, exports, production, and capacity for green pet coke, calcined coke, anode grade needle coke, natural graphite broken down to relevant specifications/categories historically from 2021 to 2024 and projected through to 2040.

Overview of new technologies and an outlook on the impact of demand of natural and synthetic graphite.

How well individual directives are performing in each region in order to secure access to critical materials. This will include analysis on incentives/subsidies offered in different countries.

Forecasted recycling and reuse of spent graphite with analysis of policy measures that are in place to promote it.

Challenges and mitigation measures related to supply chain, operations, and geopolitical climate.

Section 5 and 6 will be based on the data fill in the following form

Material	Year	Year
Supply		
Capacity		
Company A, Site		
Company B, Site		
Total Capacity		
Production		
Capacity utilization, %		
Imports		
Total Supply		
Demand		
Consumption		
Use A		
Use B		
Total Consumption		
Exports		
Total Demand		
Net Trade Balance		

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The regional focus of the study will be as illustrated:

- North America
- China
- Europe
- Rest of World



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