

Electrochemical Lithium Extraction

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Elevator Pitch

Our electrochemical technology enables economical lithium extraction from low-grade clay ores. It **reduces energy costs by 70%** compared to conventional methods, transforming lithium mining economics. This process offers a **sustainable solution** to meet growing lithium demand amid increasing lithium costs while minimizing environmental impact.

Technology Solution

Lithium extraction from low-grade clay ores

70% Reduction in Operational and Upfront Costs

Room
Temp.
Reactions

Low-Grade
Clay Ores

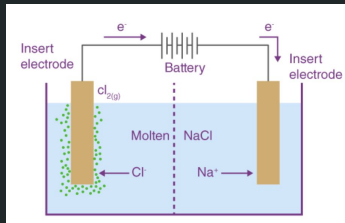
Reduced
Reagent
Use

Lower Operating
Expenses &
less ecological
contamination

Compact
Facilities

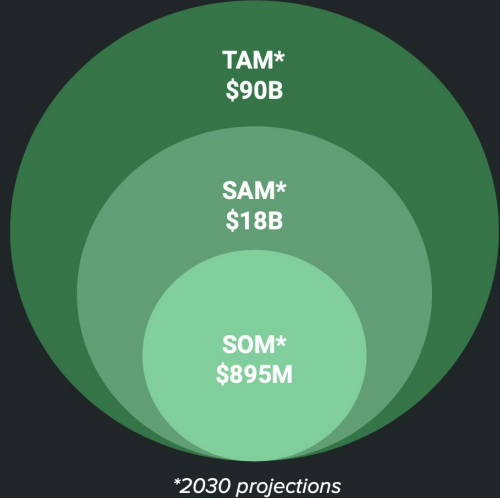
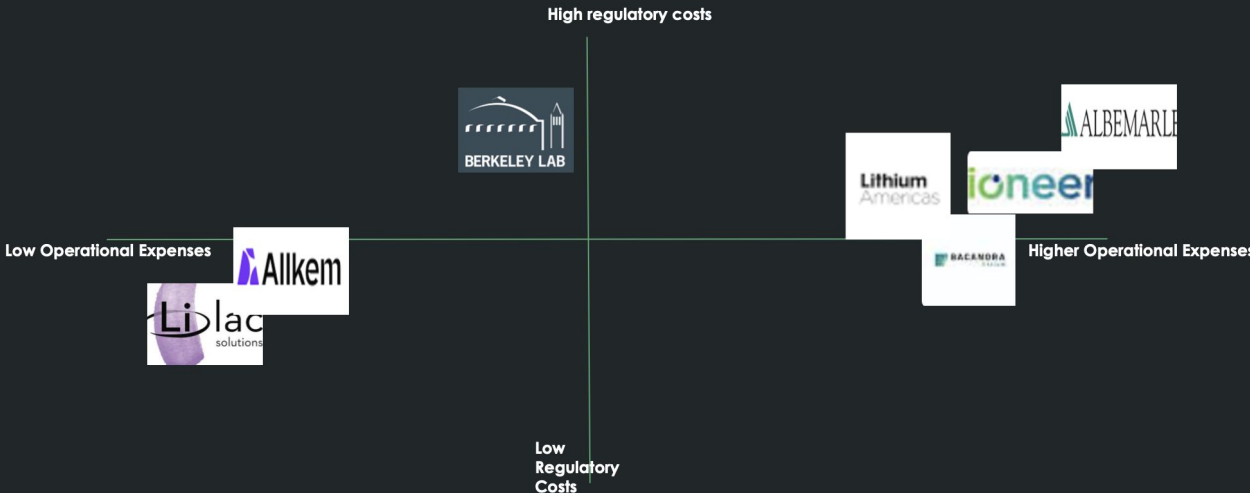
Lower Capital Expenses

Lower Energy Costs

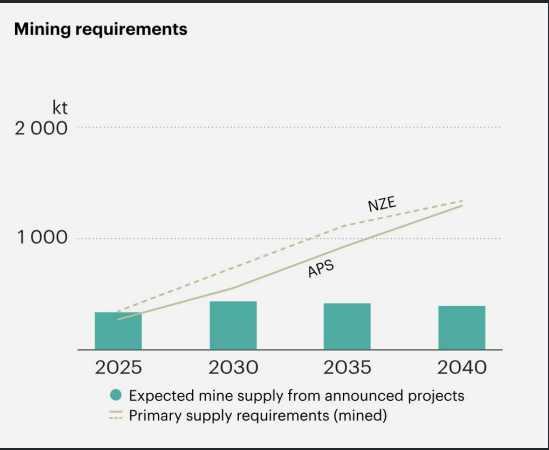
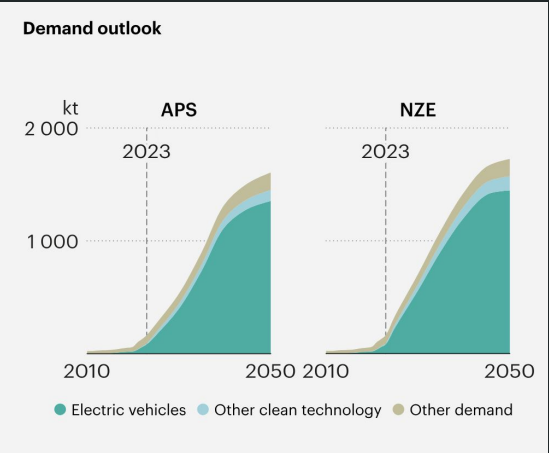
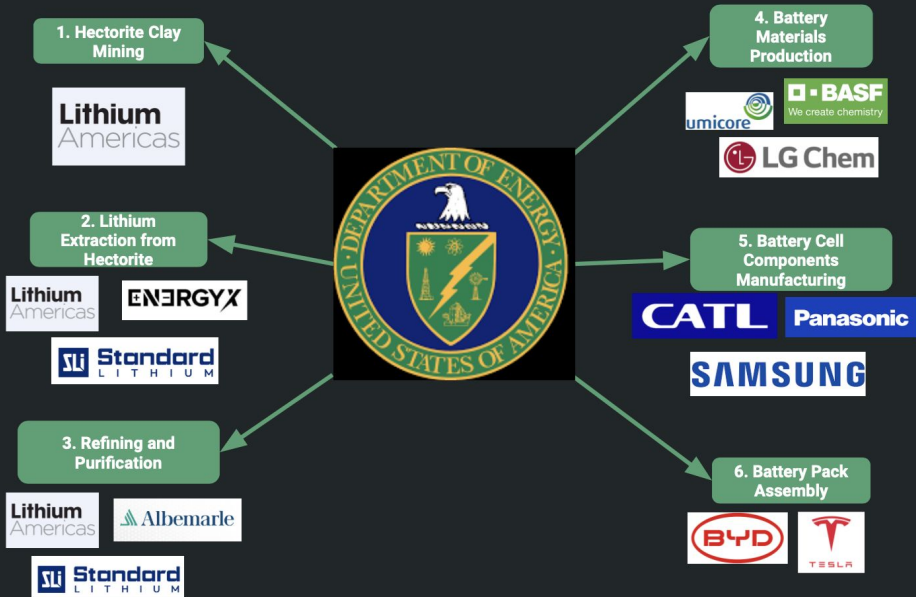


Electrochemical Extraction

MARKET



MARKET



Our Recommendation*



U.S. DEPARTMENT OF
ENERGY

LithiumAmericas

“If Lithium Americas isn’t on board, who is incentivized to partner for clays?”
- Former Tesla materials executive

Pursue DOE funding via **Vision OPEN 2024** and start commercialization relationship with Lithium Americas

1

Step 1: Scope requirements for demonstration facility including research on waste product from hectorite

2

Step 2: Investigate pathways for FOAK funding with DOE via Advanced Materials and Manufacturing Technologies Office (AMMTO)

3

Step 3: Develop communications with Lithium Americas via Lithium Research, Development, and Demonstration (RD&D) Virtual Center

Other Pathways Examined

1

Equipment Sales

Challenges:

- High initial investment to build the equipment (>\$500k)
- Equipment might not directly fit the specifications of the customers, customization might be required
- Hard to secure customers who would want to test equipment

2

Initial Corporate Partnership

Challenges:

- Limited number of players in lithium extraction for hectorite (e.g. Lithium Americas)
- Unproven, time-intensive, and capital-intensive
- Extraction dominated by established supply chains with clear expenses and already invested capital

3

Direct Licensing

Challenges:

- Low corporate risk appetite
- Difficulty securing contracts before field demonstration
- New infrastructure required for customers
- High costs of technology integration
- High implementation costs

4

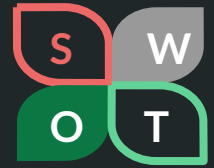
Create new venture

Challenges:

- Massive capital requirements
- Necessity of established supply chain, mining contracts, and government relations
- High operational barriers to entry

Thank you! Questions?

Appendix



Appendix: SWOT Analysis

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> → Novel Electrochemistry → Structural Mechanism → Selective Extraction → Cost Reduction Potential → Sourcing Revolution → Environmental Benefits 	<ul style="list-style-type: none"> → Limited Material Scope → Extraction Efficiency → Early Development Stage → Unproven at Commercial Scale → Financing Alignment → Location-specific Requirements 	<ul style="list-style-type: none"> → Research Expansion → Integration with Renewable Energy → Process Optimization → Untapped Resources → Supply Chain Localization → Government Incentives 	<ul style="list-style-type: none"> → Scalability → Competing Technologies → Industry Inertia → Regulatory Hurdles → Market Volatility → Location-Specific Requirements