

# Sustainable Lithium Extraction

 Lithium Harvest



# Cautionary Statement

## Forward-Looking Statements

This presentation contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, including without limitation the financial model and business case on slides 37 and 24, respectively. Although the forward-looking statements in this presentation reflect the good faith judgment of management, forward-looking statements are inherently subject to known and unknown risks and uncertainties that may cause actual results to be materially different from those discussed in these forward-looking statements. Readers are urged to carefully review and consider the various disclosures made by us in our reports filed with the Securities and Exchange Commission, including the risk factors that attempt to advise interested parties of the risks that may affect our business, financial condition, results of operation and cash flows.

If one or more of these risks or uncertainties materialize, or if the underlying assumptions prove incorrect, our actual results may vary materially from those expected or projected. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. We assume no obligation to update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this presentation.

# Company Introduction



# Company Overview

<b>Company:</b>	<b>Sustainable Projects Group Inc.</b>
Head Office:	Houston, TX
Technology Center:	Aalborg, Denmark
Ticker:	OTC: SPGX
Shares Outstanding:	296M
Market Cap:	\$86M



# Our Purpose

## We Turn Waste into High-Value Minerals

Our **patented technology** transforms oil & gas wastewater (produced water) into high-value minerals.

We produce high-quality battery-grade lithium compounds in just hours, **saving more than 500,000 gallons of fresh water and 15,000 kg of CO<sub>2</sub>** per metric ton of lithium carbonate produced.

## Our Mission

*We care about our common future and continued economic growth. Our unique technology enables the green energy transition and addresses the shortage of critical metals for energy storage.*

## Our Vision

*We have committed ourselves to the green energy transition. We are here to produce critical metals for energy storage in a more sustainable and efficient way.*

6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION




“

***We believe that our patented technology is the most sustainable, fastest to market, and lowest cost of any lithium mining technology available today.***

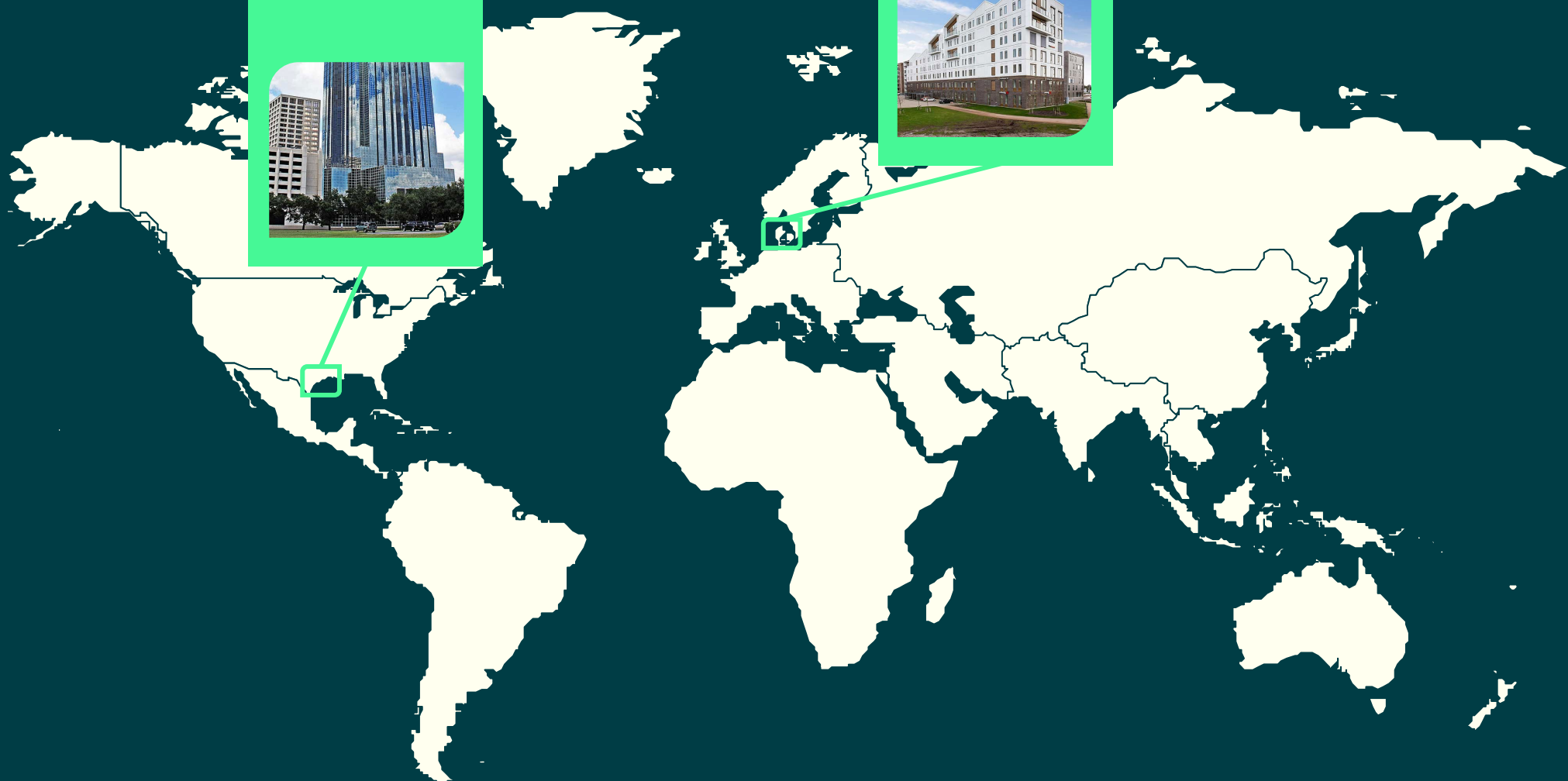

**Sune Mathiesen**  
Chairman & CEO

”

Headquarters  
Houston, TX



Technology  
Center  
Denmark



# Our History

Lithium Harvest was founded by Sune Mathiesen and Paw Juul in 2020 out of the need for a more sustainable and faster way to produce lithium battery compounds.

The idea for our patented technology was, however, born already in 2012 after conducting a produced water treatment pilot trial with a leading oil and gas company. Produced water typically contains soluble and non-soluble oil/organics, suspended solids, dissolved solids, and various chemicals used in the production process. However, we learned that produced water also contains valuable minerals that can be extracted.

Our management has more than 20 years of water treatment experience. They have developed several proprietary water treatment technologies and a unique fully automated control algorithm that has been installed in more than 400 large-scale industrial water treatment systems.



# Experienced Management Team



**Sune Mathiesen,  
Chairman & CEO**

Prior to co-founding Lithium Harvest, Mr. Mathiesen served as CEO, President, and Director of LiqTech International, a Nasdaq listed company, since 2014. Mr. Mathiesen has also served as CEO and Director of Provital, and Country Manager of Broen Lab and GPA Flowsystems.

Mr. Mathiesen has a solid board and executive management background in private and public companies. Further, he has extensive experience as an investor in early-stage startups.



**Stefan Muehlbauer  
CFO**

Mr Muehlbauer joined the Company in 2017 as CFO and was appointed CEO in 2018. as well as serving on the company's board of directors. Previously Mr. Muehlbauer has served as CEO of Arma Communications Inc., a business development and marketing agency, since 2013. Prior to joining the Company, Mr. Muehlbauer held positions with several leading investment banks in Europe, where he focused on the biotech, pharmaceuticals, and green chemistry sectors. As the Chief Operating Officer at Silvia Quandt & Cie AG, he was responsible for building up the institution's research and corporate finance activities in these areas.



**Paw Juul,  
CTO & Director**

Prior to co-founding Lithium Harvest, Mr. Juul served as CEO of LiqTech Water, a subsidiary of LiqTech International, a Nasdaq-listed company, since 2014. Mr. Juul co-founded Provital in 2009 and served as CTO until 2014.

Mr. Juul has extensive experience in new business development, specifically in the water treatment industry.



**+20 Years**  
Executive management  
experience



**+20 Years**  
Water treatment  
experience



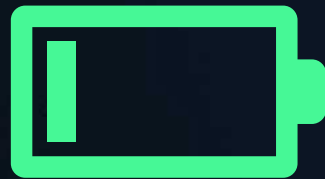
**+400**  
Successful water treatment  
systems installed



# The Environmental Challenge



Our planet is running



low on battery

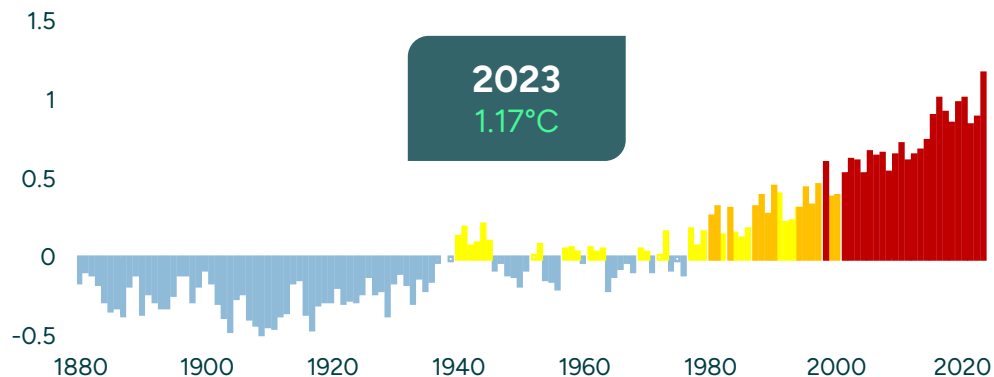
# The Environmental Challenge

Greenhouse gases (GHG) trap heat and make the planet warmer. Human activities are responsible for almost all atmospheric GHG increases over the last 150 years.

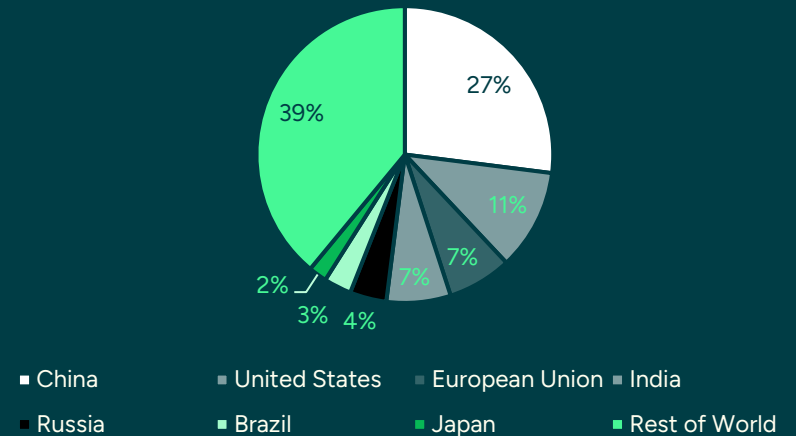
Transportation accounts for 28% of U.S. GHG emissions and is the single largest contributor to total GHG emissions.

In 2021, global CO<sub>2</sub> emissions reached a record high of 37.12 gigatons and the world is on track to emit 42 gigatons in 2030.

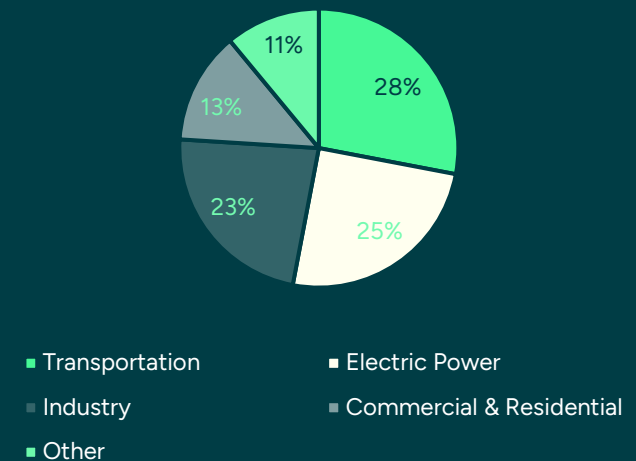
**Global Land-Ocean Temperature Index**



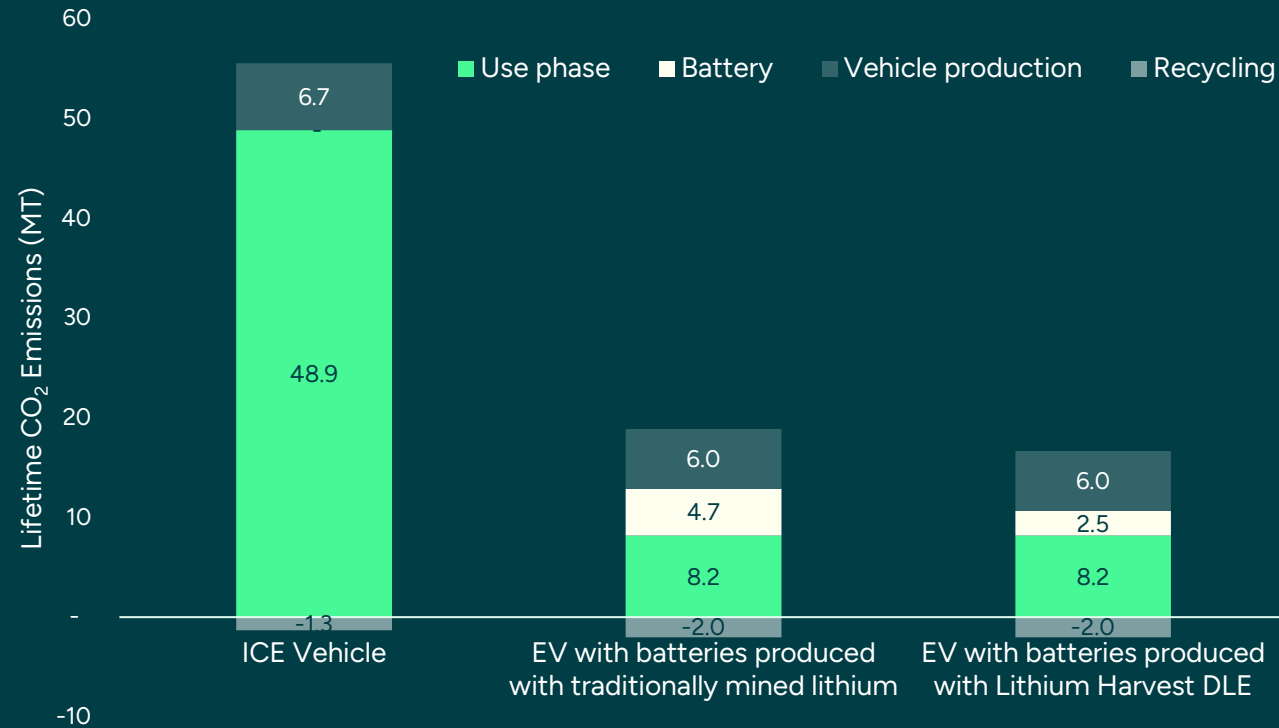
**Global GHG Emissions by Country in 2021**



**U.S. GHG Emissions in 2021**



# How EVs Reduce the Environmental Impact of Transportation - And How We Make It Even Cleaner



**Breakeven with ICE vehicle**

**18.000 km**      **6.000 km**

\*Calculations based on average EU electricity



**Up to 99%**  
Smaller Footprint



**>90%**  
Water Recycled



**Up to 96%**  
Lower Water Consumption



**Neutral**  
CO<sub>2</sub> Footprint

Lithium

 Lithium Harvest

# Lithium (Li)

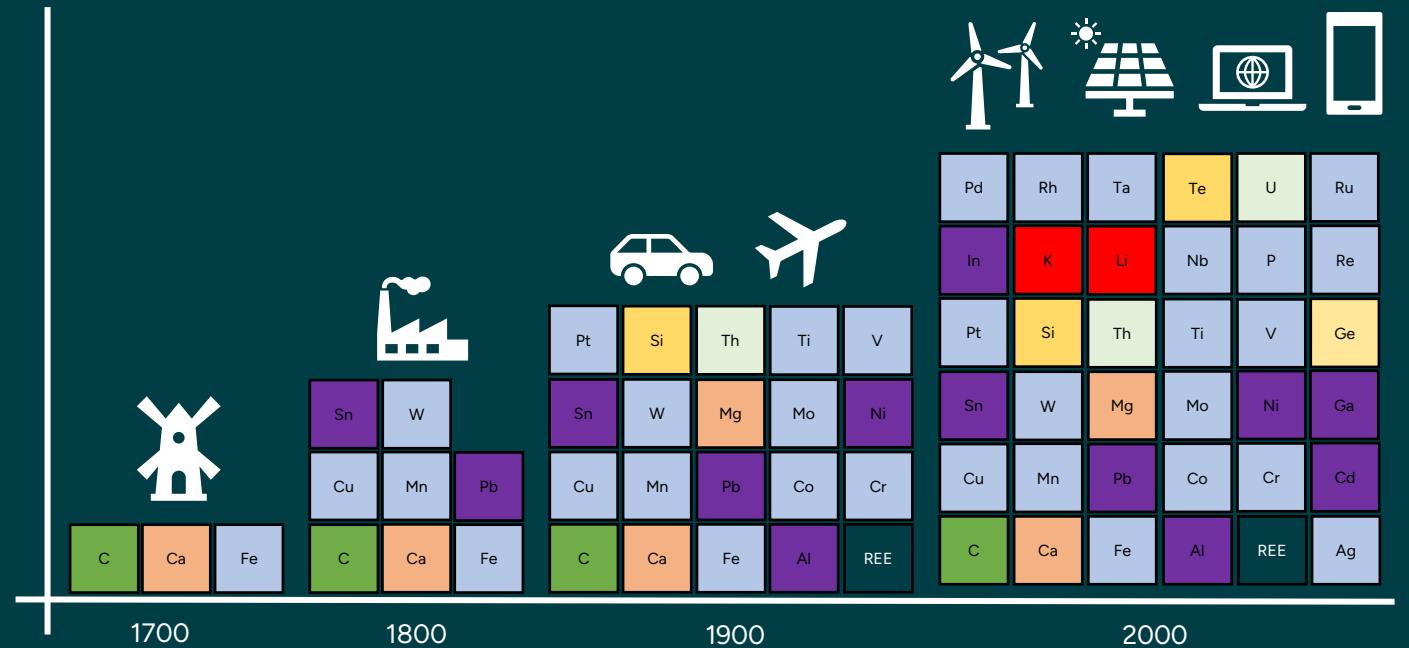
Lithium is the lightest metal on Earth and can be extracted from ore or brines.

Lithium constitutes about 0.002 percent of the Earth's crust, making it the 25th most abundant element. Lithium does not naturally occur in elemental form due to its high reactivity. The largest concentrations of lithium can be found in granitic pegmatites and continental brines.

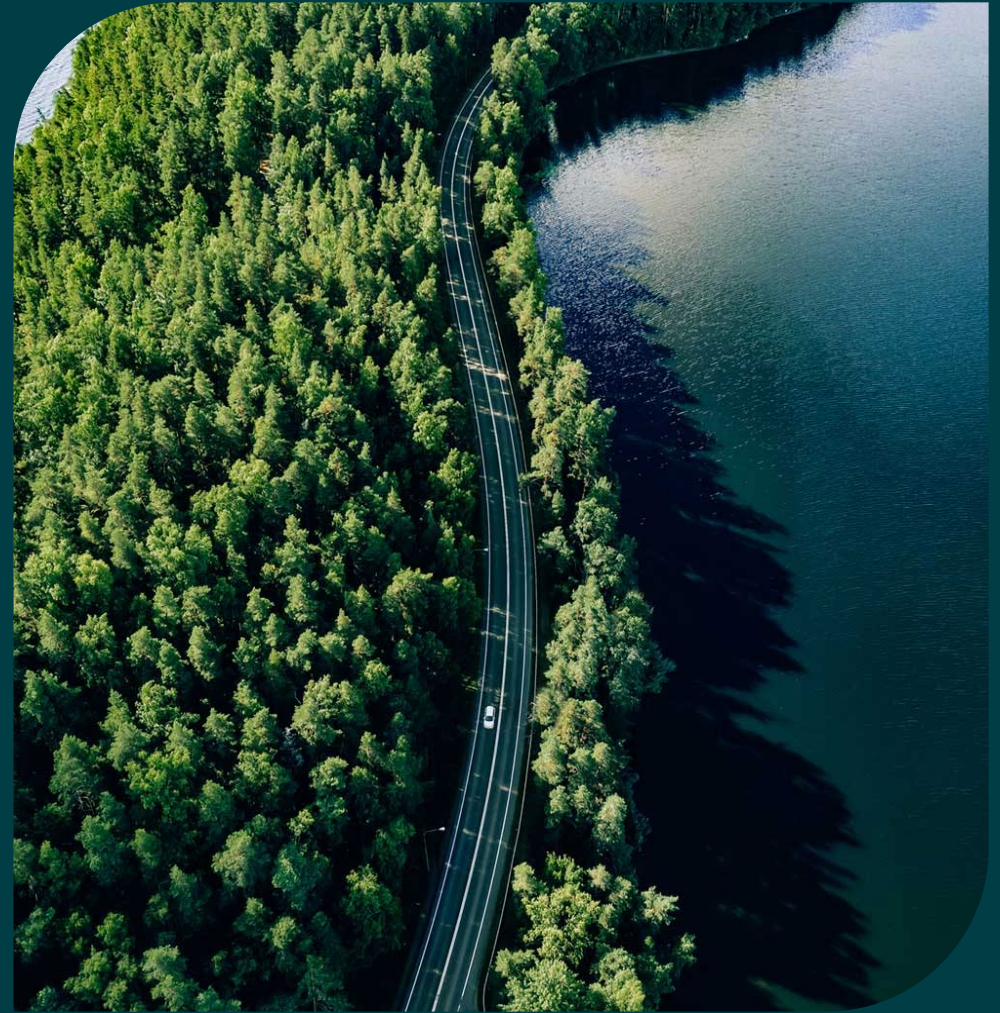
## Lithium is Critical for the Green Energy Transition

Clean energy technologies require significantly more minerals than their fossil fuel-based counterparts.

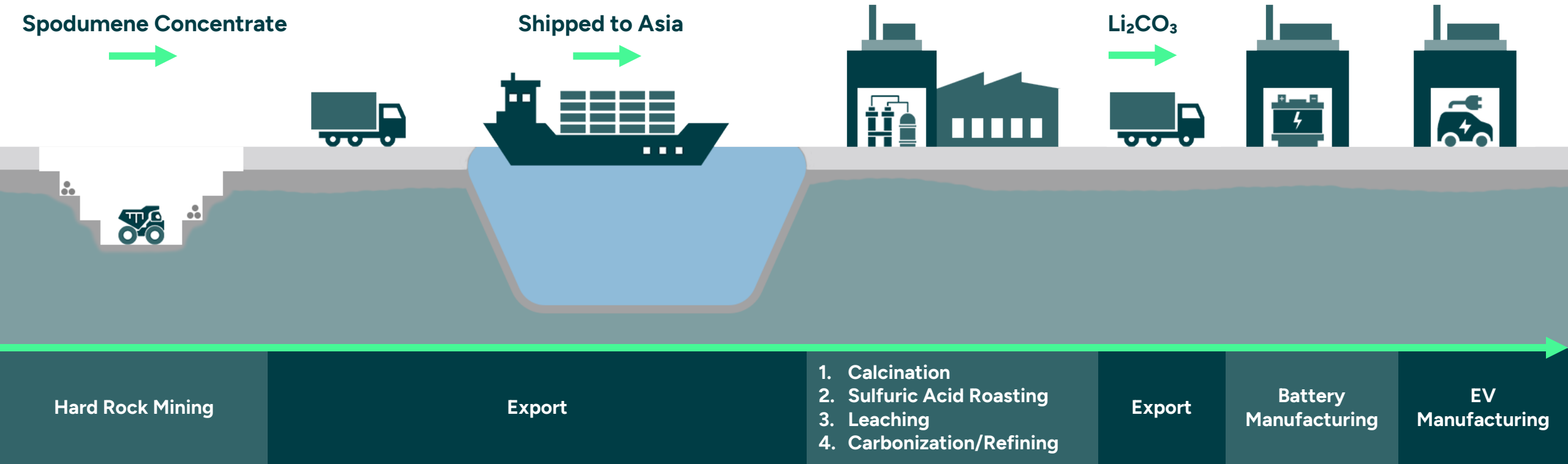
The ability to store energy is crucial for the green energy transition. The combination of low weight and high energy storage density makes lithium the perfect material for batteries.



We Turn  
Wastewater  
Into High Value  
Minerals

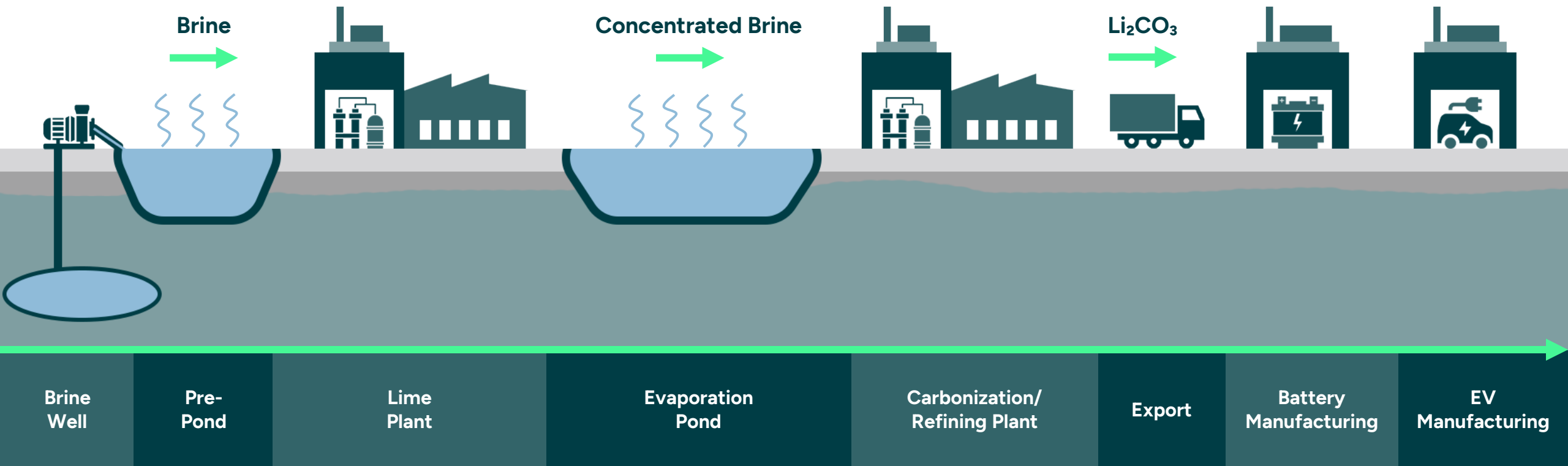


# Traditional Production Methods - Hard Rock Mining



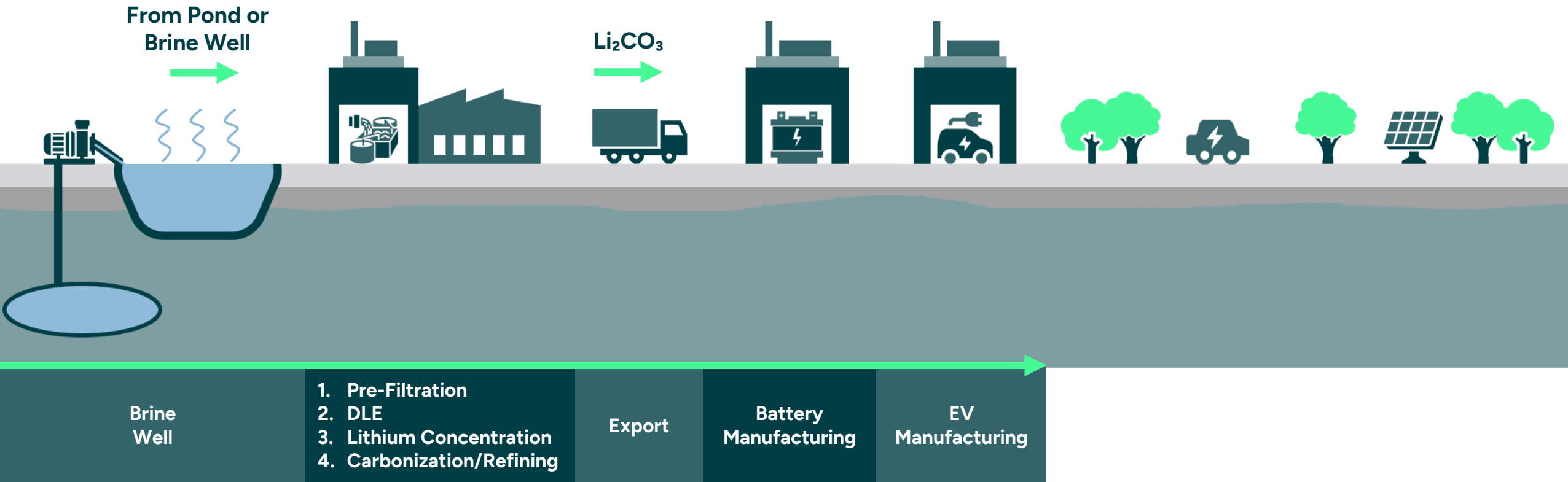


# Traditional Production Methods - Brine Solar Evaporation



# Production Methods

## - Direct Lithium Extraction (DLE)



# Lithium Production Technologies



**DLE from Brine**



**Solar Evaporation Brine Extraction**

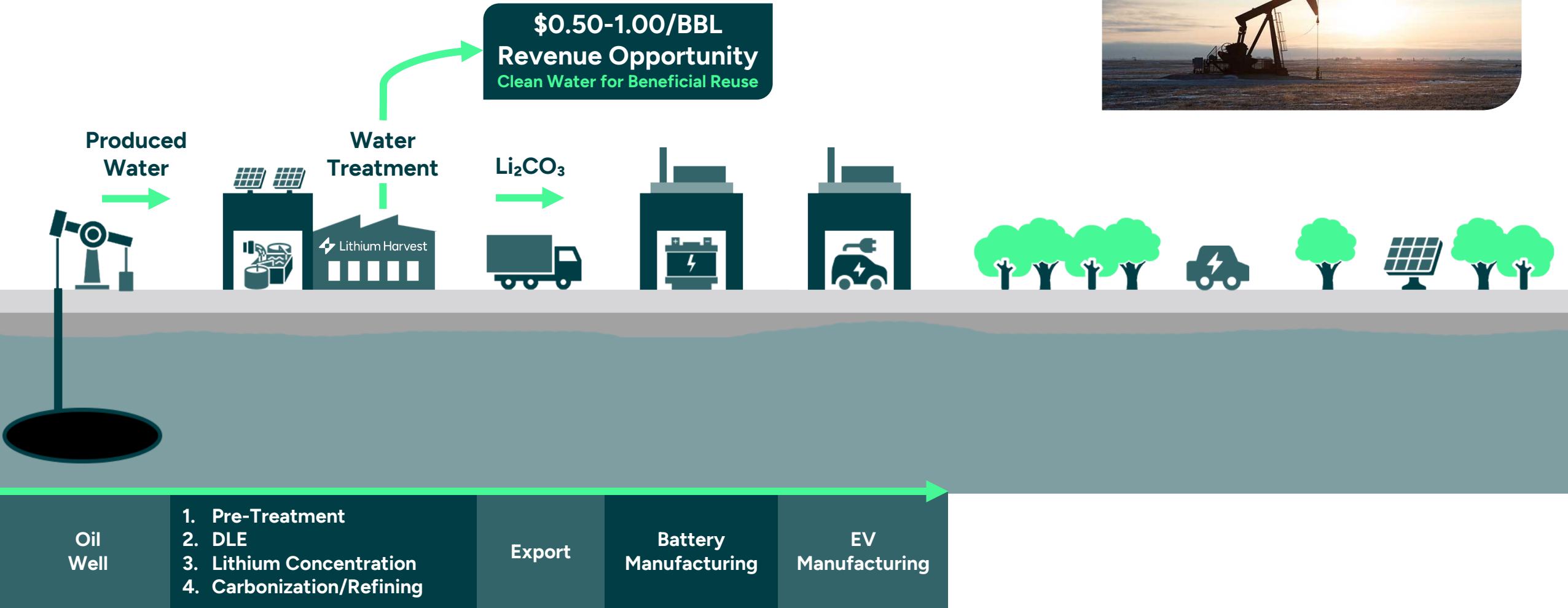


**Hard Rock Mining**

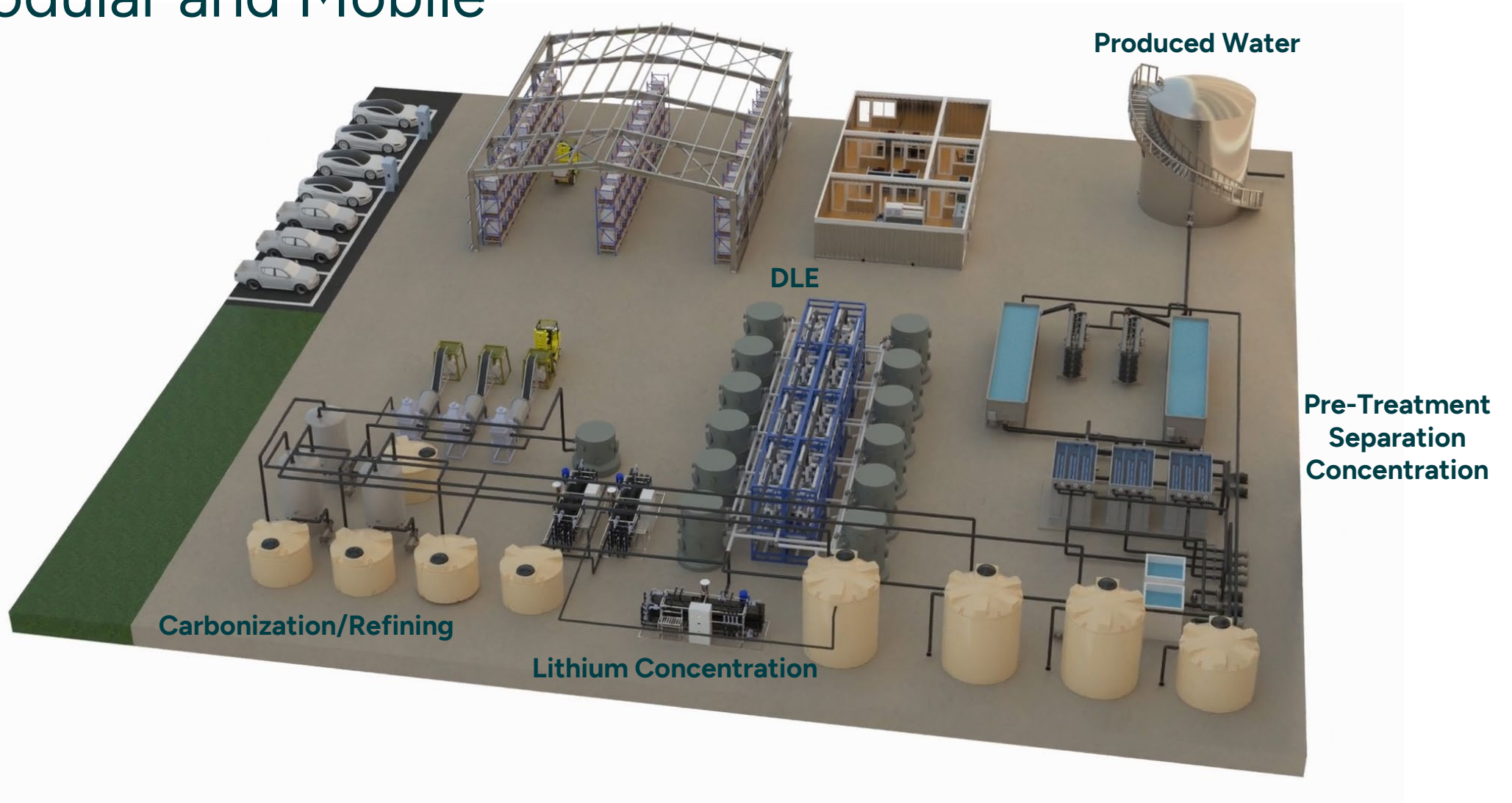
Project implementation time	5-7 years	13-15 years	8-10 years
Lithium carbonate production time	2 hours	2-3 years	3-6 months
Lithium yield	80-95%	20-40%	6-7%
Average footprint per 1,000 mt LCE	1.4 acres	65 acres	115 acres
System design	Mobile / Stationary	Stationary	Stationary
Environmental impact	Minimal	Soil and water contamination	Soil and water contamination
Water consumption per 1,000 mt LCE	80 million gallons	550 million gallons	250 million gallons
CO <sub>2</sub> footprint per 1,000 mt LCE	1.5 million kg	5 million kg	15 million kg
Average invested capital per 1,000 mt LCE	\$45 million	\$50 million	\$60 million
Average cost per metric ton	\$5,700	\$5,800	\$6,900

\*1,000 mt LCE is equivalent to 15,400 PCU  
Source: Columbia University, IEA, ICMM

# Production Methods - Lithium Harvest DLE



# Our Technology - Modular and Mobile



# Direct Lithium Extraction - But Different

Our patented technology is Direct Lithium Extraction (DLE) based on adsorption technology. Using wastewater from oil & gas production as our feedstock, allows us to bring lithium operations online much quicker and at a lower cost than any other DLE technology in the market.



**Lithium Harvest Technology**



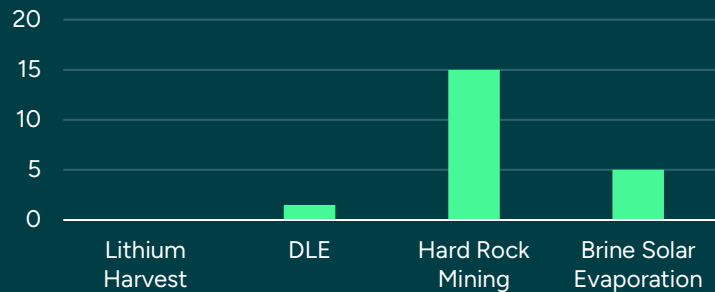
**DLE from Brine**

**Lithium Harvest Advantage**

Project implementation time	12-15 months	5-7 years	No drilling permits needed
Lithium Feedstock	Produced water	Continental Brine / Geothermal	No asset acquisition
System design	Modular and mobile	Mobile / Stationary	Unique modular design
Water consumption	20 million gallons	80 million gallons	Water recycled for secondary reuse
CO <sub>2</sub> footprint	Neutral	1.5 million kg	Offsets CO <sub>2</sub> footprint from wastewater
Average invested capital per 1,000 mt LCE	\$18 million	\$45 million	No land acquisition
Average cost per metric ton	\$4,550	\$5,700	Low Energy Technology

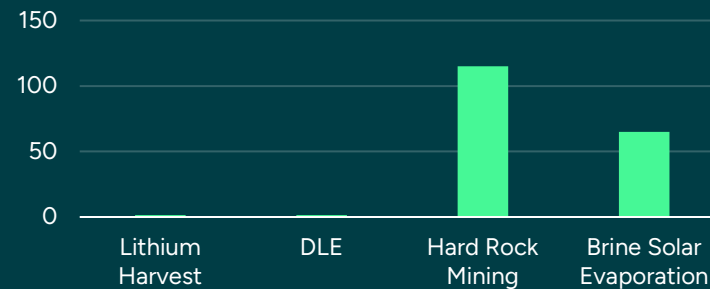
# Technology Benchmark - Environmental Impact

**Carbon Footprint**  
Million kg per 1,000 mt LCE



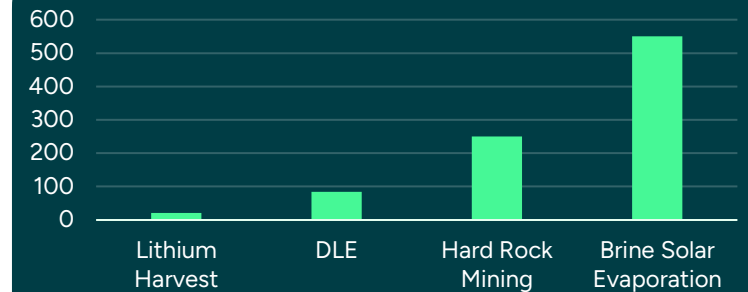
- No transportation to a secondary site for refining
- Uses solar power as a primary energy source
- Low pressure/low energy technology
- Offsetting carbon savings from water handling

**Facility Footprint**  
Acres per 1,000 mt LCE



- Co-located with produced water treatment facility
- Modular and compact facility
- No ponds and pipelines
- No additional impact on the environment and wildlife

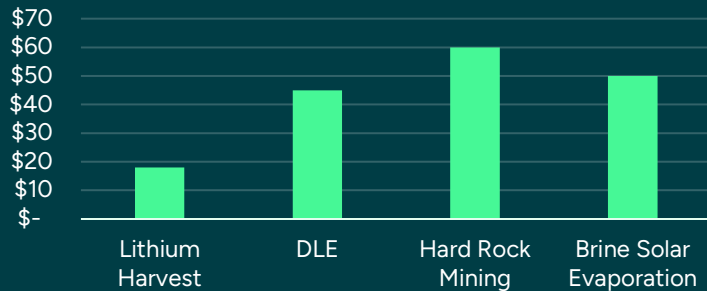
**Water Consumption**  
Million Gallons per 1,000 mt LCE



- >90% of water re-used
- No freshwater consumption
- No pollution of water resources
- No additional waste product

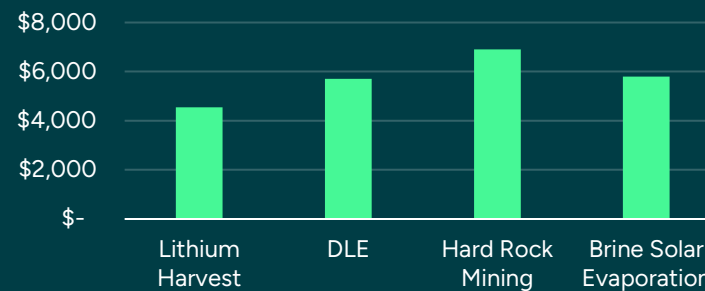
# Technology Benchmark - Business Case

**CapEx**  
Million USD per 1,000 mt LCE



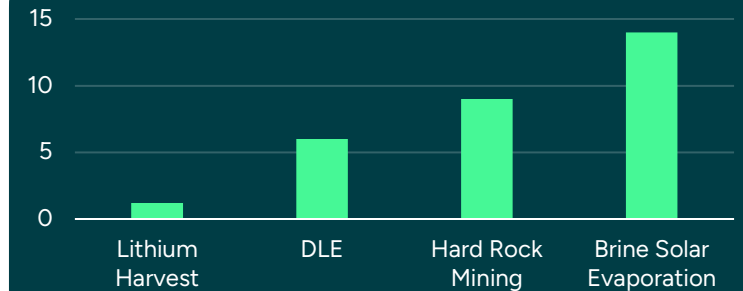
- No acquisition of land
- No acquisition of drilling rights
- Modular plant design

**Average Cost**  
USD per 1,000 mt LCE



- Up to 95% yield
- Low energy facility
- Fully automated facility
- On-site production and refining
- Fixed price feedstock

**Project Implementation Time**  
Years



- No acquisition of land and drilling rights
- No drilling permits
- Modular plant design
- Scalable capacity



# A Win-Win Strategy for the Oil and Lithium Industry

## Advantages for Oil & Gas Operators



### Waste to Profit

Transform wastewater into a lucrative asset



### Versatile Reuse Options

Reuse treated water for re-injection or beneficial reuse



### World's Most Sustainable Lithium

Setting new global sustainability standards



### Competitive Pricing

The lowest cost of any lithium mining technology in the market



### Fast Deployment & Returns

A fast track to tap into the booming lithium market



### Hassle-Free Experience

We are operating the lithium extraction plant



### Fastest to Market

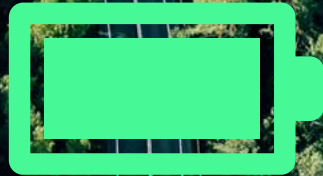
Rapidly converts oilfield wastewater into lithium compounds



### Rapid & Scalable Production

Rapid market delivery and adaptability to meet increasing demands

We are helping our



planet back to 100%

# The Lithium Market



# The World is Facing a Lithium Shortage

The green energy transition has already created a surge in demand for lithium, and the demand is expected to further increase exponentially as the world continues the decarbonization and electrification of economies.

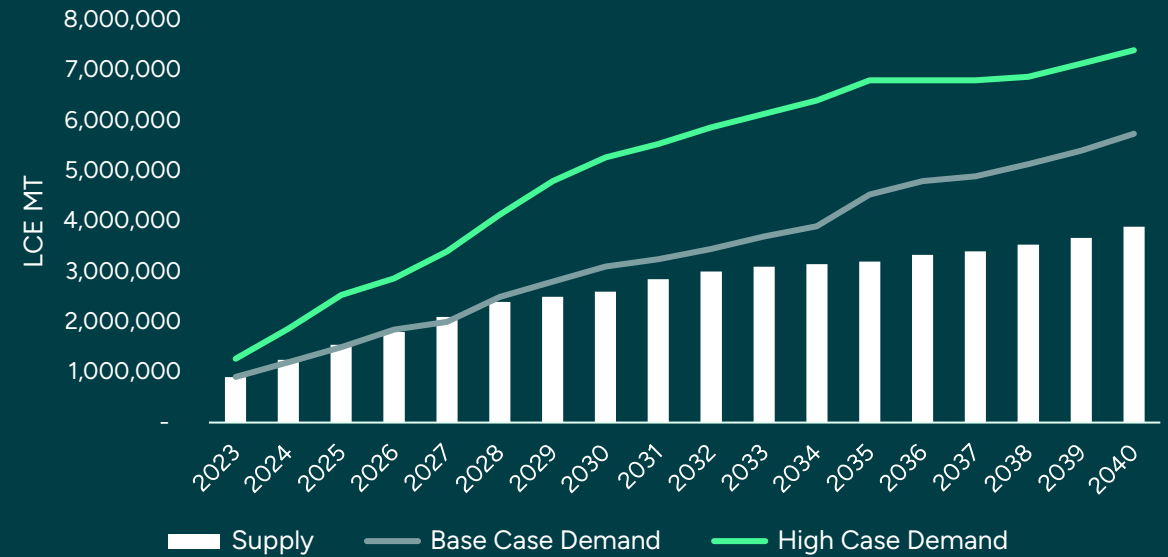
## Lithium Demand is Set to Quadruple Between 2022 and 2030

The acceleration of EVs and batteries needed for energy storage is driving a substantial increase in demand for lithium. The demand doubled between 2019 and 2021 and is set to further quadruple between 2022 and 2030 with rising focus and demand on sustainable lithium products.

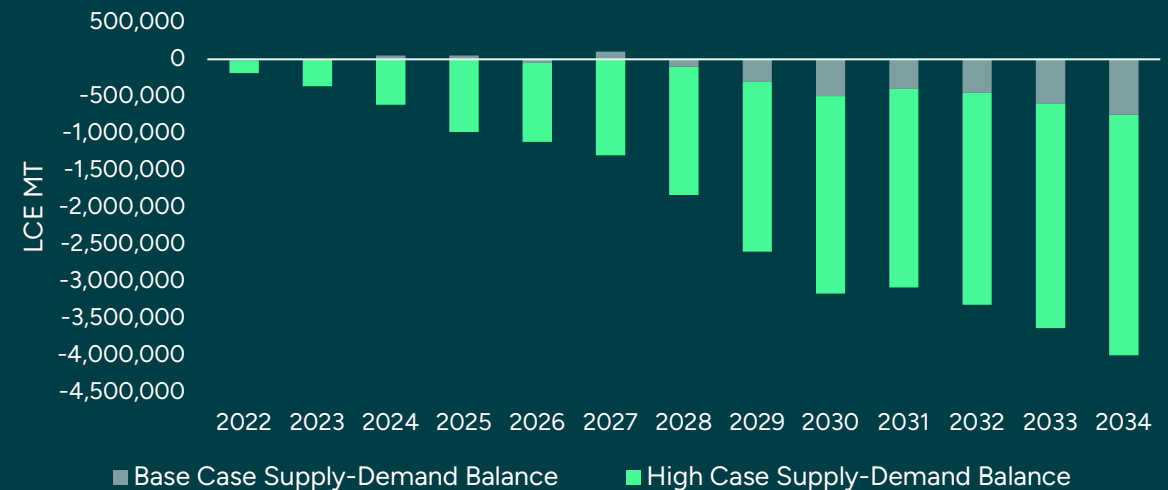
## IEA Predicts Lithium Shortage by 2025

The International Energy Agency even predicts a lithium shortage by 2025. Lithium supply faces challenges from surging demand and because production is concentrated in a few countries. Traditional lithium extraction from ore and brine requires large amounts of water, and over half of today's production is in areas with high water stress, which makes authorities reluctant to allow new lithium operations.

### Supply-Demand Forecast



### Lithium Supply-Demand Balance Analysis



# The World Needs More Sustainable Lithium

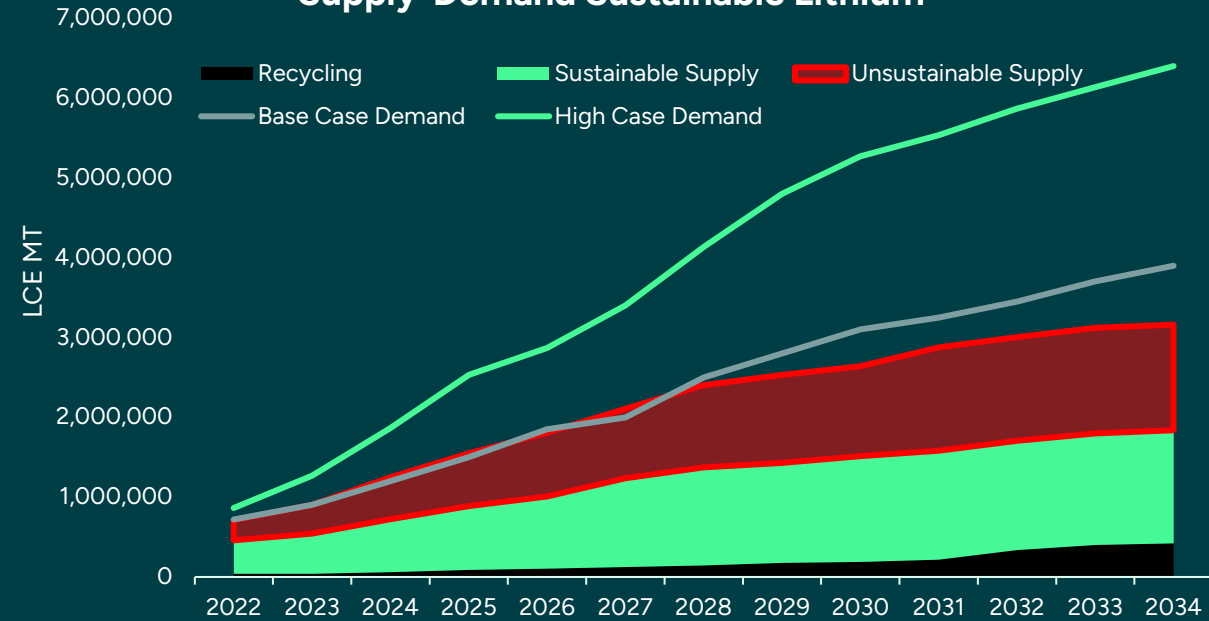
## Sustainability is Now a Critical Metric for Lithium Supply Agreements

Sustainability in lithium extraction has become a crucial business strategy and environmental imperative. As sustainability becomes a key metric in supply agreements, the widening demand-supply gap for sustainable lithium underscores the urgency for increased production and innovative extraction methods.

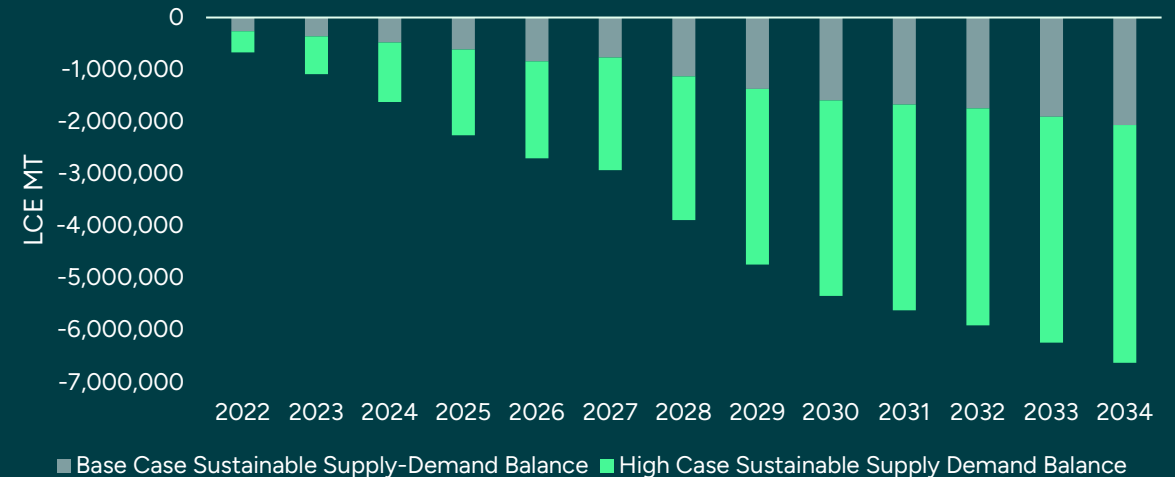
## The Imperative for Sustainable Lithium: A Global Necessity

- **Environmental Concerns:** Traditional mining methods, such as open-pit mines and brine evaporation, pose serious environmental threats.
- **Sustainable Shift:** The industry and governments are pursuing sustainable lithium extraction techniques to mitigate these impacts.
- **Sustainability as a Metric:** Major EV and tech companies prioritize responsibly sourced lithium, influencing supply agreements.
- **Strategic Advantage:** Companies capable of supplying sustainable lithium are setting the pace for a greener future and carving out a competitive edge in a market at the cusp of transformation.

## Supply-Demand Sustainable Lithium



## Sustainable Lithium Supply-Demand Balance Analysis



# The Lithium Market

## Geography

Today, about 90% of all lithium is produced in Australia, Chile, China, and Argentina. Australia is the largest lithium producer, making up about 40% of all lithium in 2023. However, most of the ore from Australia is processed in China.

## Lithium Sources

In 2023, about 60% of lithium came from ore mining and 39% from brine extraction. Put simply, lithium from Australia comes from ore mining, while in Chile and Argentina, lithium comes from continental brines.

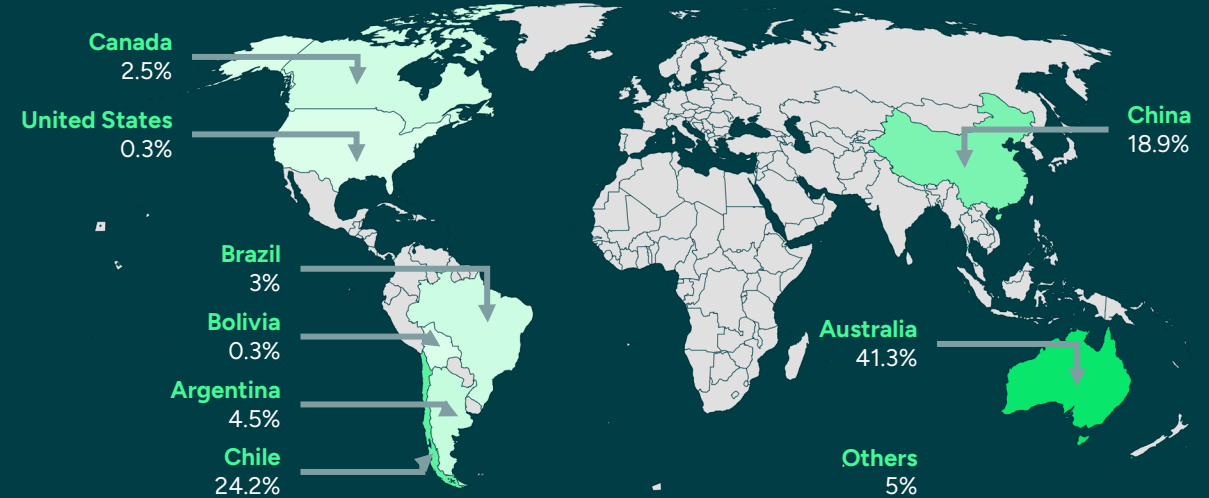
## U.S. Production

U.S. lithium production is down from 27% of the global output in 1996 to less than 1% in 2023. As highlighted in the 2022 Inflation Reduction Act, it's critical for the U.S. to become self-sufficient with lithium.

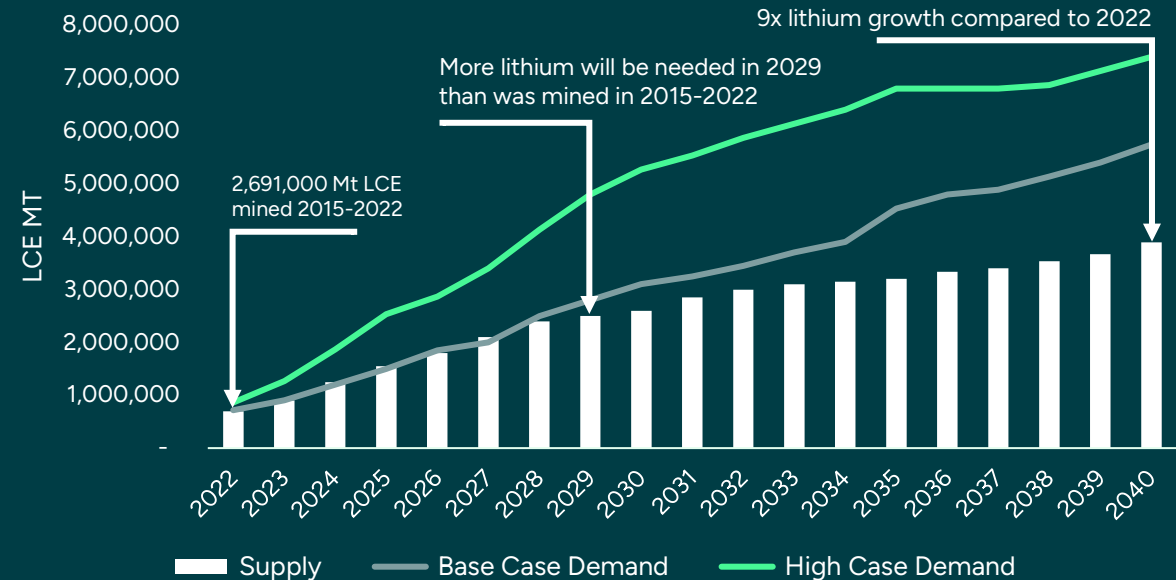
## End-Use Markets

The increased adoption of EVs is driving the current lithium demand, with 85% of the output in 2023. However, lithium is used in many end markets, including batteries for consumer electronics and energy storage, ceramics and glass, lubricating greases, air treatment, polymer production, and casting powder.

## Lithium Production Concentration



## Forecasted Lithium Market Balance (MT LCE)



# Rapid Growth of U.S. Demand and Battery Manufacturing

The Inflation Reduction Act significantly accelerates EV supply chain development in the U.S.

Total U.S. battery manufacturing capacity is expected to reach 750 GWh in 2025 and over 1300 GWh by 2030, **up 13x compared to current near 100 GWh production.**

The growing number of EV battery manufacturers tightens competition for local raw materials supply. **By 2025, the U.S. demand is projected to be 10x higher than the planned refining capacity.**

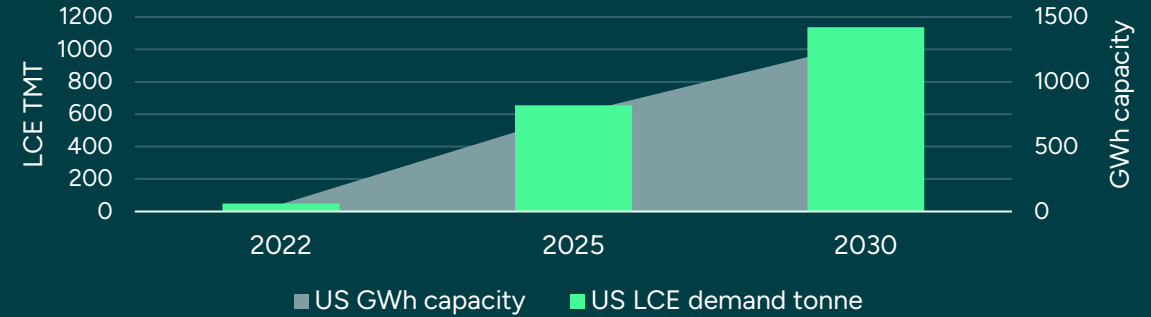


*It's important to identify lithium resources in the U.S. so that our supply does not rely on single companies or countries in a way that makes us subject to economic or political manipulation.*

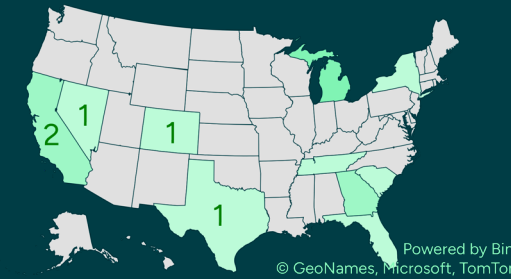
**Gail Mahood**  
Professor of Geological Sciences, Stanford University



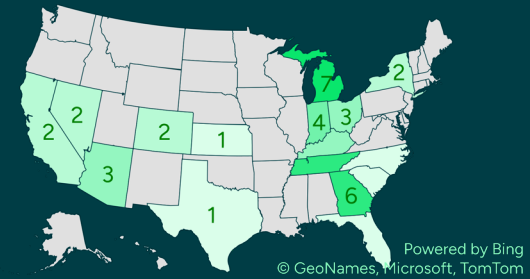
## US Battery Capacity Growth



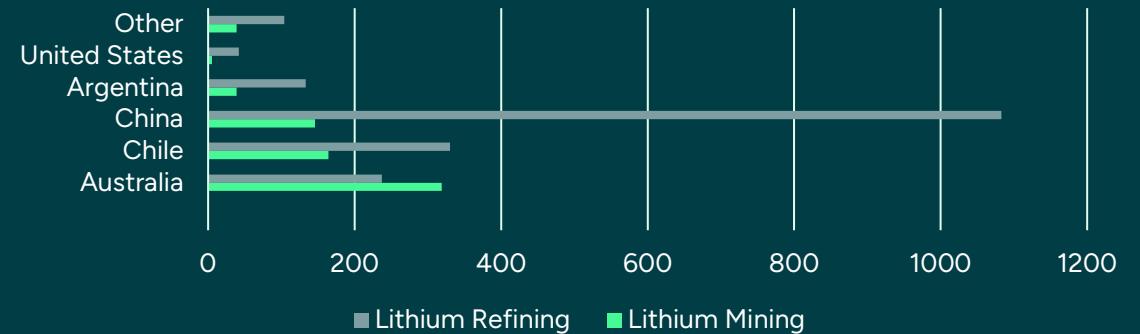
## Gigafactories Concentration by 2022 (14)



## Gigafactories Concentration by 2030 (45)



## 2025 Mining and Refining Capacity (TMT)



# Lithium Price

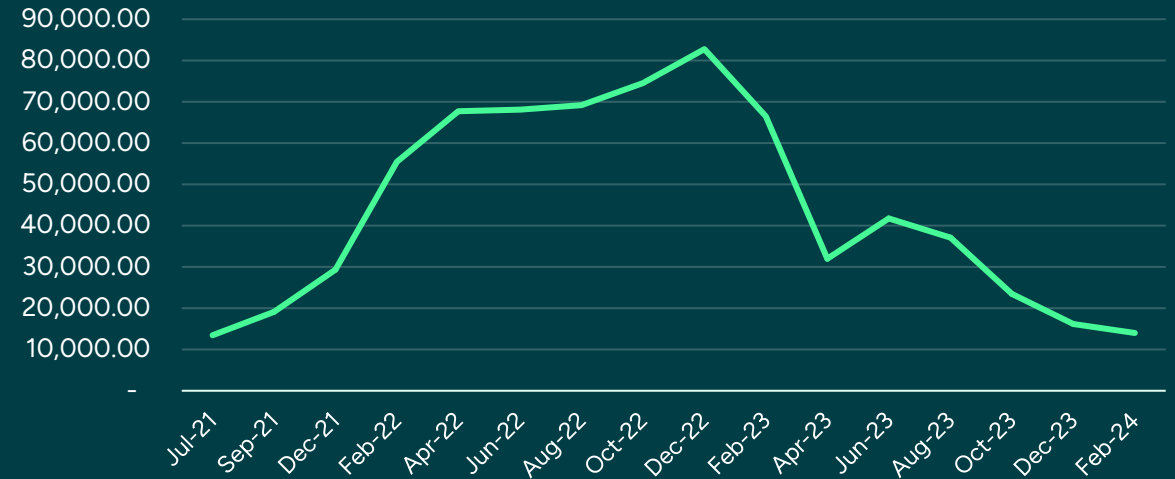
## The Main Drivers Behind Price Volatility in 2022-2023 Have Been:

- **Electric Vehicle (EV) Sales Trends:** 33% YoY in 2023, below the 65% in 2022 but still positive.
- **Inventory Adjustments:** Destocking within the battery materials sector.
- **Competitive Dynamics:** The emergence of a price war led by CATL impacting market pricing strategies.
- **Market Sensitivities:** Notable sensitivity within the demand/supply balance, influencing market stability.

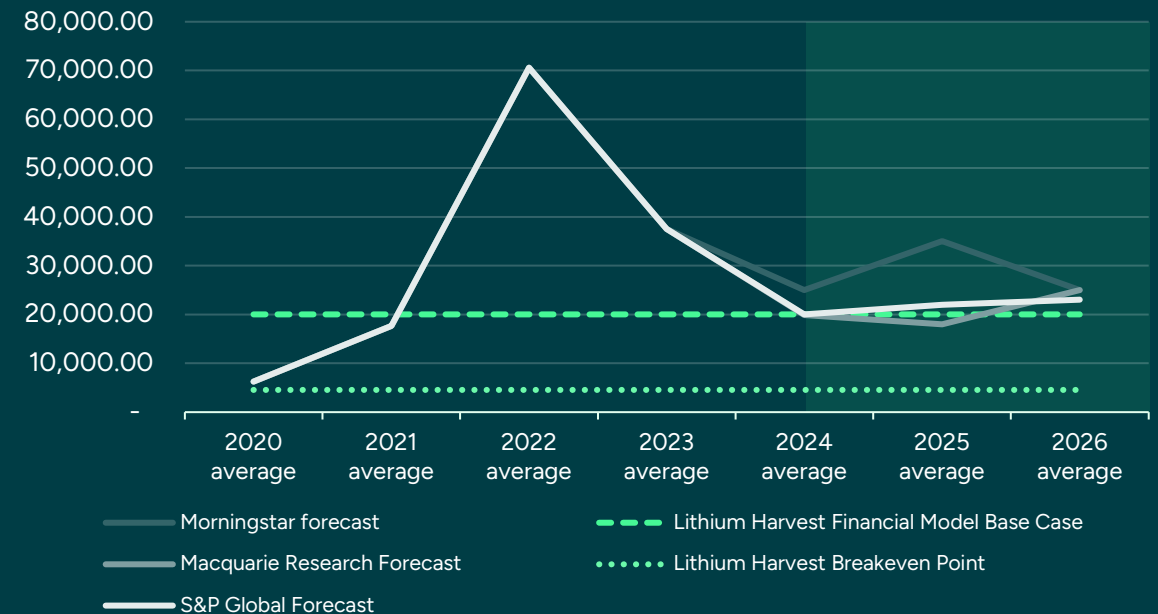
## Market Outlook:

- **Near-Term Supply-Demand Challenges:** Anticipated negative supply-demand balance from 2027, extending over the following two decades.
- **Pre-2027 Lithium Availability Concerns:** Potential for a lithium shortage before 2027, exacerbated by rising production costs and project delays amid current price settings and market conditions.
- **Domestic Supply and Demand Dynamics:** Increasing demand for domestic lithium and battery manufacturing capacity outpaces the current supply of domestic raw materials for giga-factories.
- **Sustainability-Driven Demand:** Growing demand for sustainably sourced lithium from businesses and governments.
- **Lithium Price Projections:** Lithium prices are forecasted to stabilize at \$20,000 to \$24,000 in the second half of 2024.

## Historical Lithium Carbonate Prices



## Forecasted Lithium Carbonate Prices





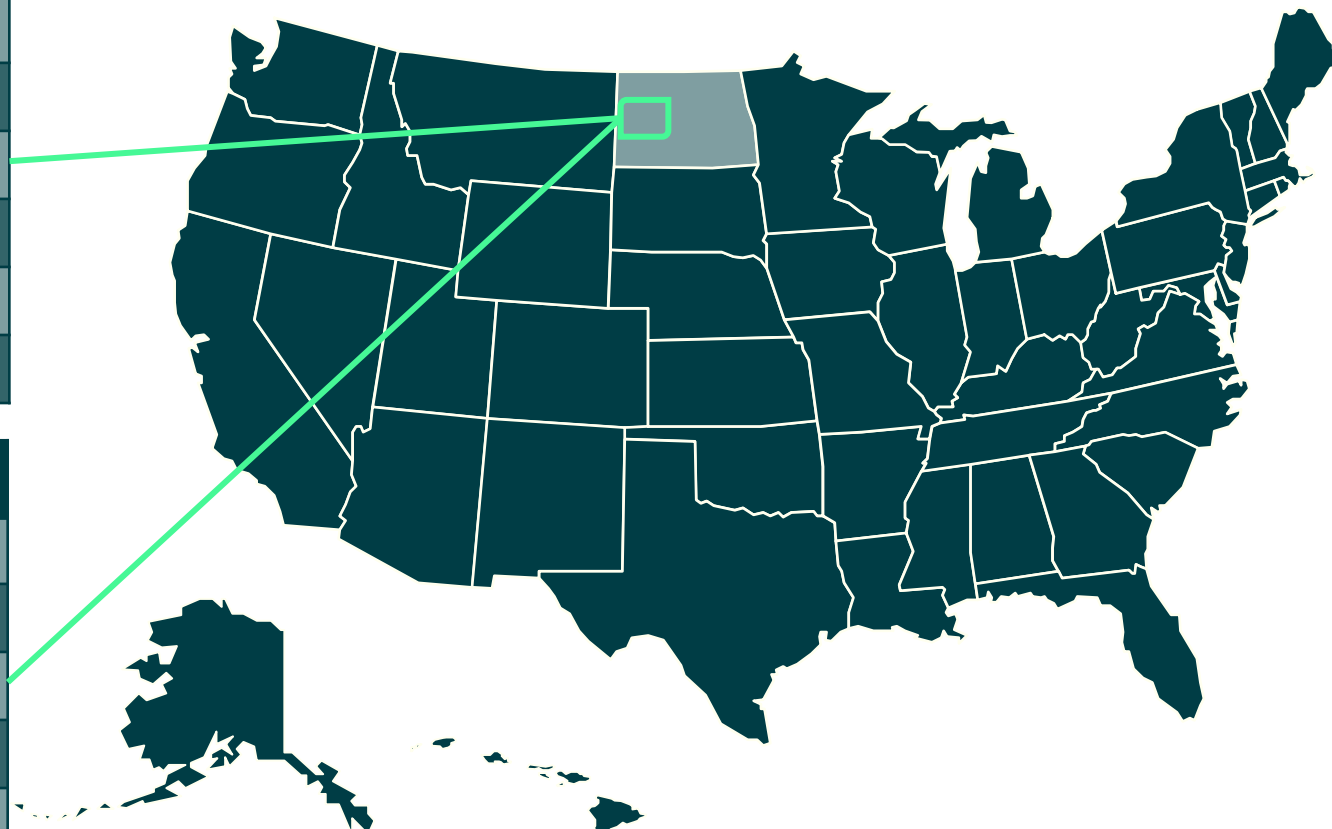
# Business Outlook



# Planned Projects

Facility Details – ND I	
<b>Location:</b>	Watford City, ND
<b>Initial Capacity:</b>	400 mt
<b>Maximum Capacity:</b>	1,300 mt
<b>Footprint:</b>	41,000 sq ft
<b>Construction Start:</b>	H1/2024
<b>Expected Production Start:</b>	H1/2025

Facility Details – ND II	
<b>Location:</b>	Cartwright, ND
<b>Initial Capacity:</b>	600 mt
<b>Maximum Capacity:</b>	1,500 mt
<b>Footprint:</b>	62,000 sq ft
<b>Construction Start:</b>	H1/2024
<b>Expected Production Start:</b>	H1/2025



# Planned Projects

The Company has signed a contract with a leading midstream company for the supply of lithium feedstock.

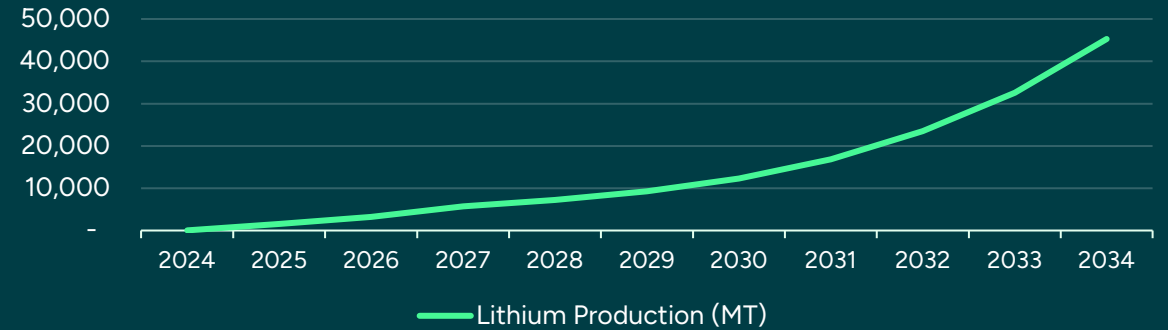
The Company expects to start construction of its first two facilities in the first half of 2024.

The facilities are expected to be operational by the first half of 2025 and is set to **increase current U.S. lithium production by 150%**.

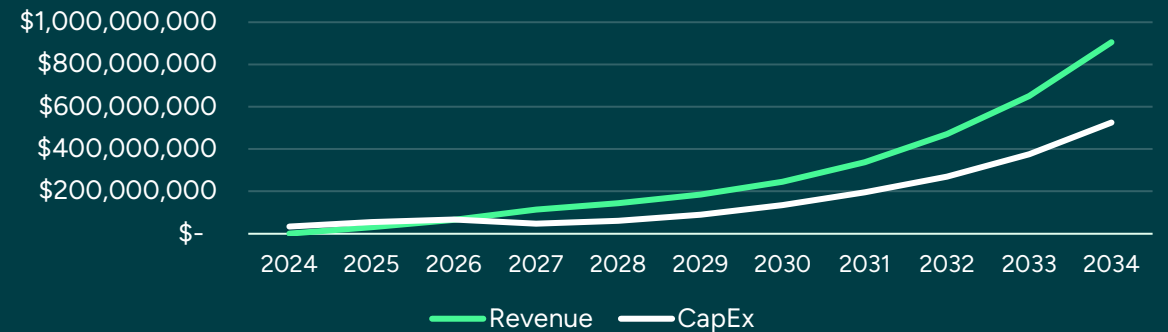
The Company maintains a large pipeline of projects and plans to invest profits from operations into new projects to continuously build market share.

The planned production ramp can easily be scaled depending on available financing.

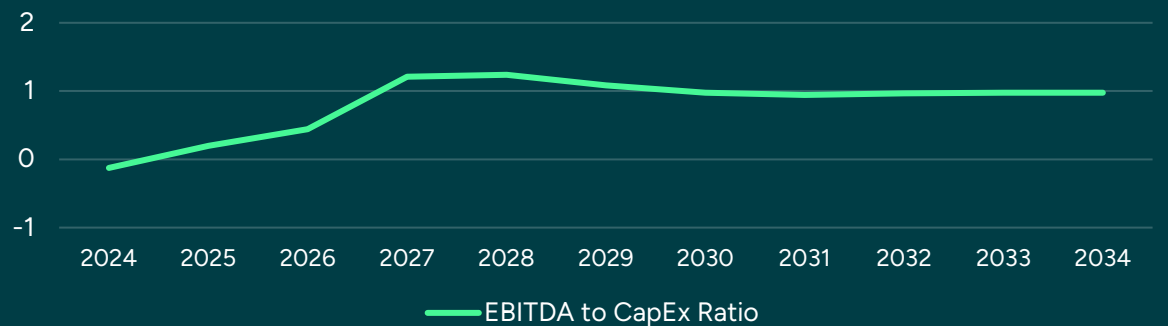
### Planned Lithium Production



### Revenue vs CapEx



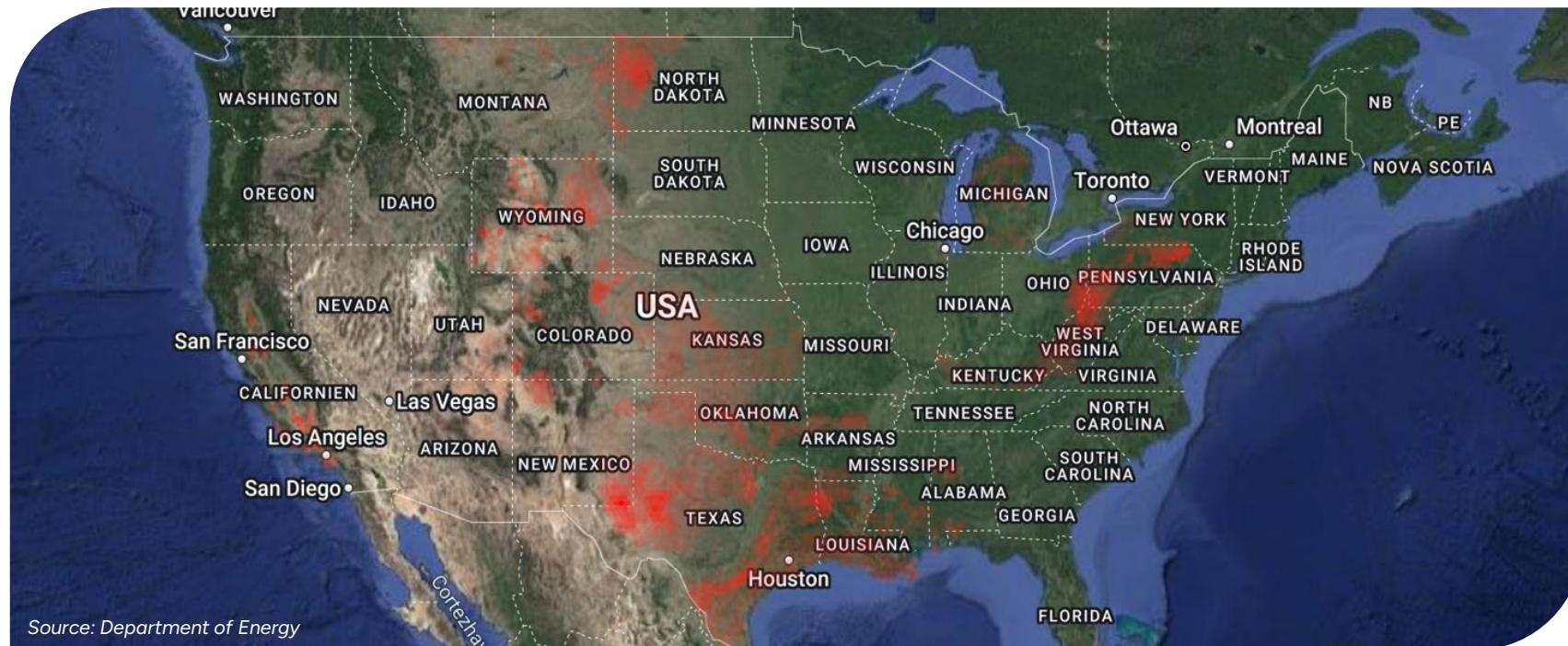
### EBITDA to CapEx Ratio



# Our Technology - Lithium Feedstock

## Water is Readily Available

In the U.S. alone, more than 55 million barrels of produced water are generated daily. Today, most produced water is transported away from the production site and injected into disposal wells, which creates a large environmental footprint and high cost. Our technology processes the water on-site and more than 90% of the produced water is reused for re-injection or irrigation purposes.



**55M BPD**

Daily U.S. produced  
water production

# Financial Model 2023-2033

## Assumptions

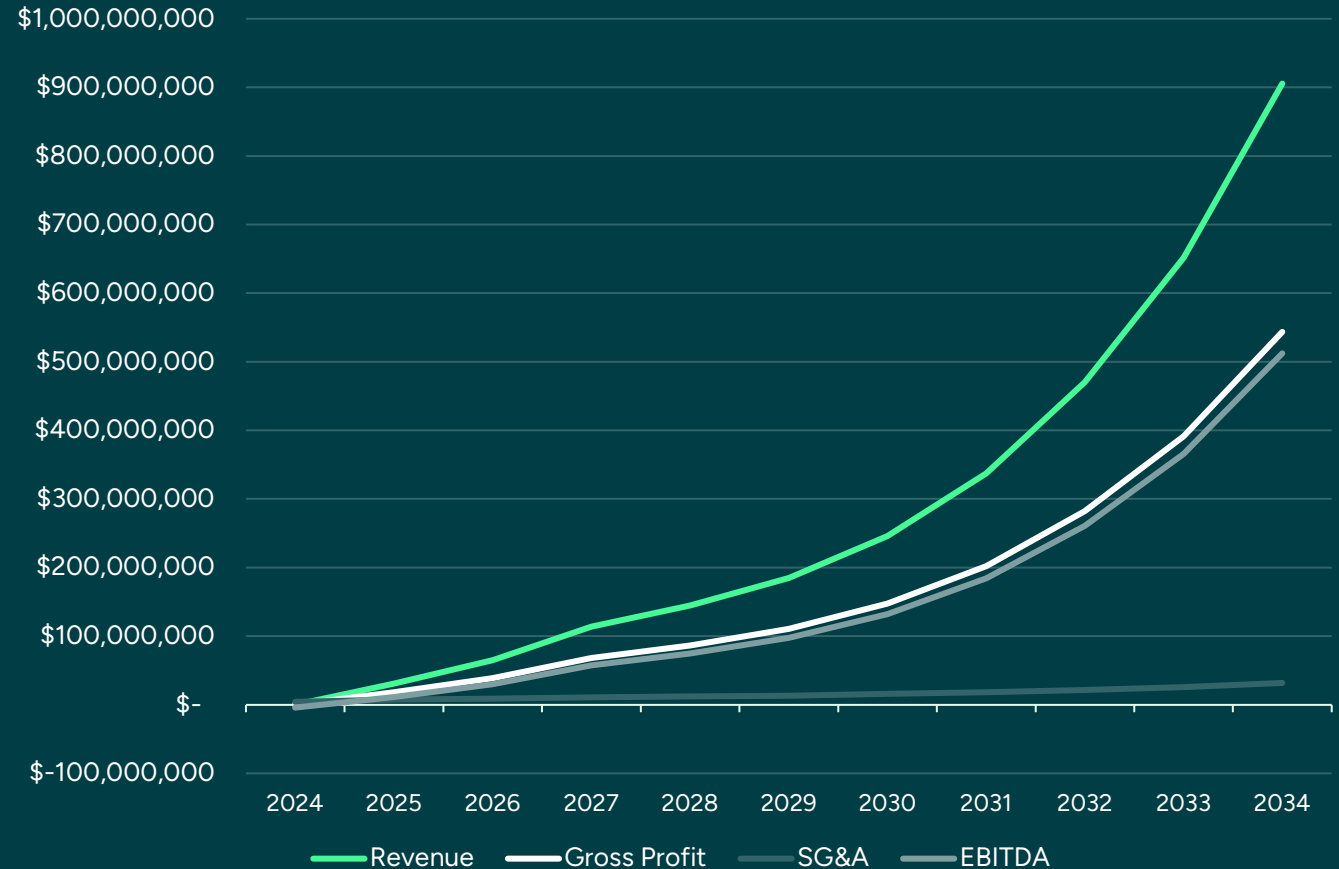
Lithium Sales Price:           \$20,000/mt\*

Feedstock:                         \$0.25/bbl\*

\*The revenue, gross margin and EBITDA numbers on this slide are the results of a financial model that is intended to illustrate the impact of contracts in our pipeline on our results of operations and are not projections of our future operating results. The numbers in this slide for sales price per metric ton, cost of goods sold per metric ton, capital expense, operating expense and gross margin are solely the assumptions used in the financial model and are also not projections of our future operating results or market prices for lithium. For purposes of the financial model, EBITDA is defined as net income calculated in accordance with GAAP, plus interest expense, taxes, depreciation and amortization. The results of this financial model are highly speculative and are likely to deviate materially from our actual results of operation.

\*Assumptions based on price forecast from Benchmark Minerals

## 10 Year Financial Model



The world's most  
sustainable lithium





[lithiumharvest.com](http://lithiumharvest.com)