Sustainable lithium extraction

Lithium Harvest

Add sustainable value

Executive Summary

With demand for sustainable lithium surging, geothermal operators are uniquely positioned to lead the green energy transition. Lithium Harvest enables the extraction of low-carbon, high-purity lithium directly from geothermal brine, aligning with circular economy principles and ESG commitments.

Our closed-loop, sustainable solution minimizes environmental impact while maximizing resource efficiency, helping geothermal plants meet strict sustainability standards. By integrating Lithium Harvest's extraction technology, your business can enhance ESG leadership, strengthen investor confidence, and set a new benchmark in responsible lithium production.

Sustainability & Environmental Innovation

Lithium Harvest transforms geothermal brines into a valuable lithium resource, supporting clean energy production and critical mineral recovery. By maximizing brine utilization, we contribute to a circular economy while maintaining closed-loop geothermal operations.

- **Future-Proofing Against Regulatory Changes:** Our low-impact, carbon-neutral technology aligns with evolving environmental regulations, ensuring long-term compliance and operational resilience.
- **Enhancing ESG & Investor Appeal:** With ESG performance driving investment decisions, sustainable lithium extraction strengthens corporate reputation and attracts ESG-focused stakeholders. Geothermal operators integrating Lithium Harvest's solution will gain a competitive edge in sustainability leadership while supporting global clean energy goals.

By adopting Lithium Harvest's geothermal lithium extraction solution, operators can unlock new value, drive sustainable growth, and position themselves at the forefront of responsible resource management.

Maximizing the Value of Geothermal Brines

- **Unlocking Hidden Resources:** Transform geothermal brines into high-purity lithium, supporting sustainable mineral recovery and the circular economy.
- **Efficient & Low-Impact:** Our carbon-neutral process minimizes environmental impact while optimizing geothermal operations.
- **Sustainable Water Management:** Reinjecting treated brine preserves water resources, ensuring zero depletion.
- **Fueling the Clean Energy Future:** Providing sustainable lithium for EVs and energy storage accelerates the green transition.

Redefining Green Lithium Extraction

Lithium Harvest vs. traditional lithium mining.

Up to 96%
lower water consumption

>90%
water recycled

500,000
gallons of freshwater saved

15,000 kg
of CO_2 saved

Neutral
CO_2 footprint

Up to 99%
smaller footprint

The fight against climate change is one of the greatest global challenges of the 21st century. The acceleration of the green energy transition highlights the need for sustainable lithium extraction.

Sune Mathiesen
Chairman & CEO

Technology Benchmark

	 Lithium Harvest Solution	 DLE from Brine	 Solar Evaporation Brine Extraction	 Hard Rock Mining
Feedstock	Geothermal brine	Continental brine	Continental brine	Rock / spodumene
Project implementation time	12-15 months	5-7 years	13-15 years	8-10 years
Lithium carbonate production time	2 hours	2 hours	2-3 years	3-6 months
Lithium yield	>95%	80-95%	20-40%	6-7%
Average footprint per 1,000 mt LCE	1.4 acres	1.4 acres	65 acres	115 acres
System design	Modular and mobile	Mobile / stationary	Stationary	Stationary
Environmental impact	Minimal	Minimal	Soil- and water contamination	Soil- and water contamination
Water consumption per 1,000 mt LCE	20 million gallons	80 million gallons	550 million gallons	250 million gallons
CO_2 footprint per 1,000 mt LCE	Neutral	1.5 million kg	5 million kg	15 million kg

Source: Columbia University, IEA, ICMM.

Sustainable, Efficient, and Low-Impact Geothermal Lithium Extraction

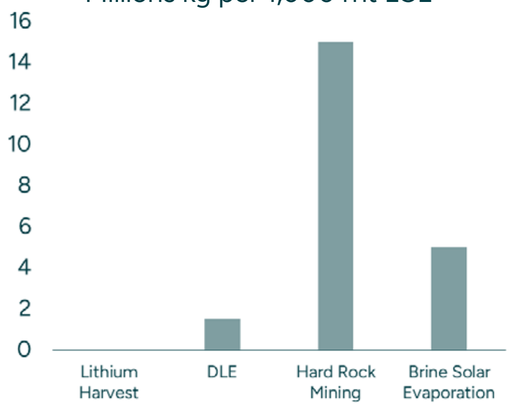
Our solution offers an innovative alternative to traditional lithium mining, significantly lowering environmental impact and accelerating project timelines without the typical operational disruptions. Here's how Lithium Harvest sets a new standard in sustainable lithium extraction:

- **Carbon-Neutral Process:** Our energy-efficient, low-pressure system eliminates the need for long-distance material transport, significantly cutting emissions. By leveraging geothermal brine, we help prevent up to 15 million kg of CO_2 per 1,000 metric tons of lithium carbonate produced.
- **Compact & Eco-Friendly Design:** Our modular facilities integrate seamlessly with geothermal plants, minimizing land use and infrastructure expansion while avoiding large ponds, pipelines, or additional surface disturbance. This reduces land use by 99% compared to conventional mining, protecting local ecosystems and minimizing disruption to the environment.
- **Sustainable Water Management:** Our process relies solely on geothermal brine, with over 90% water recycling, ensuring zero freshwater depletion and maintaining closed-loop geothermal operations. We are conserving more than 500 million gallons per 1,000 metric tons of lithium carbonate compared to traditional lithium mining.

Lithium Harvest delivers a sustainable, efficient lithium extraction solution that reduces emissions, conserves water, protects ecosystems, and enables a rapid, low-risk path to market for geothermal operators.

Carbon Footprint

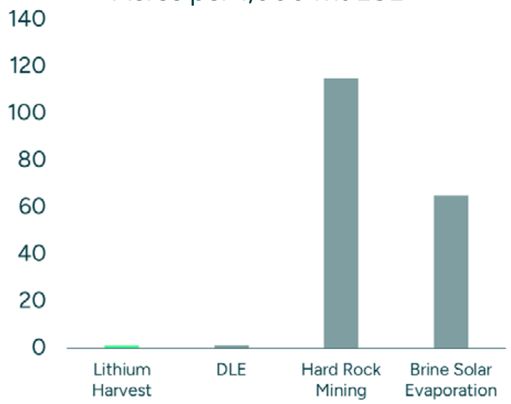
Millions kg per 1,000 mt LCE



- No transportation to a secondary site for refining
- Uses solar power as a primary energy source
- Low pressure/low energy technology

Facility Footprint

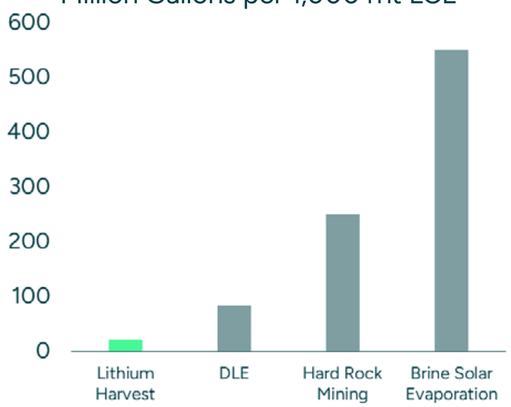
Acres per 1,000 mt LCE



- Co-located with geothermal power plant
- Modular and compact facility
- No ponds and pipelines
- No additional impact on the environment and wildlife

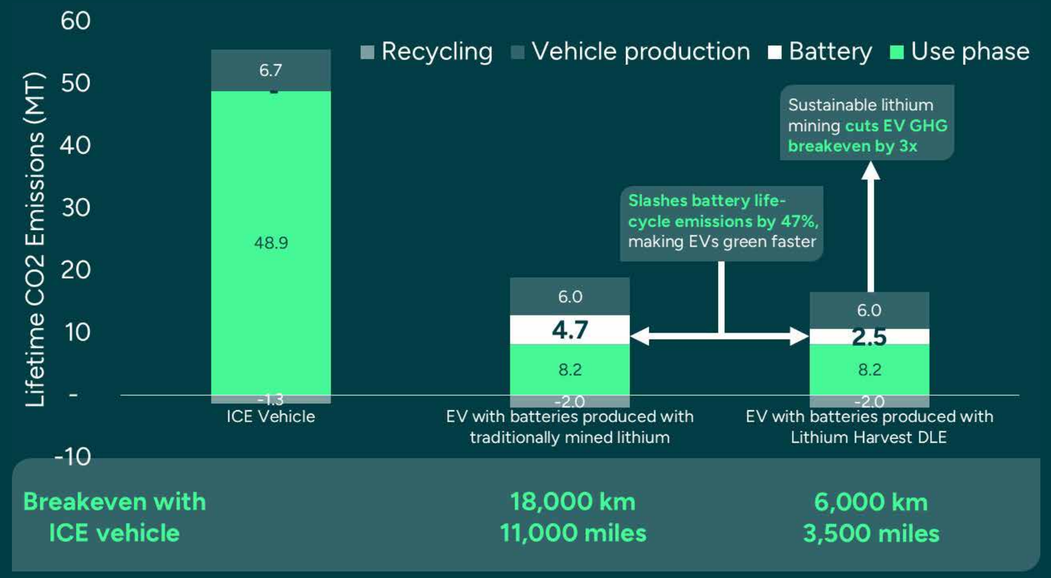
Water Consumption

Million Gallons per 1,000 mt LCE



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

How We Make EVs Even Greener



Lithium Harvest is at the forefront of making EVs even greener. Our solution, which responsibly extracts lithium from oilfield wastewater and geothermal brine, is poised to slash up to 47% of battery lifecycle emissions.

This advancement not only accelerates the environmental breakeven point of EVs, reducing it from 18,000 km to just 6,000 km, but it also brings substantial water and land conservation benefits - saving approximately 15-20 cubic meters of water and freeing up 50-100 square meters of land per EV produced.

The World Needs More Sustainable Lithium

The demand for lithium is surging, driven by the rapid growth of electric vehicles and renewable energy storage. However, traditional methods such as open-pit mining and brine evaporation pose serious environmental risks. Meeting the world's increasing demand for lithium without compromising the planet requires a shift toward sustainable extraction methods.

Partnering with Lithium Harvest presents a unique opportunity for a double sustainability win: advancing your ESG goals through improved water and resource management, while also setting new standards in lithium extraction. By leveraging your existing infrastructure with our water treatment engineering expertise and innovative solution, we can revolutionize lithium extraction - making it more sustainable and profitable. Together, we will drive the green energy transition and establish responsible resource management for the future.

Sustainability from every drop

Scan QR
to learn more

Lithium Harvest