Investment Memorandum

Lithium Harvest

Cautionary Statements

This investment memorandum contains “forward-looking statements” within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, including, without limitation, statements regarding strategy, timelines, operations, financial projections, and business cases. Although these forward-looking statements 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 differ materially from those discussed. Readers are urged to carefully review the Company’s risk disclosures, including factors that may affect the Company’s business, financial condition, results of operations, and cash flows. If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, 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 memorandum. The Company assumes no obligation to update any forward-looking statements to reflect events or circumstances after the date hereof, except as required by law.

The revenue, gross margin and EBITDA numbers in this investment memorandum 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 investment memorandum 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.

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Lithium Harvest - Investment Memorandum
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Executive Summary

Introduction
Growing energy demand and increased electrification have led to a surge in lithium demand.

Lithium Harvest has developed a patented Direct Lithium Extraction (DLE) technology to extract lithium and other critical minerals from oil and gas wastewater and geothermal brines.

Unlike other DLE companies, our feedstock is already on the ground, which significantly reduces capital expenses and time to market. We are initially focused on North America. We co-locate with midstream oil & gas and geothermal operators, utilizing existing infrastructure.

Market Opportunity
The energy transition requires minerals. The unique properties of lithium make it the non-negotiable enabler of electrification. The fast-growing EV- and battery storage markets provide a unique growth scenario.

Demand Is Structural, Not Cyclical:
- 2024 demand rose ~30% year over year
- Analysts expect 15.7% CAGR by 2030 and 10% CAGR by 2040
- EVs and battery storage currently represent 61% of lithium consumption and are set to exceed 90% by 2040

Supply Lags
Base case supply deficit is expected to be 55 kt LCE by 2029, 700 kt by 2035, and 1.3 Mt by 2040, with high-demand scenarios being larger. The 2023-2025 downturn removed 282 kt of future supply, thinning the project slate.

The Problem
Increasing adoption of EVs and renewable energy sources has created a fast-growing demand for lithium and other critical minerals.

However, traditional lithium production carries a significant environmental footprint and takes an average of 14 years to come online - from discovery to production.

Depressed prices have led to a lack of investment, resulting in anticipated supply deficits by the end of the decade.

Economically
High CapEx/OpEx and value leakage to third-party refiners concentrate margin and risk. Current pricing has already delayed or cancelled projects, and legacy routes carry a high fixed-cost base and slow capital turnover.

Environmentally & Socially
Heavy freshwater draw, pollution of water resources, and a large carbon footprint drive permitting friction and cost creep. Most new supply still comes from hard rock mining and solar evaporation operations that take an average of 14 years to come online.

Concentration Compounds Fragility
The top three countries control 77% of mining and 95% of refining, with China controlling more than 70% of refined output.

The window to add credible regional supply before the anticipated supply deficit by the end of this decade is closing.

The Solution
Geopolitics and growing energy security concerns call for responsible and local lithium production that can come online quickly and economically. We produce and refine our lithium products in North America with proximity to battery manufacturers. This minimizes transportation and provides energy security.

Our feedstock is oil & gas wastewater and geothermal brines - feedstock that is readily available and already on the ground. We utilize existing pipeline infrastructure and bypass the complicated permitting phase, as we do not drill.

This unique approach, combined with our Design, Build, Own, and Operate (DBOO) model, enables us to achieve a market-leading CapEx of $17,100 per metric ton LCE capacity. It also allows us to bring new operations online in just 12-18 months, compared to an average of 14 years for current lithium operations.

Our 20+ years' experience in water treatment has resulted in a proven and very efficient process that allows us to achieve a C1 cost of $3,647 per metric ton LCE, which is amongst the lowest across the industry.

By transforming a waste product into valuable minerals, we save up to 96,000 gallons of fresh water and 20,000 kg of CO_2 per metric ton of lithium carbonate produced.

We believe our sustainable, fast-to-market, and low-cost technology, combined with local production, sets us apart.

The Ask
We are raising $60 million of new equity and debt to complete the commercialization of our first assets and move from pre-revenue to revenue. Proceeds fund commissioning, first shipments, and ramp to near-steady operations at the initial facilities:

Alberta
- Commissioning in Q1 2027
- Ramp to 100% capacity in 2029 (5,400 tpa LCE)

ND I
- Commissioning in Q4 2027
- Ramp to 100% capacity 2029 (1,400 tpa LCE)

ND II
- Commissioning in Q4 2027
- Ramp to 100% capacity 2029 (1,600 tpa LCE)

Financial Outlook
We expect to be EBITDA positive in 2027 and cash breakeven in 2028. Subsequent capacity can be financed through earnings from operations, topco and asset-level debt, as well as applicable programs, once assets become cash-generative and bankable. Selective strategic capital can also be used to accelerate delivery on attractive terms.

To compound value, we will deploy site-validation units, expand digital twin capabilities, and evaluate selective recovery of other critical minerals and battery recycling where economics are additive. Taken together, the plan offers a clear path from proven, IP-protected technology to commercial supply in a strategically important market, with three facilities commissioning in 2027 and a capital plan designed for disciplined and modular growth.

The Team & Closing
Lithium Harvest is built to build. Our leadership combines deep process engineering, industrial water and separations expertise, and heavy-asset financial discipline with public-market governance - the right skill set to take the first 5,400 tpa facility from commissioning to steady state and replicate the model across a multi-plant pipeline. The market is asking for lithium that is fast, local, cost-disciplined, and sustainable. Our platform delivers all four on timelines aligned with late-decade demand.

For full assumptions, sensitivities, ramp profiles, and risk mitigations, please review the Investment Memorandum. We welcome diligence on technology readiness, site pipeline, offtake strategy, and capital plan - and invite you to partner with us to build the most efficient bridge from today’s fluids to tomorrow’s batteries.

Sustainable Lithium Extraction

What if the cleanest lithium didn't come from a distant, high-cost mine?

At Lithium Harvest, we are pioneering sustainable lithium extraction right at the source. Our patented solution turns oilfield wastewater and geothermal brine into battery-grade lithium - faster, cleaner, and more cost-effectively than traditional mining - supplying the rapidly growing EV and battery markets.

- **Fastest-to-market:** Online in 12-18 months vs an average of 14 years for traditional mines.
- **The world's most sustainable lithium:** Carbon-neutral, no pits, no ponds - waste to value.
- **Lowest costs:** Up to 73% lower CapEx and 48% lower OpEx.

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

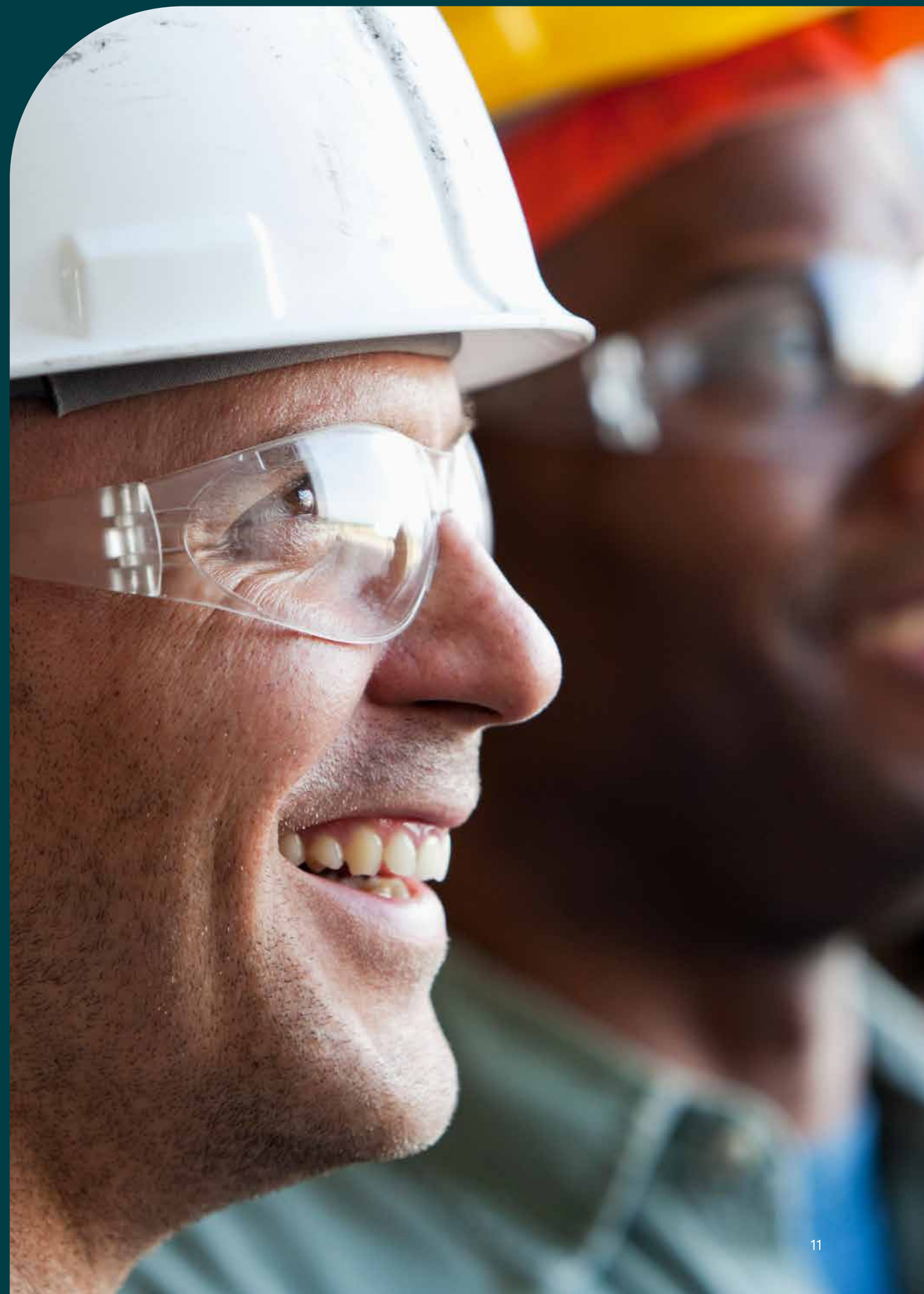
Source: See analysis on p. 66

Company Snapshot

Metric	Detail	Investor Relevance
Ticker	Sustainable Projects Group, Inc. (OTC: SPGX), d/b/a Lithium Harvest. Intends to seek NYSE listing under proposed ticker "LIHV" (approval pending).	Public-market transparency and liquidity for investors
Founded	2020 by Sune Mathiesen (CEO) & Paw Juul (CTO)	Four years of R&D and tech validation; IP already secured
Headquarters	Houston, TX, USA	Proximity to one of the world's largest produced water resources
Technology Center	Aalborg, Denmark	In-house design and engineering
Employees	14 core engineers & commercial staff	A lean, execution-focused organization keeps burn low while scaling
Shares O/S	306M	Series A private placements of $4.3 million at a $100 million pre-money valuation
Patented process	Adsorption-driven Direct Lithium Extraction (DLE) integrated with proprietary water treatment	Faster build (12-18 months) and 73% lower CapEx than conventional brine or hard-rock routes
All-in cost	OpEx: $3,647/t; CapEx: $17,100/t (OpEx up to 48% lower and CapEx up to 73% lower vs current global averages)	Market-leading cost efficiency enables profitable entry and operation in challenging, price-volatile conditions.
Planned capacity	1,100t LCE/yr first lithium production (2027) - 51,800t LCE/yr at full rollout	In 2028, it will be a >77% increase to the current North American supply from the first wave alone
IP portfolio	Key patents granted 2023; additional filings pending	Creates a defensible moat ahead of broader DLE adoption

We turn wastewater into battery-grade lithium - faster, cleaner, and more cost-effective than traditional mining. We're setting the global standard for the world's most sustainable lithium, driving EV and energy storage markets towards a greener future.

Lithium mining doesn't have to cost the Earth.



Our Story

Solving a Decade-Old Waste Problem - And Scaling to Revenue Inside Five Years

Lithium Harvest began as a field insight in 2012, when founders Sune Mathiesen and Paw Juul were running a produced-water treatment pilot for a major oil and gas company. Produced water - usually disposed as a waste stream of oil, solids, salts, and chemicals - revealed an overlooked resource: valuable minerals, including lithium, ready to be recovered. That discovery sparked a decade of R&D and laid the groundwork for a breakthrough in sustainable lithium extraction.

By 2020, the duo formalized the venture and channeled two decades of industrial-water experience (400+ plants delivered) into a patented lithium extraction platform. In 2023, Lithium Harvest completed a reverse merger with Sustainable Projects Group, Inc. (OTC: SPGX), becoming a wholly owned operating subsidiary and the group's technology center. The same year, the core patent family was granted, and public listing on the OTC market provided both IP protection and access to capital markets.

With its core technologies validated, Lithium Harvest is now transitioning from concept to its first 8,338t LCE/yr (at full scale) commercial units, scheduled to start up in 2027 - the catalyst that will convert the company from a pre-revenue story to a cash-generating producer.

Milestones

Year	Milestone	Investor Relevance
2012	Field pilot identifies recoverable lithium in produced water	Waste-to-value insight grounded in real operations
2018	Initial R&D	Bench-scale R&D and techno-economic model for a viable business case, not just green
2020	Lithium Harvest incorporated	Transfers 20 yrs water treatment know-how into a focused cleantech venture
2022	R&D completed and patent application filed	Validates commercial viability and locks the IP gateway before scale-up
2023	Reverse merger with Sustainable Projects Group → public listing OTC: SPGX	Provides capital markets access
2023	$4.3M private placement closed	Adds liquidity and third-party validation at the pre-revenue stage
2024	Core patent family granted (Denmark granted 2022 | US pending | International PCT)	IP moat ahead of scale-up
2024	Partnership agreement with Sunday Creek Horizons	Adds regional partner with political reach; accelerates U.S. rollout
2025	LOI to build 9,000t LCE facility in Alberta, Canada	Doubles Canadian lithium output; demonstrates cross-border scalability
2025	Uplist to a major U.S. exchange (NYSE)	Elevates corporate profile and liquidity, strengthens governance credibility with customers, lenders, and strategic partners
2025-2030	Commercialization stage	8,338 tpa LCE at nameplate in 2029 across three sites - ~90% boost vs today's NA supply (~9,300 tpa)

Market Opportunity

Lithium Harvest

Lithium: Essential for the Energy Transition

Lithium has moved from a specialty metal to the single most critical input for global decarbonization. Four pillars explain why:

Irreplaceable in electrification	■ Lithium-ion delivers the highest energy density of any proven, scalable battery chemistry. ■ EVs and BESS already absorb ~61% of new lithium demand, and that share keeps rising to 81% in 2030. ■ The IEA ranks lithium as the fastest-growing critical mineral for net-zero pathways; no viable substitute exists at scale.
Supply risk is structural	■ The top three countries control 77% of mining; ~70% of refining sits in one (China). ■ Such concentration is the antithesis of energy security and has triggered unprecedented policy action in the EU, US, Canada, and other countries.
A widening investment gap	■ Meeting forecast demand needs USD 500-600 billion in new mine CapEx by 2040, yet 2024 real investment grew just 2%. ■ Exploration spending plateaued at USD 6.7 billion in 2024; lithium was the only area still growing (30%), underscoring the scarcity of bankable projects.
Supply risk is structural	■ Supply bottlenecks threaten to delay EV roll-outs, inflate clean-power costs, and undermine industrial-policy goals. ■ Diversified, low-impact projects such as Direct Lithium Extraction (DLE) and recovery from alternative brines have become priority targets for both governments and OEMs.

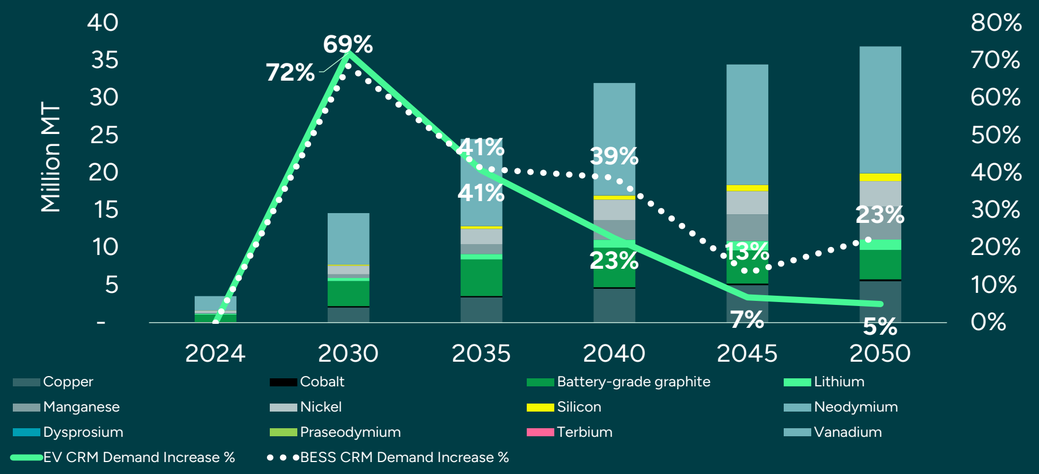
Energy Security Now Equals Mineral Security

The IEA's "golden rule" of diversification has flipped from fuels to minerals. Oil and gas once dictated geopolitics; tomorrow, it is access to battery-grade lithium.

Unfortunately, the six principal energy-transition minerals (copper, lithium, nickel, cobalt, graphite, and rare earths) are becoming more concentrated, especially in refining. To counter that risk, over 37 countries (including the EU, US, and Canada) have all designated lithium as a strategic resource, unlocking over USD 10 billion in grants, tax credits, and concessional loans for domestic extraction and refining. Yet levelized battery-cell costs remain 40-50% higher in Europe and the US than in China, magnifying the urgency to localize resilient, low-cost supply chains.

In an era of heightened geopolitical tension, critical minerals have become the frontline of economic security.

CRM Demand for EV & BESS



World	*Countries Designating Lithium as Critical/Strategic*	United States, Canada, European Union, United Kingdom, Australia, Japan, South Korea, India, Chile, Bolivia, Mexico (Several other countries have taken steps recognizing lithium's importance, though not always via formal designations in law).
United States	*Critical Minerals*	Aluminum, Antimony, Barite, Beryllium, Bismuth, Cerium, Cesium, Chromium, Cobalt, Copper, Dysprosium, Erbium, Europium, Fluorspar, Gadolinium, Gallium, Germanium, Graphite, Hafnium, Holmium, Indium, Iridium, Lanthanum, Lead, **Lithium**, Lutetium, Magnesium, Manganese, Neodymium, Nickel, Niobium, Palladium, Platinum, Potash, Praseodymium, Rhenium, Rhodium, Rubidium, Ruthenium, Samarium, Scandium, Silicon, Silver, Tantalum, Terbium, Thulium, Tin, Titanium, Tungsten, Vanadium, Ytterbium, Yttrium, Zinc, Zirconium.
Canada	*Critical Minerals*	Aluminum, Antimony, Bismuth, Cesium, Chromium, Cobalt, Copper, Fluorspar, Gallium, Germanium, Graphite, Helium, High-purity iron ore, Indium, **Lithium**, Magnesium, Manganese, Molybdenum, Nickel, Niobium, Phosphorus, Platinum group metals, Potash, Rare earth elements, Scandium, Silicon metal, Tantalum, Tellurium, Tin, Titanium, Tungsten, Uranium, Vanadium, Zinc.
EU	*Critical Raw Materials*	Coking Coal, Phosphorus, Antimony, Feldspar, Scandium, Arsenic, Fluorspar, Magnesium, Baryte, Strontium, Beryllium, Tantalum, Hafnium, Niobium, Helium, Phosphate Rock, Vanadium.
	Strategic Raw Materials	Aluminium/Bauxite/alumina, **Lithium**, Light rare earth elements, Silicon metal, Gallium, Manganese, Germanium, Natural Graphite, Bismuth, Titanium metal, Boron, Platinum group metals, Tungsten, Cobalt, Heavy rare earth elements, Copper, Nickel.

Investor Perspective - The Asymmetry in Lithium

- **Upside:** Demand is codified in law - ICE bans, ZEV quotas, storage mandates - not swayed by sentiment.
- **Protection:** Supply diversification is explicitly subsidized; fast, low-carbon, domestic projects qualify for grants, tax credits, and green premium pricing.

Lithium's unique chemistry makes it the non-negotiable enabler of electrification. Technologies that can deliver faster, cleaner, regionally sourced lithium at lower cost are positioned to earn outsized, policy-protected margins. This context frames the detailed supply-demand analysis, price dynamics, and policy tailwinds in the pages that follow.

Source: IEA, Government of Canada, U.S. Department of Energy, and European Council

Yesterday's Lithium Market

Mining and refining still run on 20th-century playbooks while battery demand is growing at 21st-century speed. Four facts make that clear:

Too Concentrated to Be Resilient

- 77% of raw lithium still comes from just three countries: Australia 35.2%, Chile 19.3%, China 22.3%.
- Refining is even more concentrated: ~70% of lithium chemicals are refined in China; add Argentina and Chile, and the top-three reach 95%, leaving North America and Europe with barely 2-3% of global capacity.
- For 19 of the 20 key transition minerals, China is also the largest refiner, averaging a 70% share. Concentration in lithium refining has increased since 2020 and is expected to remain above 80% through 2035 - mining activity exhibits a similar trend. A single weather, labor, or geopolitical shock now moves global battery and mineral security.

Traditional Supply Is Too Slow to Catch Up

- 66% of today's lithium comes from hard-rock mines that need 10-17 years from discovery to first ton; evaporation-pond brines take 13-15 years to ramp. Traditional lithium mining methods account for 89% of the global supply.
- Demand jumped ~30% in 2024, triple the 2010s average, yet mine-sector CapEx rose just 2%. Even if every announced project is on time, the industry still faces a mid-decade shortfall. You cannot run the energy transition on decade-long build cycles.

Missed Opportunity in Secondary Brines

- Traditional DLE supplied only ~11% of global output in 2024.
- Oilfield wastewater and geothermal brines are forecast to add just ~110 kt LCE by 2035 - under 3% of projected demand - because few ventures align technology, feedstock rights, and capital in one package. The gap is not technology-theoretical; it is executional.

Corporate Power Is Consolidating

- Five upstream lithium producers (SQM, Albemarle, Tianqi, Pilbara Minerals, and Rio Tinto) already control nearly 70% of output, and all but Rio Tinto rely on the same slow, water-intensive mining methods. One hiccup at any flagship asset reverberates across the entire battery value chain.

Source: IEA, Benchmark Mineral Intelligence, and Lithium Harvest Internal Analysis

What This Means for Investors

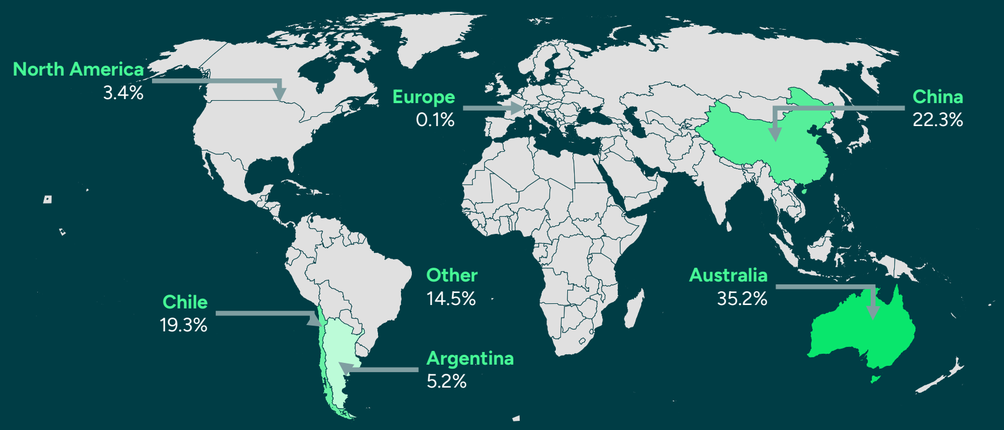
Reality	Implication
Geographic and corporate concentration is tighter than during the early oil era	Supply shocks ripple directly into battery pricing and energy-transition timelines
Traditional supply chain lead times = 5-18 years	Capital must back new production models, not just new pits.
Secondary brines are abundant yet under-tapped	Oilfield and geothermal brine offer the fastest, lowest-footprint route to diversification and ESG compliance, easing the looming lithium shortfall.

Investor Takeaway

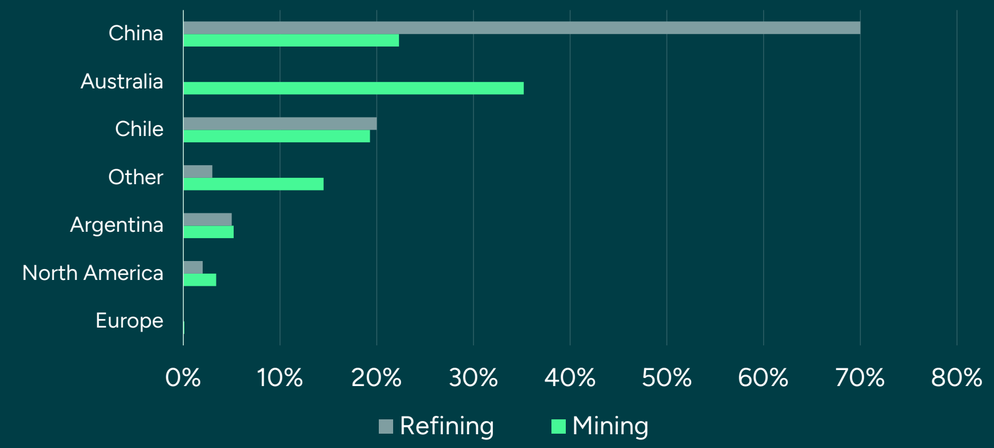
Traditional supply is too slow, too centralized, and too inflexible to keep pace with global demand. Diversified, local, sustainable sources are the only credible bridge between legislated demand and physical availability.

Lithium Harvest targets exactly that white space: turning underutilized oilfield and geothermal brines into battery-grade lithium in 12-18 months, rather than decades.

Lithium Production Concentration

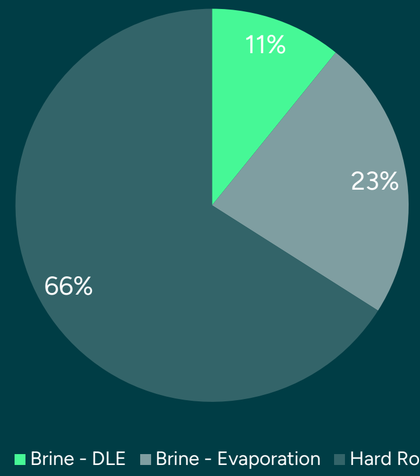


Global Lithium Mining & Refining Share

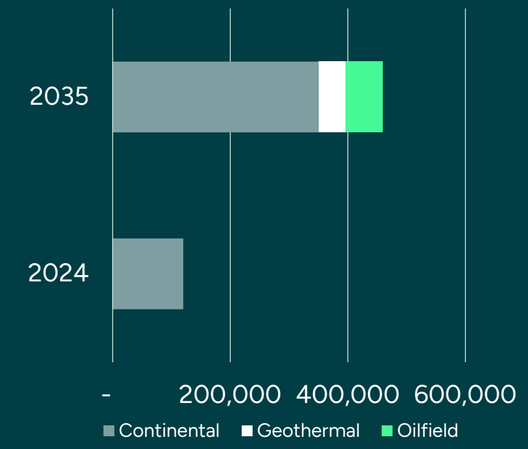


Country/Region	Mining 2024	Mining 2035	Change	Refining 2024	Refining 2035	Change
Argentina	5.2%	12%	*+6.8%*	5%	11%	*+6%*
Australia	35.2%	26%	*-9.2%*	0%	0%	*0%*
China	22.3%	28%	*+5.7%*	70%	62%	*-8%*
Chile	19.3%	12%	*-7.3%*	20%	13%	*-7%*
Europe	0.1%	5%	*+4.9%*	0%	2%	*+2%*
North America	3.4%	9%	+5.6%	2%	7%	*+5%*
Others	14.5%	20%	*-5.5%*	3%	5%	*+2%*

Lithium Sources



Lithium Supply From DLE



Lithium Source	Tonnes Per Annum	Percentage of Total Supply
Brine - DLE	124,000	11%
Brine - Evaporation	265,300	23%
Hard Rock Mining	755,700	66%

Lithium Supply From DLE	Continental	Geothermal	Oilfield
2024	120,000 tpa	n/a	n/a
2035	350,000 tpa	46,250 tpa	62,500 tpa

Lithium Production by Company (Upstream)	Market Share	Lithium Mining Method
SQM (Chile)	21%	Evaporation ponds
Albemarle (U.S.)	21%	Hard rock mining and evaporation ponds
Tianqi (China)	11%	Hard rock mining
Pilbara Minerals (Australia)	10%	Hard rock mining
Rio Tinto (Australia)	6%	Traditional DLE, evaporation ponds, and hard rock mining
Others	31%	Mix

Source: Benchmark Mineral Intelligence, IEA, and Lithium Harvest Internal Analysis

A Looming Lithium Deficit

Lithium is the “lifeblood” of electric-mobility and stationary-storage batteries, making it a focal point of both opportunity and concern on the road to 2030 and 2040. EV mandates, grid storage targets, and carbon-neutral pledges make lithium demand a policy certainty, not just a market option. What is uncertain is how quickly supply can be brought online.

The transition to electric mobility and renewable energy is driving exponential growth in lithium demand through 2030 and beyond. Yet today’s supply chain is already stretched thin - marked by near-100% utilization of current operating capacity and price volatility. Without a massive and sustained build-out of new supply infrastructure, the world faces a growing shortfall. Analysts warn that by 2029, deficits could reach thousands of tons of lithium carbonate equivalent (LCE). By 2040, the gap could widen to several million tons per year - jeopardizing the acceleration of the energy transition.

While lithium resources are geologically abundant, the bottleneck lies in bringing economically and environmentally viable projects online. Much of the required future supply must come from ventures that have not yet been built, or even discovered, including secondary sources such as oilfield and geothermal brines. Complicating matters, the recent drop in lithium prices risks dampening near-term investment in new capacity, setting the stage for a more resounding supply crunch later this decade. The mining industry is cyclical, and if investment lags in the next few years, the long-term shortfall could be severe just as EV demand reaches its peak growth.

Bottom line: The long-term outlook depends on fast-tracking projects not yet on the map. The clock is ticking.

Demand Is Exploding - And It Is Structural

- **2024:** Demand jumped ~30% year-on-year - triple the growth pace of the 2010s.
- **2030:** Analyst consensus forecasts call for 2-3x 2024 demand, implying a CAGR of 15.7%.
- **2035:** Most analysts converge on 3.5-4.2x 2024 levels,
- **By 2040**, lithium demand exceeds today’s level by 4.7-5.5x in high-adoption scenarios - a CAGR of 10% from 2024.
- **EV & BESS** are already 61% of consumption and will exceed 90% of lithium demand by 2040; that share is locked in by policy and automaker commitments.

Supply: Slow, Capital-Starved, at Risk

- **2024 balance:** Roughly 1.15 Mt LCE of supply met 1.15 Mt of demand, but this balance is fragile.
- **Pipeline reality:** Even if every announced project is built, supply covers only ~85% of demand in 2029 (55-445 kt LCE/yr shortfall), 70-83% in 2035, and 65-75% by 2040.
- **Project attrition:** 11-13 lithium projects - mostly high-CapEx, mid-to-high OpEx hard-rock mines totaling 150-282 kt LCE per year - have been cancelled or postponed due to market conditions. Weaker prices, billion-dollar upfront costs, mid-tier operating margins, and tough permitting have made them unbankable. Strip those tons from the pipeline, and today’s “surplus” turns into a deficit several years earlier than consensus models suggest.
- **Execution drag:** Hard-rock mining averages 10-17 years from discovery to first ton; brine ponds, 13-15 years. Meanwhile, mining CapEx rose only 2% in 2024, and exploration spending has stalled at approximately USD 6.7 billion.

When the Gap Opens - And How Wide

- **Base-case deficit:** Begins 2029 (-55 kt LCE), widens to -700 kt by 2035 and -1300 kt by 2040.
- **High-demand scenario:** Shortfall is 450 kt by 2029, 1450 kt by 2035, and 2200 kt by 2040.

Why the Shortfall Arrives Sooner Than Models Suggest

- **Long lead times:** Two-thirds of supply still comes from hard-rock mines that need 10-17 years to permit and build. In 2022, mass public protests led Serbia’s government to revoke Rio Tinto’s Jadar exploration license. Although the Constitutional Court overturned the decision in 2024, the project still suffered a two-year delay.
- **Capital hesitation:** Mine CapEx rose just 2% in 2024, even as demand soared; exploration spending has plateaued. Low prices in 2024-25 mute investment precisely when new projects should break ground for late-decade delivery.
- **Execution risk:** Oilfield and geothermal brines could be rapid, low-carbon sources, yet they are expected to meet <3% of 2035 demand because most DLE ventures lack the trio of proven tech, feedstock rights, and project finance.

Abundant Geology ≠ Guaranteed Supply

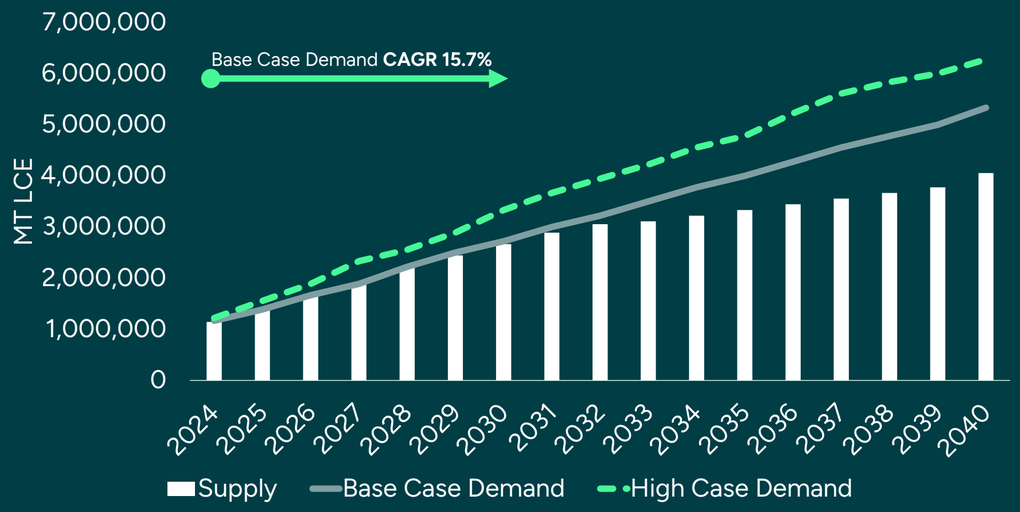
Global reserves (~120-140 Mt LCE) are theoretically enough for billions of EVs, but fewer than 1 in 10 tons are permitted or under development. ESG constraints, water scarcity, low grades, financing, and community opposition mean geology is the easy part - execution is not.

Investor Implications

Reality	Consequence
Deficits appear as early as 2029	Price volatility and potential repeat of the 2022 price spike.
USD 500-600B mining CapEx needed by 2040	Only low-CapEx, fast-ramp projects can fill the gap in time.
Supply diversification is now policy-backed	Projects that are modular, low-carbon, and local qualify for grants, tax credits, and premium offtakes.

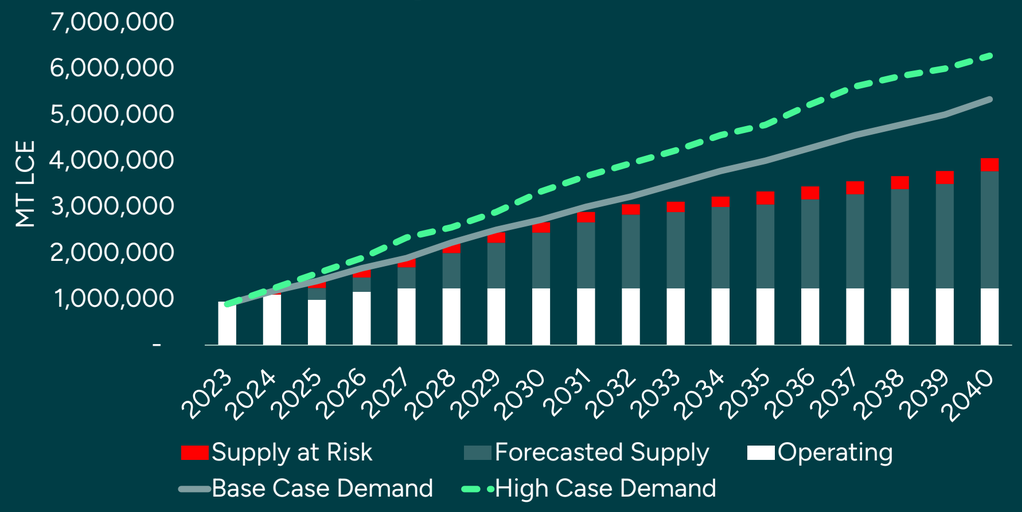
Source: Benchmark Mineral Intelligence, IEA, World Economic Forum, and Lithium Harvest Internal Analysis

Lithium Supply & Demand Forecast

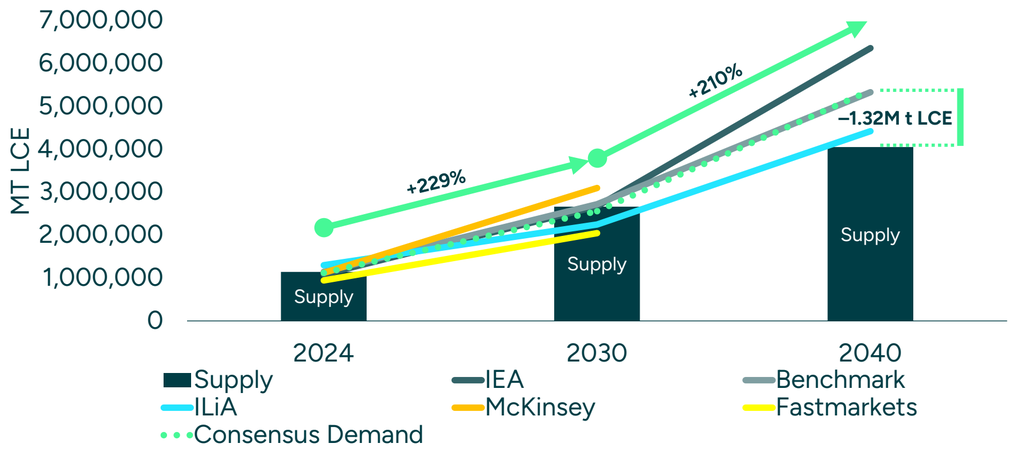


Year	Supply	Base Case Demand	Base Case Supply Cap	High Case Demand	High Case Supply Cap	Supply Coverage (%)	Lithium at Risk
2024	1,145,000	1,145,000	*0*	1,145,000	*0*	*100%*	*48,363*
2025	1,388,889	1,388,889	*0*	1,555,556	*-166,667*	*89%-100%*	*150,363*
2026	1,666,667	1,666,667	*0*	1,888,889	*-222,222*	*88%-100%*	*200,363*
2027	1,888,889	1,888,889	*0*	2,333,333	*-444,444*	*81%-100%*	*200,363*
2028	2,222,222	2,222,222	*0*	2,555,556	*-333,334*	*87%-100%*	*225,363*
2029	2,444,444	2,500,000	*-55,556*	2,888,889	*-444,445*	*85%-98%*	*225,363*
2030	2,666,667	2,722,222	*-55,556*	3,333,333	*-666,666*	*80%-98%*	*225,363*
2031	2,888,889	3,000,000	*-111,111*	3,666,667	*-777,778*	*79%-96%*	*225,363*
2032	3,055,556	3,222,222	*-166,666*	3,944,444	*-888,888*	*77%-95%*	*225,363*
2033	3,111,111	3,500,000	*-388,889*	4,222,222	*-1,111,111*	*74%-89%*	*225,363*
2034	3,222,222	3,777,778	*-555,556*	4,555,556	*-1,333,334*	*71%-85%*	*225,363*
2035	3,333,333	4,000,000	*-666,667*	4,777,778	*-1,444,445*	*70%-83%*	*282,363*
2036	3,444,444	4,277,778	*-833,334*	5,222,222	*-1,777,778*	*66%-81%*	*282,363*
2037	3,555,556	4,555,556	*-1,000,000*	5,611,111	*-2,055,555*	*63%-78%*	*282,363*
2038	3,666,667	4,777,778	*-1,111,111*	5,833,333	*-2,166,666*	*63%-77%*	*282,363*
2039	3,777,778	5,000,000	*-1,222,222*	6,000,000	*-2,222,222*	*63%-76%*	*282,363*
2040	4,055,556	5,333,333	*-1,277,777*	6,277,778	*-2,222,222*	*65%-76%*	*282,363*

Projects at Risk



Global Lithium Balance: Supply vs. Multi-Analyst Demand Forecasts



Lithium Demand	Demand 2024	Demand 2030	Demand 2040	Demand Increase % (2024-2040)
IEA	1,086,500 (105%)	2,674,380 (100%)	6,361,590 (64%)	485.51%
Benchmark Minerals	1,145,000 (100%)	2,722,222 (98%)	5,333,333 (76%)	365.79%
ILiA	1,300,000 (88%)	2,250,000 (119%)	4,425,000 (92%)	240.38%
McKinsey	1,121,276 (102%)	3,100,000 (86%)	n/a	176.47% (2024-2030)
Fastmarkets	945,000 (121%)	2,047,536 (130%)	n/a	116.67% (2024-2030)
Consensus Demand	1,119,555 (102%)	2,558,828 (104%)	5,373,308 (75%)	379.95%

**Figures in parentheses indicate supply-coverage (%)*

Source: Benchmark Mineral Intelligence, IEA (Demand+Supply), ILiA, Mckinsey, Fastmarkets, and Lithium Harvest Internal Analysis

Lithium Price Dynamics

Concentration risk and pricing power. China's dominance in the lithium chemicals and battery chain has, at times, suppressed prices through scale tactics, stockpiling, price competition, and policy moves. Reducing that concentration is essential; building local supply can improve stability, resilience, and energy security.

Global lithium prices have been anything but stable. After skyrocketing in 2021-2022 due to EV demand and tight supply, prices collapsed by 89% from their peak by 2022. But this cycle is not unique. It reflects the underlying structural mismatch in the lithium market: multi-year supply build cycles versus short-term demand shifts and policy waves. The market's recent correction may feel like oversupply - but the seeds of the next shortage are already planted.

Market Phases: A High-Conviction Timeline to 2035

Phase	Spot Price Range	Drivers	Strategic Signals
2021-2022 Super Spike	Spot lithium carbonate rocketed from ≈$8,323/t (Jan 21) to >$86,406/t (Nov 22)	Explosive EV demand, constrained supply, empty inventories	Windfall margins triggered 100+ mine & refinery FIDs and encouraged even marginal projects
2023-2025 Reset	<$9,193/t (March 25) → ~$11,617/t rebound (Q2-25) (-89% in 27 mo)	A wave of Australian, Chilean, and Chinese supply hit just as China's battery chain de-stocked and EV growth paused, plus macro and policy shocks	Prices fell below incentive levels for 40% of pre-FID projects. The shakeout has already delayed or cancelled 11-13 projects, removing 150-280 kt LCE/y from the pipeline
2025-2029 Fragile Floor	$11,000-$16,000/t (forecast range)	11-13 project cancellations; CapEx slowdown; export controls; rising offtake demand	Export curbs, stalled FIDs, and bidding wars point to a 2027-29 deficit, with only low-cost and fast-ramp projects able to fill the gap
2030s Structural Tightness	Consensus price >$20,000/t by 2034	Demand is set to grow 3.5-4.2×, while projects cover only ~70% - prompting premiums for low-carbon, local supply	Premiums for ESG-compliant, regionally secure supply

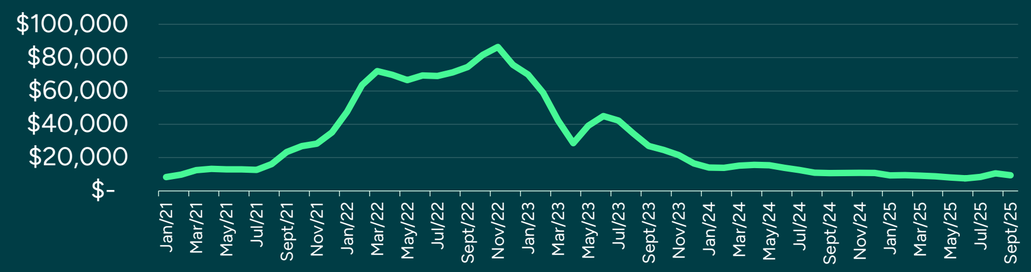
What's Driving the Volatility?

- **Rapid supply growth (2023-2024):** A wave of production in Australia, Chile, and China briefly outpaced demand.
- **China's stockpiling & price wars:** Local producers curtailed imports, dumping stock to gain market share.
- **Downstream destocking:** OEMs delayed new purchases to run down inventory.
- **Policy and trade disruptions:** Export controls, permitting delays, and macro shocks created market noise and project delays.

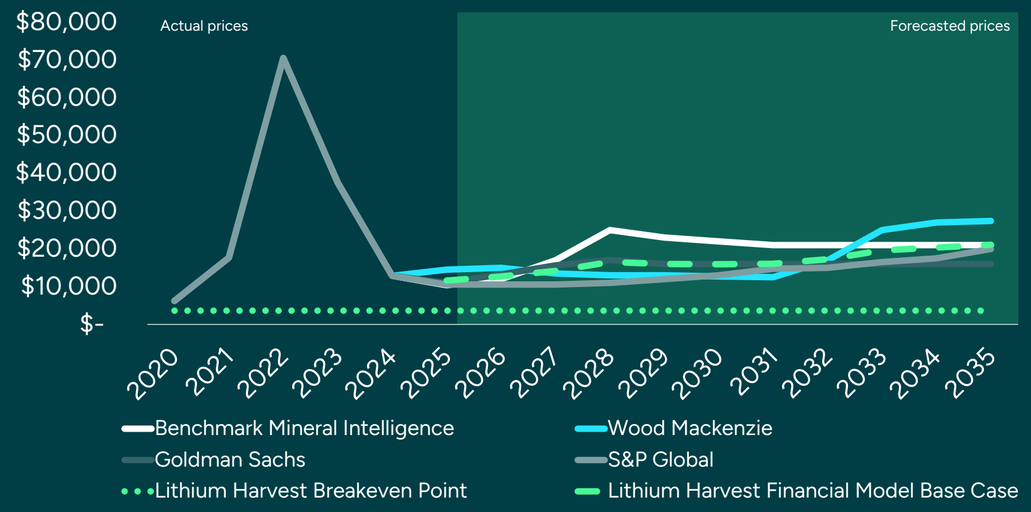
Strategic Takeaways for Investors

The 2023-25 downturn wiped out ~282 kt LCE of future supply - a structural reset. Low-cost, fast-build projects that meet local supply and ESG demands will win. Today's low prices hide a fragile pipeline; backing fast, regional producers now capture the next potential squeeze while staying profitable through the dips.

Historical Lithium Carbonate Prices



Forecasted Lithium Carbonate Prices



	Benchmark Minerals	Wood McKenzie	Goldman Sachs	S&P Global	Analyst Consensus Price
2025	$10,500	$14,500	$11,000	$10,566	$11,617
2026	$12,000	$15,000	$13,250	$10,566	$12,704
2027	$17,000	$13,500	$15,646	$10,566	$14,178
2028	$25,000	$13,000	$17,077	$11,000	$16,519
2029	$23,000	$13,000	$16,000	$12,000	$16,000
2030	$22,000	$12,700	$16,000	$13,000	$15,925
2031	$21,000	$12,500	$16,000	$14,750	$16,063
2032	$21,000	$17,000	$16,000	$15,000	$17,250
2033	$21,000	$25,000	$16,000	$16,500	$19,625
2034	$21,000	$27,000	$16,000	$17,500	$20,375
2035	$21,000	$27,400	$16,000	$20,000	$21,100

Our financial model is based on progressive pricing aligned with analyst consensus

Source: Benchmark Mineral Intelligence, S&P Global, Fastmarkets, Wood MacKenzie, Goldman Sachs, and Lithium Harvest Internal Analysis

Regulatory Tailwinds

Critical Raw Materials (CRM) Mandates

Country/Region	Law/Strategy	Tailwind for Lithium
European Union	Critical Raw Materials Act (2024)	Sets 2030 target to extract ≥10% and refine ≥40% of EU lithium demand domestically. Fast-track permits and "Strategic Project" label open access to EU funding.
European Union	Competitiveness Compass for the EU (2024)	Dedicated financial window for domestic processing/cell manufacturing; brine-to-chemicals projects can qualify.
European Union	The EU Battery Regulation	The goal is to increase transparency and incentivize the production of batteries with a lower environmental impact.
United States	Executive Measures to Increase Domestic Mineral Production (2025)	Accelerated federal permitting timelines for CRM mining projects. Encourage domestic exploration and development of CRMs - reduced reliance on foreign sources.
Canada	Canadian Critical Minerals Strategy	C$3.8B for exploration, infrastructure, processing, and R&D; 30% exploration tax credit - direct support for Alberta brine project LOI.
Australia	Critical Minerals Strategy 2023-30	AUD 500M via NAIF for lithium projects in the north; lithium is classed "strategic" for loans and fast-track approvals.
Australia	Future Made in Australia Plan - Critical Minerals	AUD 566M for geological surveys and downstream processing - opens co-investment options for novel extraction tech.
Chile	National Lithium Strategy (2023)	Grants "strategic" status to lithium, offers long-term concessions and tech-transfer clauses, but with a PPP structure - signals sustained state backing for new extraction tech.
China	14th Five-Year Plan (2021-25)	Prioritizes lithium supply security through easier land allocation, rapid permitting, and infrastructure support for upstream lithium operations.
India	National Critical Mineral Mission (2023)	$1.9B public spend + expected $2B public-sector investment across the lithium value chain.

Source: Government Releases and Lithium Harvest Internal Analysis

Offtake Markets - BESS Mandates

Country/Region	Policy/Program	Lithium-Demand Tailwind
Austria, Czech Rep., Lithuania, Malta, Poland, Romania	National CapEx-grant schemes for home batteries	Upfront grants, triggering the rapid uptake of lithium-ion systems and increasing residential demand across CEE.
Canada	Smart Renewables & Electrification Pathways (SREPs)	Federal program covers up to 50% of project CapEx for utility-scale BESS paired with renewables
Australia	National Electricity Market (NEM) reforms & state roadmaps	State targets - for example, NSW Electricity Infrastructure Roadmap: 2 GW/8 GWh by 2030
China	14th Five-Year Plan for New-Energy Storage (2021-25)	Mandates ≥30 GW new storage by 2025; 90% expected to be lithium-ion.
European Union	The European Green Deal	€86B earmarked for grid flexibility - including BESS - to integrate 740 GW of renewables by 2030

Offtake Markets - EV Mandates

Country/Region	Policy/Program	Tailwind for EV Uptake (and Lithium)
European Union	Industrial Action Plan for the EU Automotive Sector	€3B earmarked for battery manufacturing capacity across member states.
European Union	Alternative Fuels Infrastructure Regulation (AFIR)	Sets minimum power, distance and coverage standards for public EV chargers across the EU.
European Union	Regulations (EC) 443/2009 & (EU) 510/2011	Progressive CO_2 standards for new cars and vans; zero-emission trajectory by 2035.
European Union	European Green Deal	A sector-wide decarbonization roadmap is placing EVs and zero-emission mobility at the core.

Table continues on the next page

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Country/Region	Policy/Program	Tailwind for EV Uptake (and Lithium)
China	National Development & Reform Commission EV subsidies	Grants for NEVs; extra bonuses for scrapping ICE cars registered before 2012/2014 (gasoline/diesel) and early NEVs (pre-2018).
Colombia	Resolution 20243040064105 (2024) - Technological Advancement Fund	COP 12B fund covers the price gap between petrol cars and zero-emission vehicles.
Japan	Clean-Energy Vehicle (CEV) Subsidy	Direct purchase subsidies for passenger EVs.
Brazil	Rota 2030 Program	Incentivizes the R&D and production of cleaner vehicles, offering tax credits.
Singapore	Electric Vehicle Early Adoption Incentive (EEAI)	Registration tax rebates for new EV buyers.
United Kingdom	Zero-Emission Vehicle (ZEV) Mandate	Requires 80% ZEV car sales and 70% ZEV van sales by 2030, rising to 100% by 2035.
United Kingdom	Advanced Manufacturing Plan	£2.4B capital and R&D funding through 2030 to anchor EV supply-chain investments.
Malta	Grant Scheme for the Purchase of New EVs	Grants for private and commercial BEVs, plus a bonus for scrapping old vehicles.
Slovak Republic	Automotive Electric Vehicles Action Plan	Financial incentives for EV purchases and charging infrastructure, as well as supportive tax measures.
Spain	Spanish State-Aid Scheme (TCTF)	Capital support for battery and clean-tech manufacturing projects.
Canada	Electric Vehicle Availability Standard	Mandatory ZEV sales quotas: 20% by 2026, 60% by 2030, 100% by 2035.
Ireland	Climate Action Plan	Targets 30% of vehicle stock and 100% of new LDV sales to be EVs by 2030.

Source: Industry- and company presentations, and Lithium Harvest Internal Analysis

Countries ICE-Ban Commitments (Passenger Cars)

Phase-out year	Countries/jurisdictions mandating 100% zero-emission new-car sales
2030	Norway (2025), Denmark, Ireland, Iceland, Sweden, Israel, Netherlands, Singapore, Slovenia
2035	United Kingdom, Cabo Verde, China, Japan, Canada, California (U.S.), Rest of the EU, South Korea, Thailand
2040	France, Spain, Taiwan, Sri Lanka, Vietnam
2050	Costa Rica

Automaker Phase-Out & Electrification Targets

Manufacturer	Before 2030	Before 2035	2040-2050 long view
Bentley		Stop ICE sales shortly after 2035	
Volkswagen Group	≥80% EV sales in EU; 55% in NA	Stop ICE sales in EU	Group-wide carbon-neutrality by 2050
Toyota	55 electrified models on sale (2025 target)	50% ZEV sales worldwide	
Volvo Cars	50% EV/PHEV mix (2025 target)	100% EV & PHEV only	
Jaguar	100% BEV brand by 2025		
Mercedes-Benz	50% electrified sales		
Subaru	50% electrified sales		
Hyundai-Kia		100% electrified sales in Europe	Close to 100% electrified globally by 2040
Nissan	100% BEV sales in Europe		Carbon-neutrality across PLC by 2050
General Motors			End ICE sales globally by 2040
Renault Group	100% EV sales in Europe		Carbon-neutral group by 2050
Mazda	25-40% EV share		Carbon-neutral by 2050
BMW Group	EVs ≈50% of deliveries		End ICE sales “well before 2050”
Honda	EV+FCEV = 40% global sales		100% EV+FCEV sales globally by 2040
Ford Motor	≥50% global sales EV or PHEV		
Mitsubishi		100% electrified sales	
Suzuki	80% BEV sales in Europe		

Unified Regulatory Tailwinds - The Demand & Supply Flywheel Powering Lithium Harvest

Governments, regulators, and automakers are now pulling in the same direction, hard-wiring a lithium-hungry future across three mutually reinforcing fronts:

1. Supply is being nationally secured

Policy signal	What it means	Why Lithium Harvest is advantageous
Over 37 countries (including the EU, US, and Canada) now list lithium as a "strategic" or "critical" mineral in statutes or strategy papers. Those frameworks direct >US$10B in grants, tax credits, and low-cost loans to domestic extraction and refining.	Fast-track permits, refundable tax credits, and concessionary debt compress payback periods and raise IRRs for low-carbon projects that locate in (or ally with) each jurisdiction.	Our modular, brine-based DLE plants qualify for "Strategic Project" or equivalent status, unlocking accelerated approvals and non-dilutive funding.

2. Demand is being legislated, not just subsidized

Policy signal	What it means	Why Lithium Harvest is advantageous
EV sales quotas/ICE bans: 19 sovereign markets have legal 100% ZEV deadlines - nine of them by 2030. BESS mandates: EU allocates €86B for grid flexibility; US offers a 30% standalone-storage ITC through 2032.	EV and storage adoption becomes a compliance obligation, not a discretionary purchase, locking in price-inelastic lithium demand for decades.	Locked-in demand creates a long-term offtake appetite for ESG-compliant lithium, exactly what LH supplies.

3. Low-carbon, domestic production is the preferred model

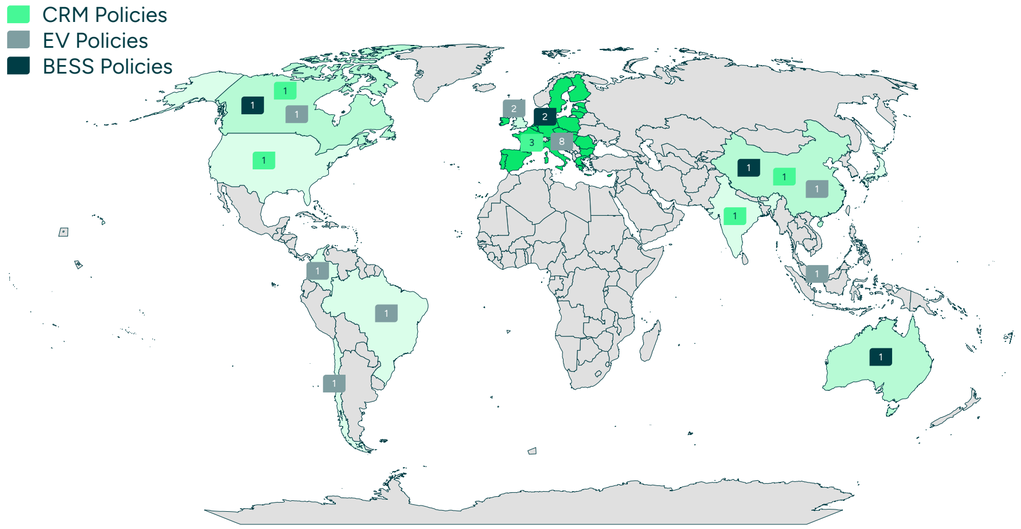
Policy signal	What it means	Why Lithium Harvest is advantageous
Every major CRM law couples financial support with ESG and localization criteria (CO_2 footprint, water use, supply-chain transparency).	Producers' sustainable operations, along with site capacity close to end-use markets, command premium pricing and priority contracts.	Our process recycles over 90% of water, emits a fraction of hard-rock CO_2, and can be co-located at US, Canadian, or EU brine sites - meeting both localization and sustainability.

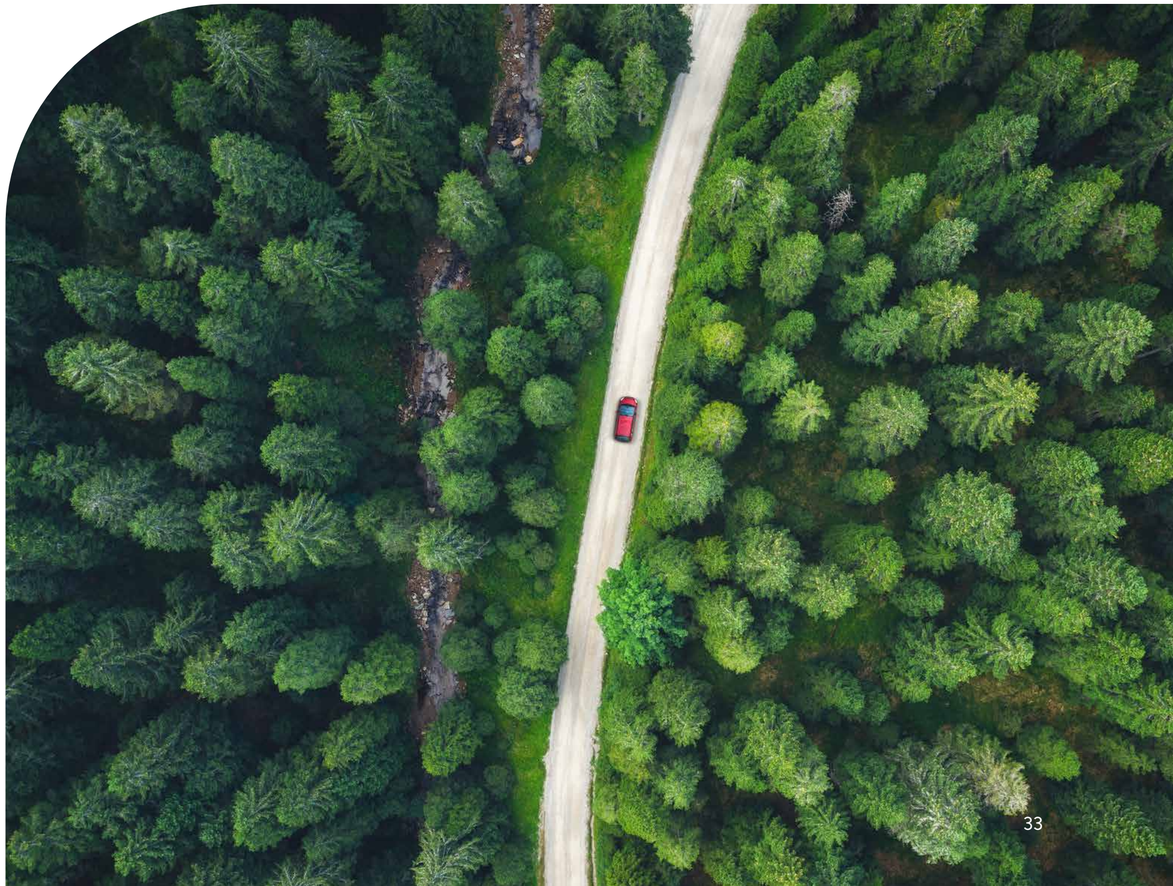
Net effect for investors

Side of the equation	Policy boost	Impact on Lithium Harvest economics
Supply	Permitting relief, tax credits, and low-cost government loans	Shorter build time, lower effective CapEx, higher project IRRs
Demand	Legally mandated EV & BESS uptake	Decades-long, government-underwritten offtake markets; reduced price elasticity

Source: Industry- and company presentations, and Lithium Harvest Internal Analysis

Policy makers are eliminating both classic commodity questions - "Will demand materialize?" and "Can supply be built fast enough?" - in our favor. Lithium Harvest's low-cost, low-carbon extraction platform is designed to monetize these government-guaranteed conditions, giving investors exposure to a policy-protected, ESG-preferred growth engine rather than a speculative commodity cycle. That flywheel delivers a tailwind measured in decades, not quarters.





Lithium Demand Drivers

EV Growth is Transformational

Electric vehicles (EVs) are the single largest driver of lithium demand:

- **Sales momentum:** 17.1 million EVs sold in 2024, on track for 40 million by 2030 (+233%). EV sales are set to exceed 20 million in 2025, with Q1-2025 sales up 25% YoY.
- **Market penetration:** EV share is set to increase from 22% (2024) to 42% (2030).
- **Fleet build-out:** Global EV fleet is set to grow from 58 million (2024) to 235 million (2030) and >500 million by 2035 (~850% expansion).
- **Battery pull-through:** Pack demand is set to scale from 840 GWh in 2024 to ~2,600 GWh by 2030 (3x).
- **Lithium impact:** EV batteries alone are set to lift lithium use from ~0.7 Mt LCE (2023) to ~3 Mt by 2030 - a 338% surge.
- **Economics, not subsidies:** Consumer spend hit USD 560 billion in 2024 while subsidies fell to <7% of outlays (20% in 2017). Price parity and model choice (with more than 1,000 expected by 2026) now drive adoption.

Energy Storage: The Fast Follower

- **Capacity surge:** BESS installations are set to increase from 205 GWh (2024) to 520-700 GWh (2030), a 2.5-3.5x increase.
- **Cost tailwind:** Levelized cost of storage is predicted to decrease ~60% (US$0.05 → <0.02/kWh), unlocking utility and residential uptake.
- **Share of demand:** By 2030, storage alone could absorb ~10% of global lithium.
- **System criticality:** BESS enables integration of variable renewables and strengthens grid reliability.

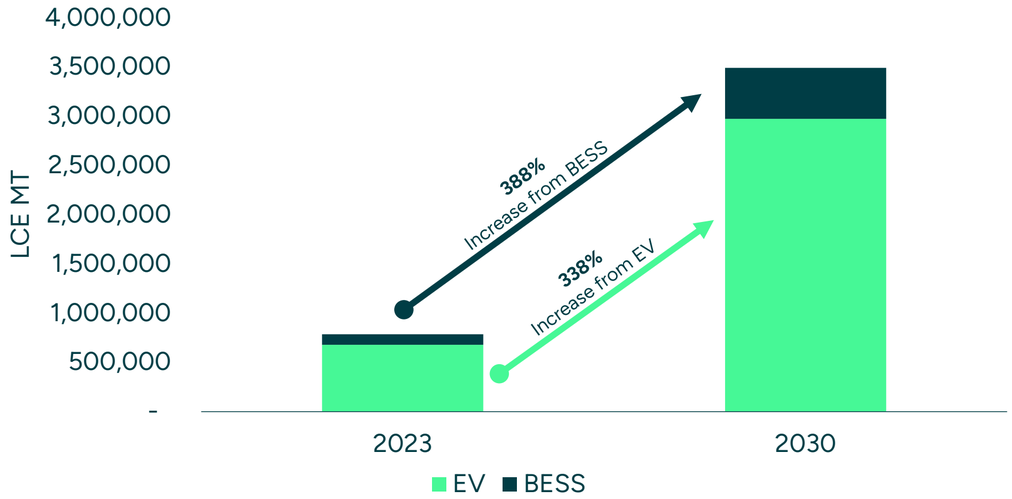
Electrification Everywhere

Heavy fleets, two-wheelers, heat pumps, portable electronics, short-haul fligts, robots, coastal marine vessels, and industrial vehicles all add incremental pull. With EVs and BESS already at 61% of lithium use - and set to exceed 90% by 2040 - the chemistry's dominance is locked in.

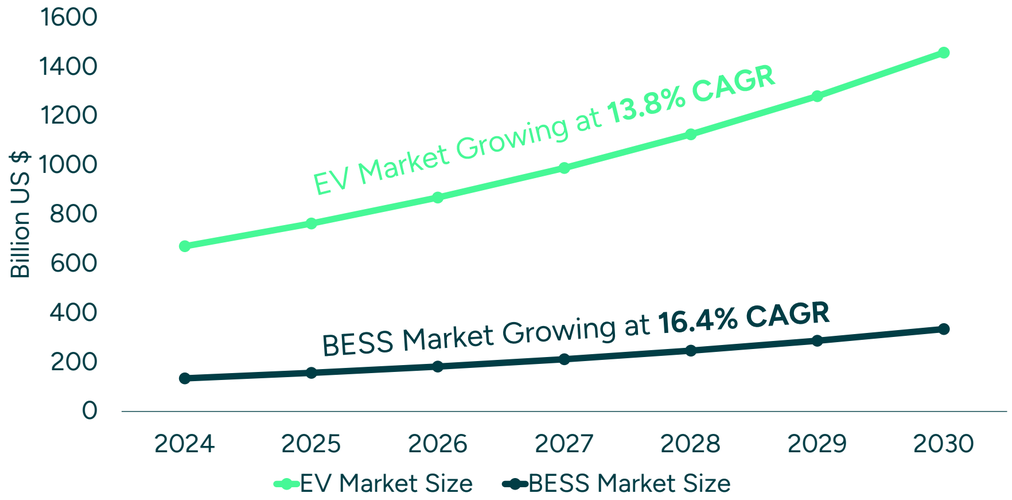
Strategic Takeaway

This is structural, not cyclical. Lithium demand is being driven by infrastructure, electrification, and economics - not just sentiment. EVs and BESS already account for 61% of lithium use and are projected to exceed 90% by 2040. Every credible net-zero pathway requires multiple-fold growth in these sectors, making lithium the throughput mineral of the energy transition.

Lithium Demand from EVs & BESSs



Market Size for EVs & BESSs



Demand Multipliers - EVs

	2024	2030	Growth (%)
EV Sales	17.1M	40M	233%
EVs on the Road	58M	235M	405%
EV Market Share	22%	42%	91%
EV Battery Demand	840 GWh	2,600 GWh	309%
Avg Battery Size	50 kWh	65 kWh	30%

Demand Multipliers - BESS

	2024	2030	Growth (%)
BESS Capacity	205 GWh	520-700 GWh	253%-341%
LCOS	0.05$/kWh	<0.02$/kWh	-60%

Source: IEA, McKinsey & Company, Grand View Research, Fortune Business Insights, Rho Motion, and Lithium Harvest Internal Analysis

Market & Customers Preferences

What Buyers Insist on Now

- **Up-front ESG screens.** Auto- and battery manufacturers evaluate climate, water, labor, and traceability before signing offtakes. The EU Battery Regulation formalizes this via mandatory due diligence and “battery passports” for lithium, nickel, cobalt, and graphite, as well as battery passports and recycled-content targets.
- **Traceability as a feature.** Companies use verifiable chain-of-custody data to unlock incentives, de-risk brand exposure, and justify price differentials.

Market Perception & Signaling

- **EV mainstreaming.** Public charging points have doubled since 2022, and EV model availability is on track to exceed 1,000 by 2026 - momentum that brings upstream impacts into the spotlight for OEMs, regulators, and consumers.
- **Table-stakes transparency.** Stakeholders highlight risks associated with weak environmental and social practices in parts of the mining chain; credible transparency and third-party verification are becoming essential for OEMs and financiers.

Risk & Resilience Filters

- **Water & carbon risk matter.** Droughts, floods, and carbon pricing poses threats to high-impact mines; low-water, low-carbon projects are structurally safer bets.
- **Circularity readiness.** EU rules mandate recycled content and audit trails; suppliers that can feed closed-loop systems gain priority access to premium markets.

Supply-Chain Security & Geopolitics

- **Diversification is policy.** Critical-mineral acts and offtake funds in the US, EU, and Canada steer purchasing away from single-country dependence.
- **Responsible tons = competitive edge.** OEMs and financiers channel capital to projects that tick the ESG, localization, and transparency boxes, penalizing traditional, high-impact supply chains.

Strategic Takeaway

Sustainability has shifted from a marketing claim to a buy/no-buy gate and a pricing lever. Traceable, low-impact, regionally sourced lithium secures contracts more quickly, commands premiums, and taps into subsidy pools.

Source: IEA and Lithium Harvest Internal Analysis

Problem Statement

Lithium Harvest

Why Traditional Lithium Mining Falls Short

Built for commodity cycles, not exponential battery demand. Hard rock mines and solar evaporation brines dominate with 89% of supply, but they are too slow, too capital-heavy, too water-intensive, and too concentrated to deliver the tonnes policymakers and OEMs have already mandated. These conventional methods face structural bottlenecks - economic, environmental, technological, and regulatory - that constrain rapid and sustainable scale-up.

Economic Bottlenecks

- **High cost and capital intensity.** Greenfield projects typically run US$0.5-1.5 billion investment before revenue and have a slow payback; when prices fall, projects often pause or slip - starving supply just when it is needed the most. 11-13 projects are already delayed/canceled under current market conditions - primarily hard rock mining operations.

Average numbers per mt of LCE	Traditional DLE	Solar Evaporation	Hard Rock Mining
CapEx	$62,500 (+266%)	$34,000 (+99%)	$60,000 (+251%)
OpEx	$6,000 (+65%)	$6,400 (+76%)	$7,000 (+92%)

- **Concentrated, price-taker position.** A few countries dominate the mining industry, and an even smaller group dominates the refining industry. As a result, miners sell unrefined products to third-party refiners, forfeiting downstream margins. The top three countries control ~77% of mining and 95% of refining; China holds around 70% of global refining, while Europe accounts for ~0% and North America for around 2%. Disruptions, trade frictions, or resource nationalism can pose significant economic risks to global supply chains.
- **Geographic constraints dampen scale.** Brine evaporation is viable only in arid, high insolation deserts; hard rock is feasible only at sufficiently high grade and with access to power, water, and reagents. These constraints limit the expansion of new supply regions and concentrate geopolitical risk.
- **Pipeline is short of a durable balance.** Even after a near-term surplus, demand growth requires many new mines and refineries. The current pipeline covers only ~84% of projected 2029 needs, and recent cancellations or slowdowns point to tighter 2027-2029 balances.

Investor Takeaway: Traditional routes have a high fixed cost base, slow capital turnover, and heavy exposure to volatile downstream markets and geopolitics - not ideal for rapid, resilient growth.

Source: IEA, Benchmark Mineral Intelligence, and Lithium Harvest Internal Analysis

Environmental Bottlenecks

- **Extreme water consumption.** Evaporation ponds consume huge volumes of brine and significant amounts of freshwater for reagents/utilities; recovery is modest, so most of the lithium and water are not converted into products. Competing users (communities, agriculture, ecosystems) amplify conflict risk in arid basins. 50% of the capacity already resides in water-stressed basins. Solar pond operations use up to 118,877 gallons of freshwater per metric ton of LCE, which is 423% more than Lithium Harvest. Hard rock flowsheets still require substantial process water even with recycling and rainwater capture.
- **Land disturbance and waste.** Evaporation ponds occupy large footprints and leave salt-rich residues; hard rock generates waste rock and tailings with leakage/failure liabilities. Typical footprint per mt LCE: Solar evaporation 39,352 ft^2, hard rock 3,605 ft^2 - leaving visible surface scars and long-lived stockpiles.
- **High energy and carbon intensity.** Spodumene routes are energy-intensive from mining through calcination and conversion. Emissions profiles are 3.1t CO_2/mt for evaporation and 20.4t CO_2/mt for hard rock.
- **Pollution and community impact risk.** Without best-in-class controls, both routes can affect groundwater, surface hydrology, and soils; permitting and monitoring requirements are tightening accordingly, extending timelines, and increasing costs.

Investor Takeaway: Water, land, emissions, and waste risks translate directly into permitting friction, ESG discounting, higher OpEx/CapEx, and reputational exposure. And, of course, why ruin our nature while trying to save it?

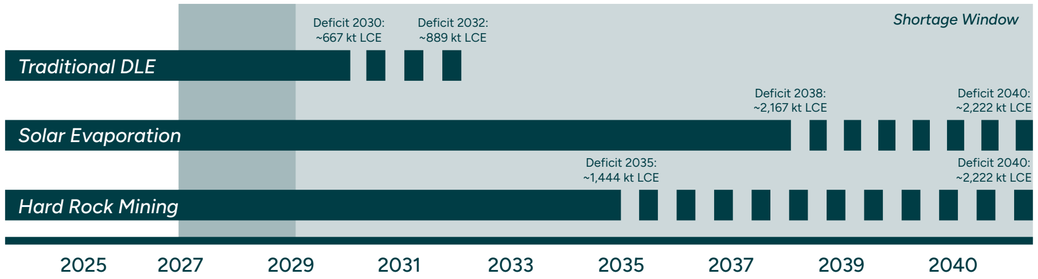
Technological Bottlenecks

- **Low recovery and slow cycles.** Solar evaporation typically recovers only 20-50% of lithium and takes 13-24 months, which limits responsiveness and delays ramp-up. Traditional DLE recovers 80-95%; Lithium Harvest achieves up to 18.75% higher recovery rates,+375% higher than evaporation, and +137.5% higher than hard rock mining. Traditional mining does not maximize project value. Cycle times highlight the gap: traditional DLE takes 2 hours, evaporation takes 13-24 months (Lithium Harvest is 8,766 times faster), and hard rock takes 3-6 months (Lithium Harvest is 2,191 times faster).
- **Inflexible operating envelope.** Brine ponds require arid climates and stable weather; hard rock needs a suitable grade, power, and logistics. Costs rise sharply outside these conditions.
- **Ramping complexity.** New chemical plants (carbonate/hydroxide) are challenging to start and stabilize; many recent refineries have required multi-year debottlenecking to reach specifications and throughput.

Investor Takeaway: Traditional tech is inherently slow and location-bound, with recovery and throughput limits that cap saleable tonnes, delay cash flows, and erode margins.

Regulatory & Social Bottlenecks

- **Long project timelines.** Discovery to first production commonly exceeds a decade; rigorous EIAs, land use and water rights permits, and legal challenges add years. Indicative ranges: DLE from brine 5-7 years, evaporation 13-15 years, hard rock 10-17 years. These timelines cannot meet future demand windows, creating deficits.



- **Social license risk is rising.** Indigenous and local communities demand consultation, benefit sharing, and strict water governance; protests and litigation can halt access or delay schedules.
- **Geopolitical concentration (N1 risk).** Refining is heavily concentrated; removing the largest supplier leaves the world with a shortage. Excluding China would remove ~70% of the refined product.
- **Tightening ESG and offtake criteria.** Automakers and cell makers require traceability, water/CO_2 performance, and local content - thresholds that many legacy assets struggle to meet without costly retrofits.

Investor Takeaway: Permitting drag and social opposition are now “first-order” determinants of schedule and cost. Supply security concerns push buyers to diversify away from single-point dependencies.

Why This Matters

Traditional lithium mining cannot rapidly, cleanly, or flexibly scale where demand is growing. Its bottlenecks - cost, water/land use, carbon intensity, slow cycles, concentration risk, and permitting friction - create persistent supply insecurity and price volatility. Any solution that:

- shortens payback and reduces CapEx per incremental tonne,
- materially lowers water use/land footprint and embedded CO_2,
- boosts recovery and compresses cycle times,
- and diversifies geography and midstream processing

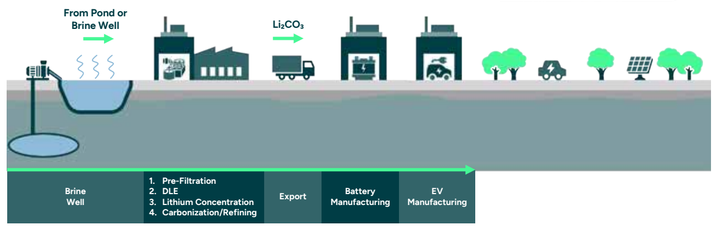
will command premium offtakes, lower ESG risk, and a superior risk-adjusted return profile.

Traditional Lithium Production

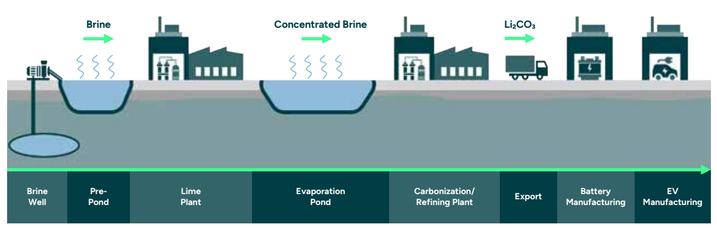
	Traditional DLE	Solar Evaporation Brine Extraction	Hard Rock Mining
Lithium feedstock	Continental brine	Continental brine	Rock / spodumene
Project implementation time	5-7 years	13-15 years	10-17 years
Lithium carbonate production time	2 hours	13-24 months	3-6 months
Lithium yield	80-95%	20-50%	40-70%
Average footprint per mt of LCE	172 ft^2	39,352 ft^2	3,605 ft^2
Environmental impact	Minimal	Soil and water contamination	Soil and water contamination
Freshwater consumption per mt of LCE	26,417 gallons	118,877 gallons	20,341 gallons
CO_2 footprint per ton of LCE	2.5 tonne	3.1 tonne	20.4 tonne
Average invested capital per mt of LCE	$62,500	$34,000	$60,000
Average cost per mt of LCE	$6,000	$6,400	$7,000

Benchmark Mineral Intelligence, S&P Global, and International Lithium Association

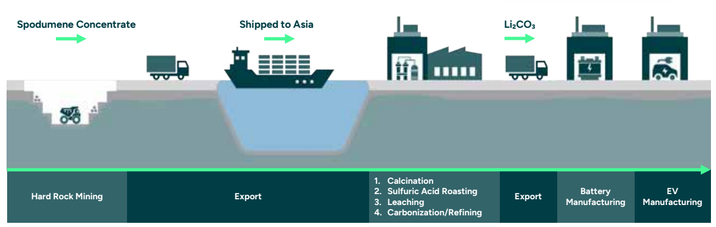
Traditional DLE



Solar Evaporation Brine Extraction



Hard Rock Mining



Can We Do It
Differently?
Lithium
Harvest

Rethinking Critical Mineral Supply

From Distant Megaprojects to Local & Modular Lithium Production
The world's plan for critical minerals was built around remote, billion-dollar projects: long lead times, heavy infrastructure, and shipping concentrates halfway around the planet to be refined. That model is slow, fragile, and costly - the opposite of what the electrification needs.

We Do It Differently
Instead of chasing lithium in far-flung deserts, we extract lithium from wastewater - oilfield produced water and geothermal brines - right where the infrastructure already exists. We extract and refine on-site in decentralized, modular facilities co-located with midstream operators, then deliver battery-grade chemicals to nearby cathode and cell plants. The result is a local, reliable supply built for speed, cost discipline, and ESG.

The New Model

- **Speed to revenue:** Site selection and commissioning measured in months, not years. Deliver the first tonnes quickly, then scale by replication - not by waiting for the next megaproject.
- **Capital efficiency:** Utilizing existing feedstock and infrastructure, and a design based on proven technology and off-the-shelf equipment.
- **Cost visibility:** Fewer handoffs and shorter logistics mean tighter OpEx control and lower volatility.
- **Cost-disciplined over capital-heavy:** Short build cycles, use of existing pads/roads/power, and an integrated flow sheet target low all-in cost and faster payback.
- **Supply security:** Regionalized production near brine sources and end-markets hedges against export controls, shipping shocks, and refinery bottlenecks.
- **Waste-to-value:** Turn a liability stream into a strategic feedstock. No large evaporation ponds or pits. Compact footprint with closed-loop lithium extraction.

Why rely on distant, high-cost sources when the solution is right here?
We are building a modern critical-minerals platform that turns wastewater into local, sustainable, and cost-effective battery-grade lithium - the fastest route from resource to market.

Turning Wastewater Into High Value Minerals

Our Solution

We Turn Wastewater Into High-Value Minerals
Lithium Harvest produces lithium chemicals for the EV and broader battery markets by extracting lithium from secondary/unconventional brines - oilfield produced water and geothermal brines - exactly where these streams already flow and where infrastructure already exists. Instead of waiting years for distant mines and ponds, we deploy modular Direct Lithium Extraction (DLE) integrated with proprietary water treatment to deliver local, battery-grade lithium carbonate fast - with extraction and refining on-site by design.

In practice: We take a wastewater burden that contains lithium and, within hours, extract and upgrade it into high-purity compounds used in EV batteries.

Lithium Harvest employs a "Design-Build-Own-Operate" (DBOO) model for its lithium extraction facilities. This means we handle the entire project lifecycle - designing and constructing the extraction system - co-located at partners' sites - midstream hubs, oilfields, and geothermal plants. Partners provide the brine; we run the facility and share value through revenue-share or royalties. The result is hassle-free monetization of a liability stream, minimal disruption, and scalability through replication - not by waiting for the next megaproject.

Why Us

- **Patented platform:** IP protected adsorption-based DLE integrated with advanced water treatment solution; on-site extraction and refining tailored to each brine.
- **Execution pedigree:** 20+ years of industrial water, separation, and control system know-how - the difference between a promising flowsheet and a plant that meets spec.
- **Commercial building blocks:** Core unit operations are field-proven in adjacent industries; scale-up is an engineering and execution task, not basic science.
- **Built for low-grade brines:** Designed to be profitable at low lithium concentrations, reinforced by technology partnerships and validation from commercial DLE analogs.

Bottom line: Lithium Harvest converts a liability stream into local, low-cost, zero-carbon lithium at industrial speed - bridging some of the gap between mandated demand and available supply, and compounding value one replicated module at a time.

Why We Win

- **Speed:** Online in 12-18 months (up to 17× faster than greenfield mining).
- **Cost-Efficiency:** Up to 73% lower CapEx and 48% lower OpEx vs. conventional production.
- **Yield & throughput:** Hours-scale production cycles (up to 8,766× faster than evaporation) with up to 375% higher lithium yield - a direct boost to IRR and payback.
- **Sustainability:** Carbon-neutral process design (vs. up to 20.4t CO_2/t LCE for hard rock), 81% lower freshwater use, up to 99% smaller land footprint.
- **Co-benefits:** Treated water can be reused or safely disposed - turning a cost center into new income for oil producers and creating dual revenue (power + minerals) for geothermal partners.
- **Flexibility:** Ability to produce from different feedstocks (oilfield water, geothermal brine, etc.) due to our adaptable process design. This broadens the reachable resource base beyond what many competitors can process.

	Lithium Harvest Solution	Peer Benchmark
Lithium feedstock	Produced water /geothermal brine	Continental brine /spodumene
Project implementation time	12-18 months	5-15 years - up to 17.0× faster
Lithium carbonate production time	2 hours	2 hours - 6 months - up to 8,766× faster
Lithium yield	>95%	20-95% - up to 375% higher
Average footprint per mt of LCE	61 ft²	172 ft² - 39,352 ft² - up to 99% smaller
Environmental impact	Minimal	Soil and water contamination
Freshwater consumption per mt of LCE	22,729 gallons	26,417 - 118,877 gallons - up to 81% lower
CO_2 footprint per ton of LCE	Neutral	2.5 - 20.4 tonne - 100% lower
Average invested capital per mt of LCE	$17,100	$34,000 - $62,500 - up to 73% lower
Average cost per mt of LCE	$3,647	$6,000 - $7,000 - up to 48% lower

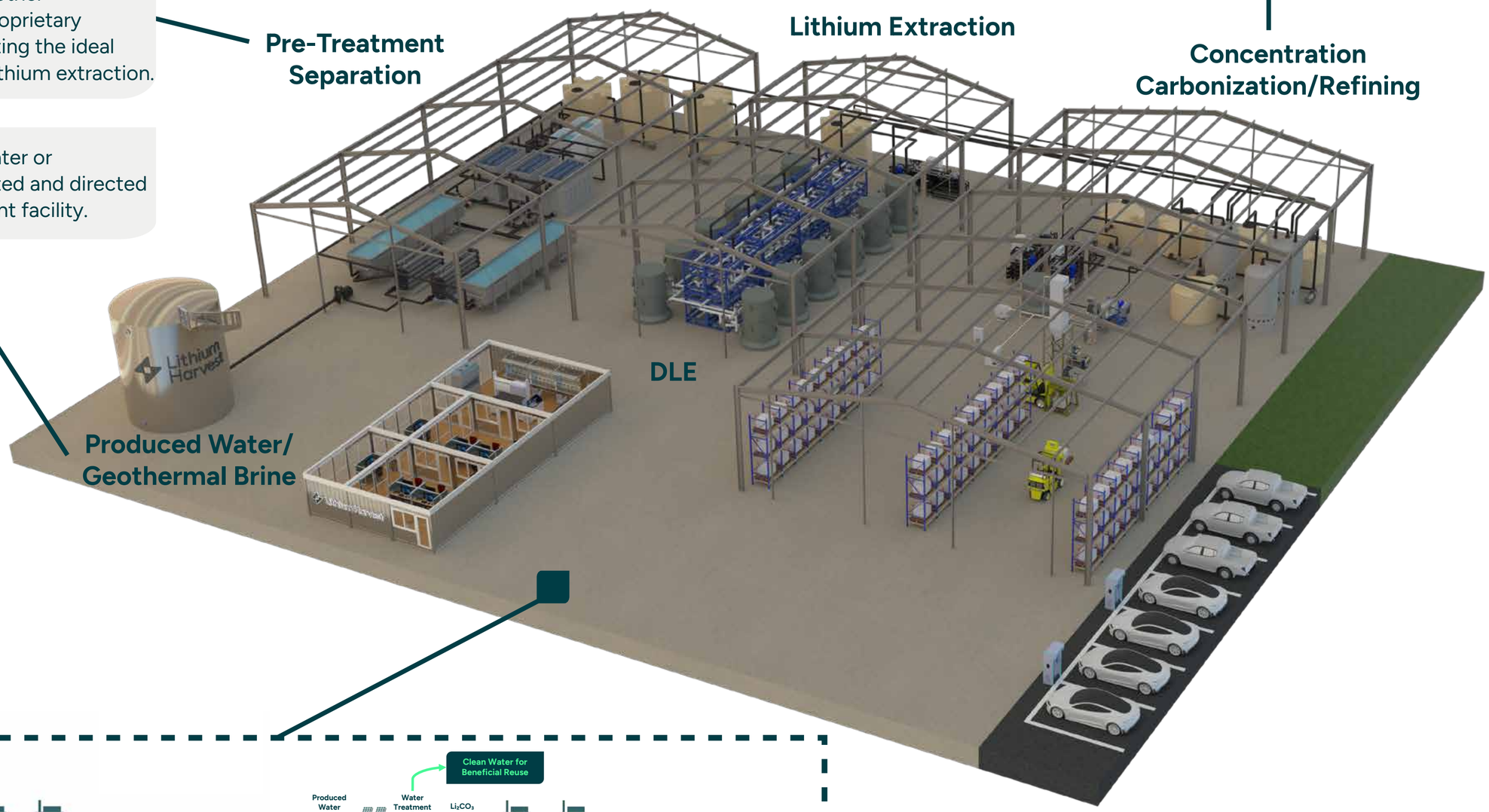
Our Process

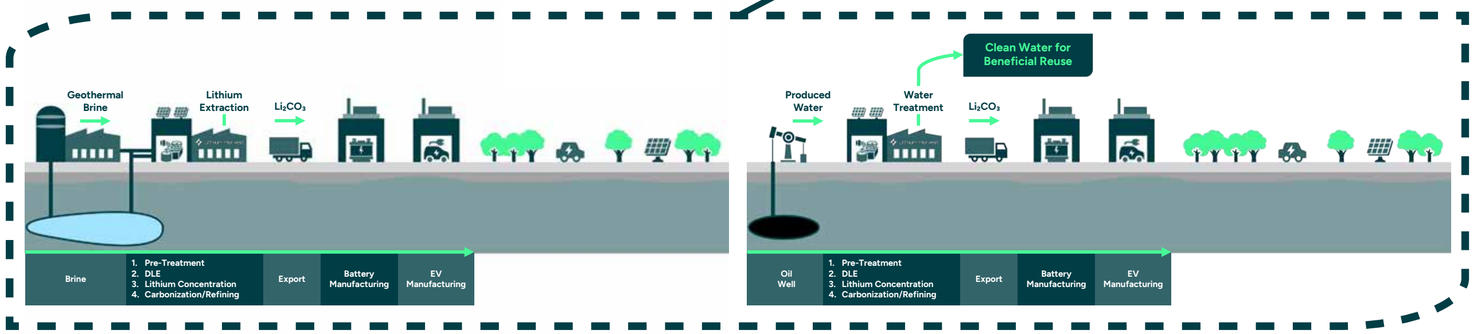
1. Collection: Produced water or geothermal brine is collected and directed to our co-located treatment facility.

2. Advanced water treatment: We remove solids, hydrocarbons, and other contaminants using our proprietary filtration technology, creating the ideal conditions for high-yield lithium extraction.

3. Lithium extraction: Lithium is efficiently extracted by DLE without using any chemicals.

4. Lithium refining: Lithium is refined into battery-grade lithium carbonate.

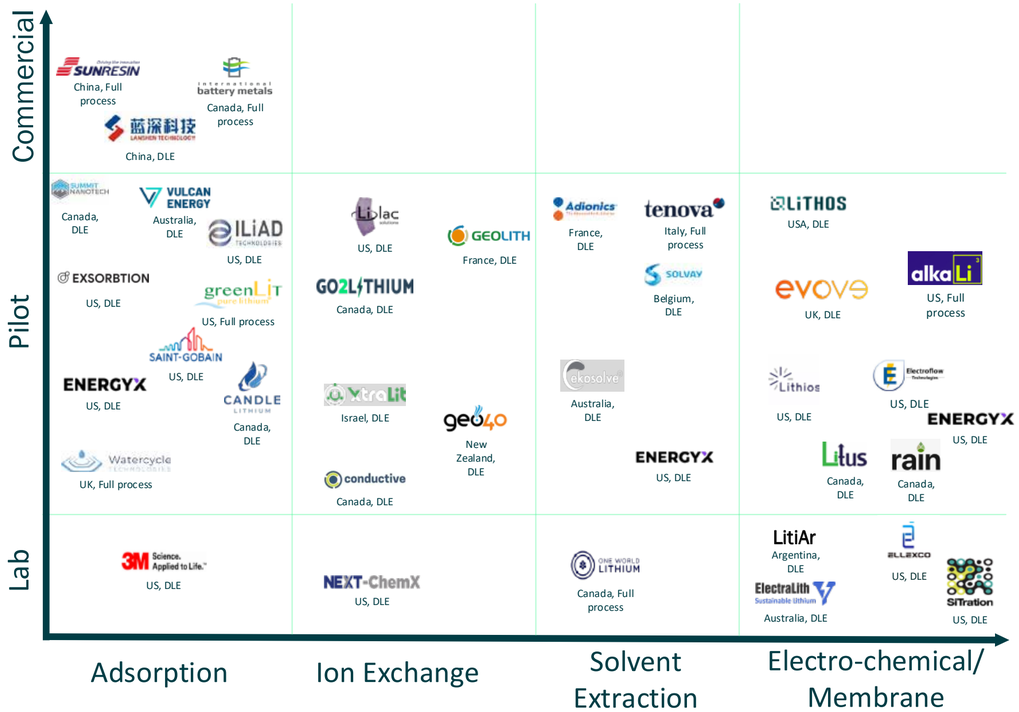




*20,000 bbl/d plant

Our DLE Technology Choice: Adsorption

Among DLE options, adsorption is the most commercially advanced today (with multiple industrial plants operating), and it best fits our cost, ESG, and deployment goals. The first industrial DLE plant, located in Hombre Muerto, Argentina (1998), has now been operational for over 25 years. China alone operates an adsorption capacity of over 100 kt LCE per annum. In short, the technology is bankable; what is new is applying it to oilfield wastewater.



The DLE Landscape (Quick Map)

- **Adsorption:** Lithium is adsorbed on the surface of the adsorption material and can be desorbed by simply washing with pure water (some adsorption materials use chemicals). Most mature, low-reagent, low-corrosion. Our chosen DLE supplier currently produces >75,000 tpa of LCE.
- **Ion-exchange (IX):** Ion exchange-based DLE involves exchanging lithium ions for cations within the structure of an active material. This process requires an acid solution to strip and recover the lithium. By exchanging lithium ions with other ions present in the solution, ion exchange-based DLE technologies demonstrate the potential to extract lithium effectively from complex brines containing high concentrations of various ions. IX has higher chemical consumption and EHS complexity.
- **Solvent extraction (SX):** Lithium brine is mixed with an organic solvent that has a stronger affinity to dissolve lithium than water. During the mixing, lithium will move from the brine to the organic solvent, and water and the organic solvent create two discrete phases; the organic solvent containing the lithium can be extracted. SX is chemistry-heavy, with higher CapEx/OpEx and more complex waste streams.
- **Other (membranes/electrochemical, etc.):** Other technologies cover a whole range of other technologies, most notably Li selective membranes. Li selective membranes will, as the name suggests, only allow lithium to pass through the separation. Many technologies in this category are electrochemically based and are primarily in an early-stage development stage with limited industrial runtime.

State of the Market (And Our Posture)

The DLE vendor field is crowded and won't all survive in the long-term - good news for a pure-play, modular buyer. Many DLE suppliers have been very keen to engage with Lithium Harvest and provide samples of their DLE materials. Competition gives us choice and leverage today; our testing program lets the best-performing media for each brine win on data, not promises.

Why Adsorption-Based DLE Is Our Choice

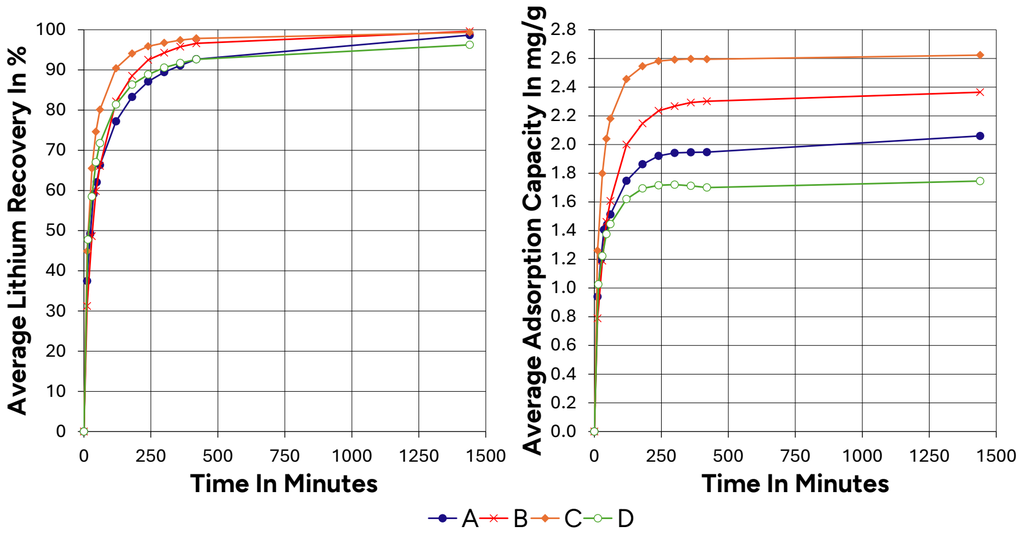
- **Maturity you can bank on.** Only DLE family with sustained, industrial-scale runtime and a genuine multi-supplier technology landscape.
- **Clean flowsheet.** Only water is used for desorption - no chemicals - cutting OpEx and eliminating hazardous waste.
- **Low system complexity.** Fewer moving parts, lower pressures/temperatures; higher uptime, easier O&M, and lower lifecycle costs.
- **ESG-fit by design.** Water-based elution, combined with high recycle rates, aligns with ESG screens and battery passport requirements.
- **Brine versatility.** Works across produced-water, geothermal, and other various brine chemistries when paired with our pretreatment - key to unlocking unconventional resources.
- **Supply-chain optionality.** Multiple qualified vendors and materials reduce single-source risk and improve pricing power.

How Do We De-Risk Performance

- **In-house qualification.** We test multiple adsorption media against project-specific brines (bench and column) to measure capacity/recovery/fouling, and run long-cycle durability tests.
- **Model-to-plant rigor.** Standard adsorption models (for example: kinetic/isotherm fits, breakthrough curves) feed our process simulations, so column data scales to module design.
- **Swap-ready design.** Our DLE module is "material-agnostic": vessels can be repacked with the optimal media/resin without redesigning the entire plant, future-proofing as sorbents improve.
- **Dual-source strategy.** We aim to qualify at least two suppliers per project to mitigate supply and performance variance.

Ongoing Development (Non-Dilutive)

Lithium Harvest operates in-house facilities to evaluate adsorption materials under project-specific brine conditions. This lets us verify vendor claims and generate apples-to-apples data on the exact brine chemistry for each site.



Across candidates, we observe rising lithium recovery and adsorption capacity over time, confirming robust extraction from brine. These results guide a material-agnostic selection process that optimizes both performance and price. We also conduct packed-column tests to characterize cycle dynamics, which informs the reliable scale-up to industrial modules.

Laboratory and column data are converted into parameters for well-established adsorption models (e.g., pseudo-second-order kinetics, isotherm fits, and breakthrough curves). We feed these parameters into our process simulation to evaluate full-plant configurations, stress-test operating windows, and converge on the most economical design. The outcome is model-to-plant rigor: lab data that translate directly into module sizing, cycle times, and throughput.

Grant-Backed R&D Momentum

Current work, supported by Eurostars and the Danish Board of Business Development (with a budget of US$2.1m), includes activities on shortening cycle times and extending sorbent life. This non-dilutive funding supports a rolling optimization program that continually improves unit economics and reduces the risk of commercial deployment.

Bottom line: Adsorption-based DLE provides the fastest and lowest-risk route to local, low-impact lithium. It is mature enough to deploy now, flexible enough to improve over time, and simple enough to scale by replication.

Direct Lithium Extraction - But Different

Our patented solution is Direct Lithium Extraction (DLE) based on adsorption technology. Using wastewater from oil & gas production and geothermal operations 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 Solution	Traditional DLE	Lithium Harvest Advantage
Project implementation time	12-18 months	5-7 years	No drilling permits needed
Lithium feedstock	Produced water / geothermal brine	Continental brine	No asset acquisition
System design	Modular and mobile	Mobile / stationary	Unique modular design
Freshwater consumption per mt of LCE	22,729 gallons	26,417 gallons	Water recycling/reuse
CO_2 footprint per ton of LCE	Neutral	2.5 tonne	Offsets CO_2 footprint from wastewater
Average invested capital per mt of LCE	$17,100	$62,500	No land acquisition, exploration, and drilling
Average cost per mt of LCE	$3,647	$6,000	Low energy technology

We Outpace Peers

	Lithium Harvest Solution	Traditional DLE	Solar Evaporation Brine	Hard Rock Mining
Lithium feedstock	Produced water /geothermal brine	Continental brine	Continental brine	Rock / spodumene
Project implementation time	12-18 months	5-7 years	13-15 years	10-17 years
Lithium carbonate production time	2 hours	2 hours	13-24 months	3-6 months
Lithium yield	>95%	80-95%	20-50%	40-70%
Average footprint per mt of LCE	61 ft^2	172 ft^2	39,352 ft^2	3,605 ft^2
Environmental impact	Minimal	Minimal	Soil and water contamination	Soil and water contamination
Freshwater consumption per mt of LCE	22,729 gallons	26,417 gallons	118,877 gallons	20,341 gallons
CO_2 footprint per ton of LCE	Neutral	2.5 tonne	3.1 tonne	20.4 tonne
Average invested capital per mt of LCE	$17,100	$62,500	$34,000	$60,000
Average cost per mt of LCE	$3,647	$6,000	$6,400	$7,000

Benchmark Mineral Intelligence, S&P Global, and International Lithium Association

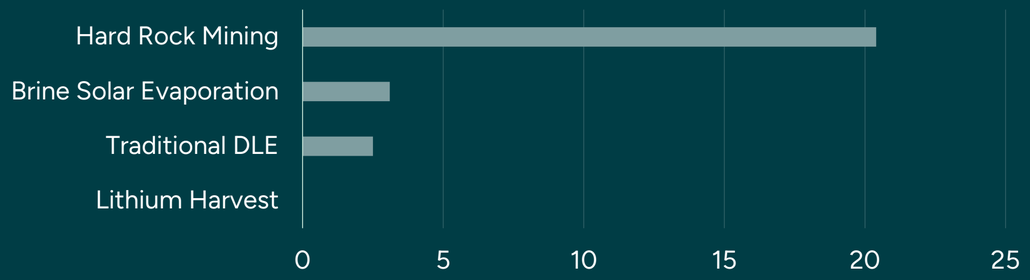
Difference Table (In Our Favor)	vs Traditional DLE	vs Solar Evaporation	vs Hard Rock Mining
Project implementation time	86% shorter	93% shorter	94% shorter
Lithium carbonate production time	Parity	99% shorter	99% shorter
Lithium yield	19% higher	375% higher	138% higher
Average footprint per mt of LCE	65% smaller	99% smaller	98% smaller
Freshwater consumption per mt of LCE	14% lower	81% lower	12% higher
CO_2 footprint per ton of LCE	100% lower (net-zero vs 2.5 t)	100% lower (net-zero vs 3.2 t)	100% lower (net-zero vs 20.4 t)
Average invested capital per mt of LCE	73% lower	50% lower	72% lower
Average cost per mt of LCE	39% lower	43% lower	48% lower

Tech Benchmark

- Environmental Impact

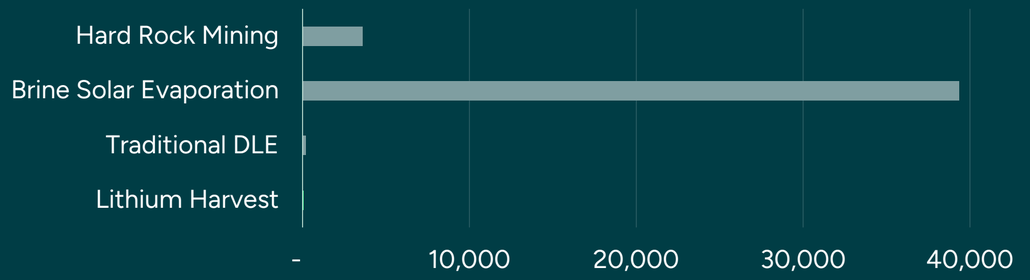
Carbon Intensity

(t CO_2 per t LCE)



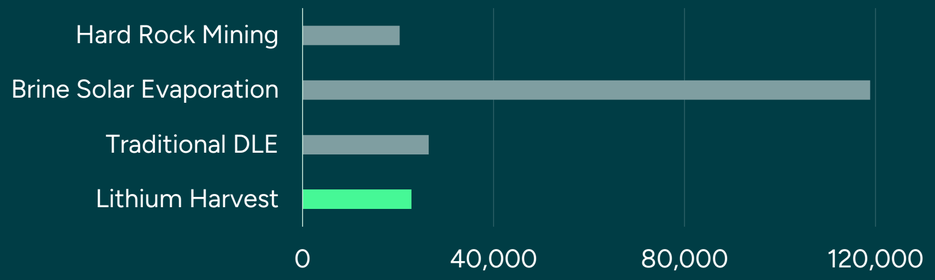
Facility Footprint

(ft^2 per t LCE)



Freshwater Consumption

(gal per t LCE)



Zero-Carbon Footprint

We remove the big emitters - no blasting, no trucking, no acid calcination. By co-locating extraction and refining at the source, powering low-pressure equipment with clean energy (incl. geothermal where available), and crediting the avoided emissions from oilfield wastewater disposal, Lithium Harvest essentially eliminates scope 1 and scope 2 CO_2 emissions.

Investor Takeaway: Lower-carbon premium: As lifecycle standards tighten worldwide, OEMs pay more for lithium that reduces pack-level emissions; our product helps them meet their Scope 3 targets.

Compact by Design; No Ponds, No Pits

Evaporation ponds sprawl across salt flats - tens of thousands of square feet per ton of LCE produced - while hard-rock pits, waste dumps, and tailings dams scar larger areas than the orebody itself. Lithium Harvest's operations are strategically located alongside produced water treatment centers and geothermal operations, which are 99% smaller than ponds and 98% smaller than open-pit mines. No new roads, pipelines, or wildlife relocation. Smaller pads = easier siting, faster permits, lower civil costs, and far less ecological and community disturbance.

Investor Takeaway: A minimal footprint shortens environmental reviews, lowers reclamation bonding, and reduces residual-liability discounts in valuation models.

Minimal Freshwater Consumption

Traditional brines evaporate vast volumes in arid basins; hard-rock circuits require chemically intensive process water. We chose an adsorption-based DLE that uses water as desorption - not chemicals - as the working fluid; 96% of that water is within the DLE circuit, and 90% is recycled plant-wide: no waste-products.

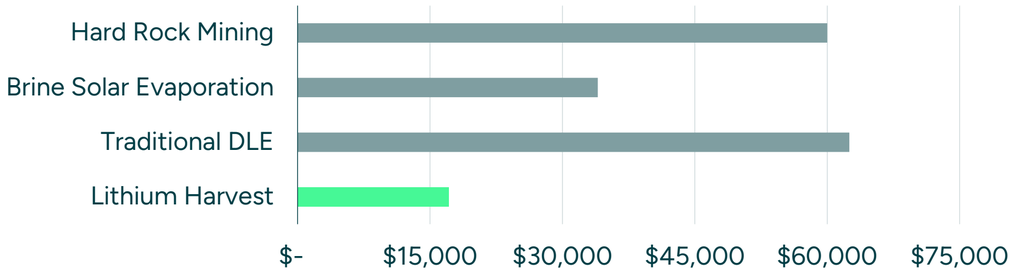
Why a bit more water than hard rock?
Using water rather than chemicals lowers costs; we materially undercut evaporation's freshwater intensity and remain competitive with other DLE routes, while avoiding the hard-rock chemistry burden.

Investor Takeaway: License to operate: Water stress is a gating criterion for offtakers and sustainable bond buyers. Our closed-loop design clears that hurdle.

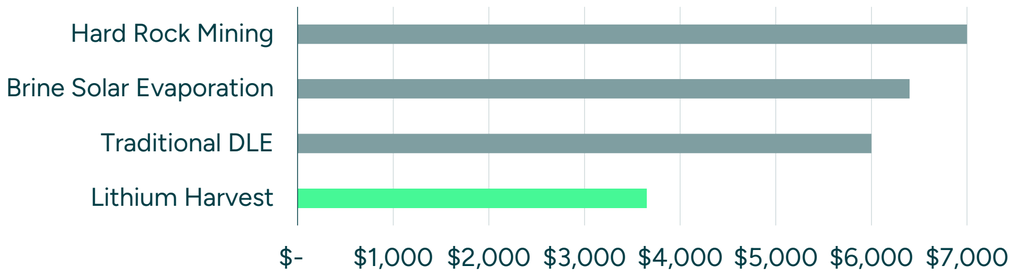
Tech Benchmark

- Business Case

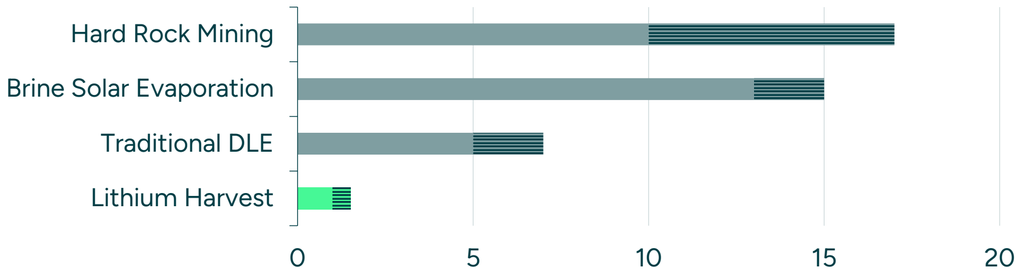
Capital Intensity
(USD per t LCE)



Operating Cost
(USD per t LCE)



Project Implementation Time
(Years)



Optimized Capital Expenditure

Ponds require massive earthworks and working-capital tied-up for years before first revenue; hard rock mines require a substantial upfront investment in mine development, mineral concentrators, and conversion plants. We have streamlined the initial investment in lithium extraction infrastructure. By eliminating the need for land acquisition and drilling rights, we have significantly reduced CapEx. Modular design right-sizes equipment to brine flow, so dollars go to throughput, not dirt. Lower upfront capital and quicker installation result in a shorter payback period.

Investor Takeaway: Lower capital at risk and shorter build cycles translate into quicker payback and positive project economics at mid-cycle prices.

Cost Leadership in Lithium Production

Heavy mining, diesel haulage, 1,000°C kilns, and multi-step chemical conversion make hard-rock the cost laggard; evaporation recovers only 20-50% of contained lithium, wasting reagents and labor. We run fully automated, low-pressure unit operations, short logistics, high lithium recovery, and minimal reagents after pre-treatment all reduce run-rate costs. Fixed-price access to waste-stream feedstock removes a significant input volatility seen in mined ore routes. Result: lower steady-state unit cost and resilience at the bottom of the price cycle. Our costs are up to 48% lower than traditional mining methods, positioning us as one of the leaders.

Investor Takeaway: Lower steady-state unit costs keep us cash-positive through price troughs, while higher-cost peers idle.

Accelerating Project Timelines

We have transformed the timeline for bringing new lithium operations online. Conventional projects typically take 10-17 years (for hard-rock) or 13-15 years (for evaporation) to reach nameplate capacity. We use existing produced-water/geothermal infrastructure - no new pits, ponds, or long pipelines - and commission on-site extraction and refining in 12-18 months.

Investor Takeaway: Speed secures early-market premiums and lets us compound cash into additional modules long before slower competitors break ground. FID to first tonne in just over a year.

CapEx Benchmark

CapEx per t LCE - Peer Benchmark

Company	Planned mt LCE Capacity	CapEx	CapEx/mt of LCE	Operation Type	Company Origin	Operations
Tibet Summit Resources	150,000	$2,100,000,000	$14,000	Direct Lithium Extraction (DLE)	China	Argentina
Lithium Harvest			**$17,100**	Direct Lithium Extraction (DLE)	Denmark	North America
Zijin Mining Group Company Limited	20,000	$370,551,000	$18,528	Direct Lithium Extraction (DLE)	China	Argentina
CleanTech Lithium	20,000	$450,000,000	$22,500	Direct Lithium Extraction (DLE)	UK	Bolivia
SIMCO LITHIUM	20,000	$546,000,000	$27,300	Direct Lithium Extraction (DLE)	Chile	Chile
EnergyX	Not disclosed	Not disclosed	$28,500	Direct Lithium Extraction (DLE)	US	Chile
Pure Energy Minerals	10,300	$297,000,000	$28,835	Direct Lithium Extraction (DLE)	Canada	US
Grounded lithium	11,000	$335,000,000	$30,455	Direct Lithium Extraction (DLE)	Canada	Canada
Eramet	24,000	$735,000,000	$30,625	Direct Lithium Extraction (DLE)	France	Argentina
Power Minerals Limited	7,061	$216,550,000	$30,668	Direct Lithium Extraction (DLE)	Australia	Argentina
Alpha Lithium (Tecpetrol)	25,000	$777,000,000	$31,080	Direct Lithium Extraction (DLE)	Canada	Argentina
Anson Resources	13,074	$495,000,000	$37,861	Direct Lithium Extraction (DLE)	Australia	US
Exxon Mobil	50,000	$2,000,000,000	$40,000	Direct Lithium Extraction (DLE)	US	US
Rio Tinto	60,000	$2,500,000,000	$41,667	Direct Lithium Extraction (DLE)	UK	Argentina
EMP Metals	12,175	$571,000,000	$46,899	Direct Lithium Extraction (DLE)	Canada	Canada
Arizona Lithium	6,000	$290,000,000	$48,333	Direct Lithium Extraction (DLE)	Australia	Canada
Lake Resources	25,000	$1,380,000,000	$55,200	Direct Lithium Extraction (DLE)	Australia	Argentina
Vulcan Energy	24,000	$1,390,000,000	$57,917	Direct Lithium Extraction (DLE)	Australia	Germany
Lithium Bank	34,000	$2,160,000,000	$63,529	Direct Lithium Extraction (DLE)	Canada	Canada
Standard Lithium SWA	22,400	$1,450,000,000	$64,732	Direct Lithium Extraction (DLE)	Canada	US
Standard Lithium Phase 1A	5,400	$365,000,000	$67,593	Direct Lithium Extraction (DLE)	Canada	US
LibertyStream Infrastructure Partners Inc. (Volt)	23,031	$1,549,000,000	$67,257	Direct Lithium Extraction (DLE)	Canada	US
E3 Lithium	32,250	$2,470,000,000	$76,589	Direct Lithium Extraction (DLE)	Canada	Canada

CapEx Intensity vs DLE Peers ($/tpa of LCE) Analysis

- **Positioning:** Lithium Harvest (LH) reports $17,100/t CapEx intensity. Among our peer set of 22 disclosed DLE projects, observed CapEx/mt spans $14k-$76.6k, with a median $38.9k and mean $42.3k (unweighted). A capacity-weighted average is $37.7k/t (where both capacity and CapEx are disclosed). At $17.1k/t, Lithium Harvest sits in the very bottom of the distribution (5th percentile), i.e., among the lowest CapEx/t observed in the set.
- **Relative gaps (Lithium Harvest vs peers):**

vs median ($38.9k):	vs mean ($42.3k):	vs capacity-weighted avg ($37.7k):	vs p25 ($29.2k):	vs p75 ($57.2k):
-56%	-59.6%	-54.6%	-41.4%	-70.1%

Nearest neighbors in the file:

- Zijin Mining Group $18,528/t (+$1.4k vs LH)
- Peer-set minimum $14,000/t (-$3.1k vs LH)
- CleanTech Lithium now sits further above at $22,500/t (+$5.4k vs LH)

- **Distribution & dispersion:** Unweighted distribution (n=22) - min $14k, p25 $29.2k, median $38.9k, p75 $57.2k, max $76.6k, mean $42.3k. Range ~5.5× (max/min), IQR ~$28k - wide spread even within DLE.
- **Scale signal:** Where capacity was disclosed (n=21), capacity vs CapEx/t shows a modest inverse correlation ~-0.27. Larger plants tend to have lower unit CapEx, but scope, site, and chemistry drive most of the variance.
- **Why this matters:** At $17.1k/t, Lithium Harvest is in the lowest-cost decile with material headroom versus both unweighted and capacity-weighted peer averages. This positioning can absorb scope growth, inflation, or contingency and remain near Q1, preserving a clear capital-efficiency edge in this disclosed DLE set.

Investor Takeaway:

1. **Top-tier unit CapEx:** Lithium Harvest's $17.1k/t is ~56% below the peer median and ~55% below the capacity-weighted average in this benchmark.
2. **Resilience to scope drift:** The $21.8k/t gap vs the median provides material headroom for scope additions while preserving a Q1 position, assuming like-for-like scope.
3. **Scale helps, but isn't destiny:** With corr ~-0.27, design choices and site specifics likely explain most dispersion - Lithium Harvest's outcome reflects choices and conditions beyond scale.

Disclaimer: The file does not standardize CapEx scope, estimate class, and base year. Not all lithium projects are included; conclusions apply to this dataset. Rankings may shift after scope and inflation normalization. Outcomes may differ due to scope changes, inflation, permitting, and execution risk.

Source: Lithium Harvest Internal Analysis

OpEx Benchmark

OpEx Position on Peers' Lithium Cost Curve

- **Bottom-decile cost profile with clear resilience.** On a volume-weighted, plant-gate LCE cost curve built from the provided dataset (95 projects; 3.85 Mtpa), Lithium Harvest's cash operating cost is $3,647/t LCE. The market's weighted P50/P75/P90 sit at $7,443/$11,300/$20,100 per tonne. At this level, Lithium Harvest plots around the 2nd percentile on the global cost curve.
- **Cost advantages:**

Vs market medians

vs P50:	–$3,796/t
vs P75:	–$7,653/t
vs P90:	–$16,453/t
Vs unweighted median:	–$4,040/t

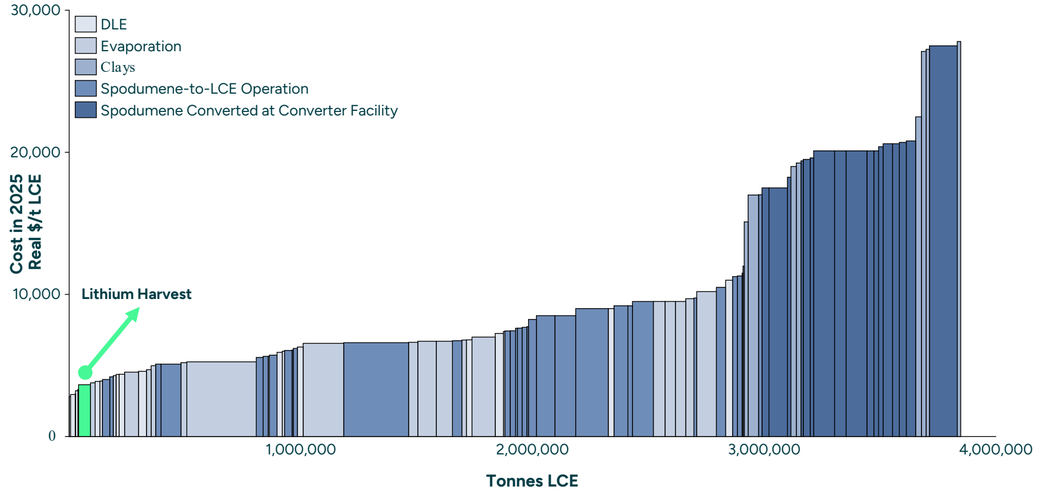
Vs technology medians (weighted P50):

Traditional DLE	–$941/t
Hard Rock Mining	–$2,903/t
Solar Evaporation	–$5,353/t
Clay	–$15,603/t

Where Lithium Harvest sits on the curve

Weighted P10 threshold:	$5,092/t
Weighted P25 threshold:	$6,080/t

Lithium Harvest at $3,647/t is below the P10 band and ranks at ~1.7th percentile by volume, confirming a bottom-decile operating cost position.



**Disclaimer: Illustrative and incomplete; not all projects shown. OpEx comes from mixed sources with differing definitions (cash OpEx vs AISC) and bases (plant-gate vs delivered), and some omit sustaining costs. Many "low-cost" figures are 3+ years old and pre-date input, energy, and labor inflation. Analysts indicate Western projects often need ~$20/kg to be incentivized, so some headline costs may be understated. Data as of Oct 2025.*

Investor Takeaway: Lithium Harvest operates well below the market median and below the medians of all major extraction routes. This cost position supports strong free-cash conversion across price scenarios, improves contractability with tier-one buyers, and reduces reliance on high prices to meet return thresholds.

Conclusion: Lithium Harvest operates well inside the bottom decile of peers' operating costs with meaningful headroom to market-clearing bands, positioning the company for durable margins and disciplined growth.

Source: Benchmark Mineral Intelligence, Lithium Harvest Internal Analysis, Industry- and Investor Presentations

Our Feedstock Advantage

Waste Streams Into Bankable Supply - Fast, Local, De-Risked
Transforming produced water and geothermal brines into carbon-neutral, battery-grade lithium faster and cheaper than any green or brown field mine. Where others hunt for new deposits, we tap what already flows at an industrial scale. Our plants co-locate on two continuous brine sources:

Produced Water - Abundant, Forecast-Proof Feedstock

- Oil & gas operations generate 2-6 bbl of produced water for every barrel of oil produced - a lithium-rich waste stream which is seen as a cost center.
- Global oil demand rises is set to increase from 102 mb/d (2023) to 120 mb/d by 2050 (+18%), implying a proportional lift in produced-water volumes - larger than any conventional lithium resource.
- Surface access = no drilling, no evaporation ponds, fixed price feedstock - one of the lowest CapEx/OpEx profiles in the lithium sector

Geothermal Brines - Power + Critical Minerals in One Loop

- Conventional geothermal capacity is on track to grow ~50% from ~15 GW (2023) to ~22 GW by 2030 and to ~60 GW by 2050.
- Rising throughput means brine flow projected to triple between 2023 and 2050, creating a second, dispatchable feedstock with built-in renewable power.

Why These Fluids Win

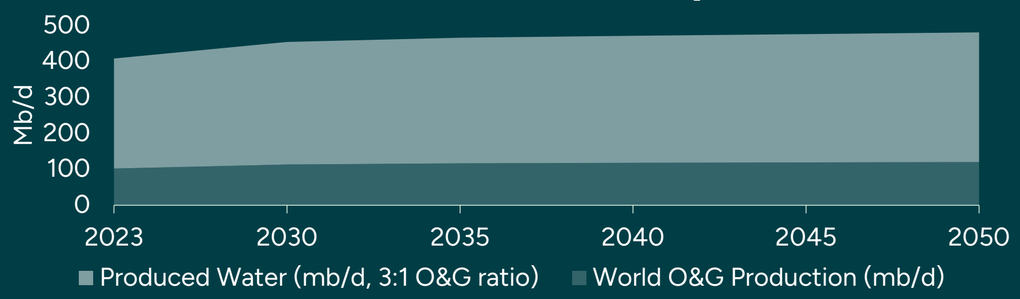
Advantage	Impact
Abundant & forecast-proof	Volumes are tied to long-life oilfields and expanding geothermal capacity - not speculative greenfield exploration.
At-surface access	No new pits, no evaporation ponds, no long haul to refineries. We "bring the plant to the brine," cutting lead time and logistics risk.
Infrastructure leverage	Pads, power, roads, water handling, injection permits already in place → lower CapEx, faster schedules, easier permits.
Local, secure supply	Local and domestic diversified supply reduces exposure to centralized global bottlenecks. Diversify supply away from Australia-Chile-China dominance.
Fast to cash flow	Modular lithium extraction begin production in 12-18 months, not 5-17 years for new mines.
ESG upside	Turning a liability into lithium products minimizes land, emission, and freshwater draw; polished brine is reinjected or beneficial reuse - waste-to-value by design.

Data-Driven Site Selection
Backed by public programs (Danish Eco-Innovation Programme (MUDP) under the Danish Ministry of the Environment) and a database of ~200,000 water samples, we target the best brine streams by grade, chemistry, flow, and proximity to demand. Our pretreatment and adsorption DLE handles varied chemistries across produced water and geothermal applications. Ongoing R&D also evaluates multi-mineral recovery (e.g., Mg) to lift project value.

Integrated Upside for Oil & Renewables

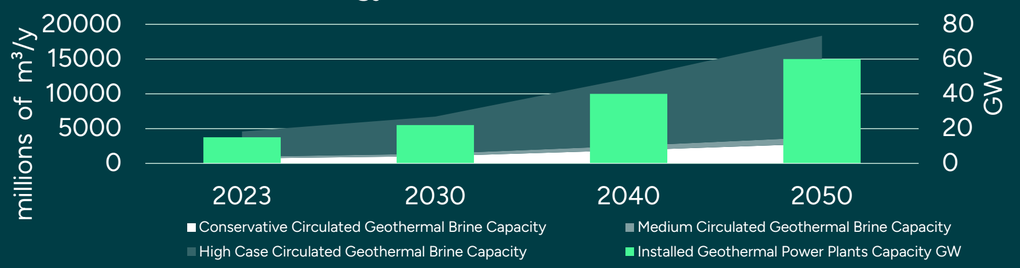
- **Not a replacement, an add-on.** Even under aggressive climate scenarios, oil remains ~50% of the energy mix in 2050; we monetize its wastewater into lithium without requiring new drilling. EVs shave only ~5% of oil demand.
- **Cash flow + growth.** Midstream infrastructure keeps throwing off returns while funding rapid, modular lithium expansion.
- **Strategic security.** Domestic fluids diversify supply away from Australia, Chile, and China, reducing geopolitical and ESG risks.
- **Integrated upside.** One value chain funds the other: legacy infrastructure monetizes the clean-tech boom while cutting the cost and CO_2 of critical mineral supply.

Global Oil & Gas Output



Global Growth Ahead:

Geothermal Energy & Brine Circulation Volumes on the Rise



Investor Takeaway: Existing flows+existing infrastructure = speed, scalability, and security. Produced water and geothermal brines provide Lithium Harvest with a large, local, policy-aligned resource base that can be monetized within 12-18 months, and sold into premium offtakes seeking low-impact, regionally sourced lithium.

Source: IEA, OPEC, IEA, and Lithium Harvest Internal Analysis

What Sets Us Apart

Our moat is real & IP-protected.
Unlike many direct lithium extraction (DLE) companies, which are still in pilot phases or focused solely on the DLE step, Lithium Harvest is built differently. We own an IP-protected, end-to-end process for extracting lithium from oilfield wastewater, including pre-treatment, DLE, and post-treatment, all tuned for surface-level feedstock. This is not generic DLE. It is a fully integrated, highly engineered system refined over decades of real-world operational experience.

We're water engineers, not mining theorists.
While most lithium startups are built by geologists or financiers and struggle with scale-up, our team brings 20+ years of water treatment deployment and over 400 full-scale systems installed across oil & gas and industrial sectors. We have worked with every technology we use in our flow sheet, not in lab pilots, but in full-scale, high-uptime environments. That experience gives us unmatched expertise in:

- Conditioning complex brines to maximize lithium yield
- Control fouling, scaling, and other performance-killing risks
- Managing resin life, media performance, and system balance
- Integrating unit operations into a fully optimized, low-cost lithium extraction solution.

This deep operational knowledge enables us to achieve battery-grade consistency and project-level value where others typically struggle.

Designed, built, and operated in-house.
We do not outsource to engineering firms that use generic templates and have conflicting incentives. Our systems are designed, engineered, built, and operated in-house. This gives us tighter control over:

- Lower CapEx through lean, fit-for-purpose design
- Faster troubleshooting and performance tuning
- Operational knowledge retained on-site, not lost in handovers

Our Design-Build-Own-Operate (DBOO) model ensures cost discipline, operational control, and long-term asset performance - critical for project economics and investor returns.

(Note: Most competitors must contract third-party engineers who bring their own preferences and agendas. They must also determine who operates what, understand how it works, and learn how to fix it when it breaks. Every system is different - and that is where things often go wrong. Our integrated approach avoids this entirely.)

Integration is our superpower.
In DLE, success is not just about the extraction technology - it is about how you integrate all the upstream and downstream steps. Poor pre-treatment or inadequate refining can ruin recovery rates or disqualify the product for battery use. Many DLE players optimize the "DLE box" and underestimate pre- and post-treatment; we do not. We have built our system to optimize every stage - because the value lies not just in recovering lithium, but in qualifying product and minimizing losses at every step. This is why we achieve higher project value per tonne of lithium.

Why is this hard to copy
- **IP barrier** - Patent-protected process for extracting and refining lithium from oilfield wastewater
- **Tacit know-how** - Brine conditioning, resin chemistry, and fouling management cannot be fast-tracked
- **Systems integration** - A tuned, interoperable process train takes years to develop, not months
- **DBOO operating model** - On-site, integrated delivery removes layers of third-party risk and cost
- **Offtake Stickiness** - Battery-grade qualification creates high switching costs; once qualified, producers rarely change suppliers

Investor Takeaway: Our moat is a combination of protected process IP, surface-feedstock access, proprietary full-process water-treatment expertise, and an on-site DBOO model. Together, these advantages create a system that is faster to build, cheaper to operate, and structurally more complex to replicate and built for lower CapEx/OpEx - delivering superior project economics and long-term defensibility.

Sustainability

Lithium Harvest

Sustainability Ladder

Our model multiplies sustainability gains at every step of the value chain - a four-rung ladder that climbs from waste streams to clean energy.

1. Making Lithium More Sustainable

Compared to traditional lithium mining, we save:

Impact area	Savings per t LCE	Real-world equivalent (per t of LCE)
CO_2 emissions	20.4 t CO_2	4.4 cars off the road for a year
Land footprint	39,291 ft²	0.68 football fields
Freshwater consumption	96,148 gal	3.37 standard pools

**Assumptions & notes: average passenger car ≈4.6t CO_2/year; US football field incl. end zones ≈57,600 ft²; standard pool ≈28,530 gal.*

2. Improved Water & Resource Management

We help oil & gas, as well as geothermal, operators turn liability into low-impact value.

- **Resource circularity.** Wastewater becomes a raw material: produced water feeds lithium recovery; geothermal brine delivers two climate solutions from a single loop (power + critical minerals).
- **Accelerated decarbonization.** Using oil & gas, as well as geothermal streams, as feedstock enables fast, local, and low-carbon lithium for EVs and BESS - resulting in shorter supply chains and lower embedded emissions.
- **Beneficial water repurposing.** After treatment, fluids are reinjected to maintain reservoir balance or routed to approved non-potable uses (where permitted), cutting freshwater withdrawals.

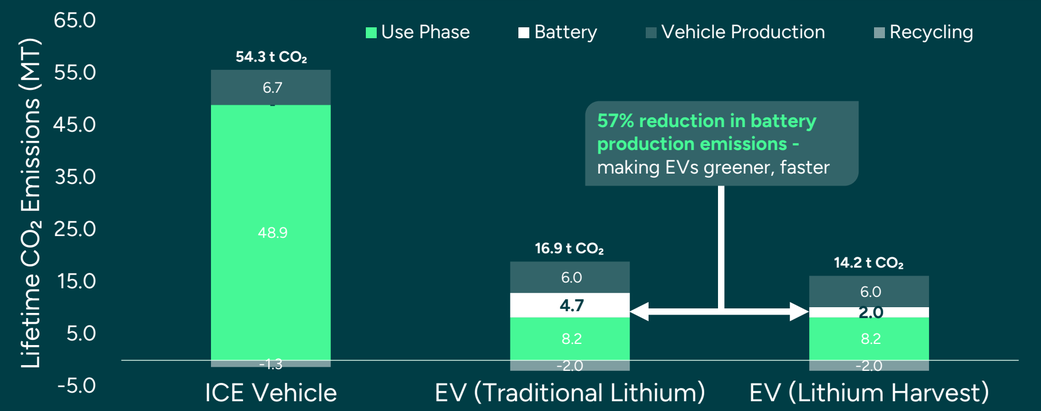
3. Making EVs Even Greener

EVs already win on climate.

Key indicator	ICE	EV (traditional mining)	EV vs ICE
Lifetime CO_2	54.3 tonne	16.9 tonne	-69%
Up-front battery CO_2	-	4.7 tonne	+4.7 tonne
Breakeven distance vs ICE	-	11,335 mi/18,243 km	-
Global CO_2 EVs can avoid by 2035	-	2.6 Gt	-

How Lithium Harvest turbo-charges those gains.

Key indicator	EV (traditional mining)	EV (Lithium Harvest)	Impact
Battery CO_2	4.7 tonne	2.0 tonne	-57%
Lifetime EV CO_2	16.9 tonne	14.2 tonne	-16% (-74% vs ICE)
GHG breakeven vs ICE	11,335 mi/18,243 km	1,982 mi/ 3,190 km	5.72× sooner - 83% fewer km
Water saved per car	-	17.6 m³	>90 water recycling/reuse
Land saved per car	-	141 m²	No new pits or ponds



**Assumptions: 225,000 km lifetime, medium car, EU27 use, EV battery made in the EU. Figures are estimates and may vary by model, driving, energy mix, and method.*

4. Fastest Way to Cut Emissions

Reality check	What the data show (2024)	Implication for investors
Emissions keep rising	Global GHG emissions hit a new record 53.2 Gt CO_2-eq in 2024, up 1.3% year-on-year. Fossil CO_2 still makes up 74.5% of the total.	Climate-asset risk is accelerating; solutions that bend this curve gain premium valuations.
Main drivers	Power generation remains the single-largest source, ~29% of global GHGs. Transport is the No. 2 sector, responsible for ~16% of emissions.	Decarbonizing these two sectors unlocks the fastest, deepest abatement potential.
Why fossil CO_2 dominates	Combustion of coal, oil and gas alone accounts for three-quarters of all GHGs.	Cutting fossil demand in power & mobility delivers outsized climate leverage.
Fastest path to large-scale cuts	Electrify transport - EVs already avoid 2.6 Gt CO_2 by 2035. Expand renewables; Solar, wind & storage supplied almost 75% of the growth in global power generation in 2024.	Both depend on massive, timely volumes of battery-grade lithium with rock-bottom Scope 1-3 footprints.
Lithium Harvest's multiplier effect	Zero-carbon, on-site lithium extraction eliminates up to 57% of battery lifecycle emissions vs. traditional mining. Fast-to-market sustainable lithium short-circuits supply bottlenecks, enabling EV and storage capacity to decarbonize sooner.	Supplying clean lithium at the source enables every downstream EV, grid-storage pack, and renewable-power project to deliver more CO_2 abatement per dollar invested.

Decarbonizing power generation and transportation are the world's quickest emissions lever, but it cannot happen without an immediate, responsible supply of battery minerals. By turning waste brines into zero-carbon lithium, Lithium Harvest attacks the largest sources of CO_2 and compounds sustainability up the value chain.

Source: IEA, ICCT, EDGAR Community Database, and Lithium Harvest Internal Analysis

Business Model

Lithium Harvest

Feedstock Agreements

Industry Context - And Where We Fit

Oil and gas operators have spent the last 15 years moving from vertically integrated models to partnership-driven operations. Investor pressure favors asset-light, high-return strategies, so E&Ps increasingly outsource non-core infrastructure. Water handling has followed suit. What began as a trucking-heavy afterthought has evolved into a specialized domain with resolute midstream players, long-term service contracts, and scale economics. The result is clear: do what you do best, and partner for the rest.

Produced water is no longer just a cost center; it is a valuable resource. Treat-for-reuse/recovery often beats disposal on price, and logistics widen the spread. In some basins, freshwater and reuse pricing are converging. Chemistry still needs to pencil, but the direction is clear.

Produced Water Handling - Current Ranges

Cost element	Typical $/bbl. range
Baseline salt-water-disposal (SWD) fee	$0.25 - $2.50 - We have seen costs as high as $8/bbl.
Transport to SWD	≤$0.30 (pipeline) to $1-$2.50 (trucking long-haul)
Water-injection for EOR (reinjection into a producing zone)	$1-$3

Geothermal operators face a different but related challenge. Their baseload output is valuable, yet markets do not always price their reliability. Lithium recovery from geothermal brine changes the equation by offering dual revenue streams and improve project bankability. In short, many geothermal operators confront tight economics and limited growth prospects under traditional single-revenue business models.

This is where Lithium Harvest's model fits. We design, build, own, and operate co-located extraction plants that convert produced water and geothermal brines into battery-grade lithium. Our partners keep their balance sheets focused on core operations while we take on process design, integration, operation, and performance. The value proposition is straightforward:

- Reduce produced water management costs
- Create a new revenue stream from existing brine flows
- Improve environmental performance with minimal operational burden
- Capital-light, contract-driven returns

How We Contract - Built for Operators

Our contracting approach mirrors how operators already buy critical services. We structure long-term feedstock agreements and deliver guaranteed performance under a DBOO (Design, Build, Own, Operate) model. Operators supply brine under agreed specs. We manage the extraction, processing, and sales of our products. Partners participate in the upside without adding headcount or building plants.

Business Scenarios

	Joint Venture (Co-location | co-investment)	Royalty License (Co-location | Lithium Harvest 100% investment)
Overall	A joint venture that generates profit and establishes our partners as pioneers in the sustainable lithium market, driving both profitability and environmental leadership.	Partner earns royalties from produced water/brine while boosting ESG profile by contributing to sustainable water and resource management through lithium extraction.
Partner contribution	Provide treated produced water, location, SWD well, and co-investment.	Supply location, treated produced water, and SWD well.
Lithium Harvest role	We design, build, and operate the plant, leveraging our patented solution for lithium extraction.	We design, build, and operate the plant, leveraging our patented solution for lithium extraction.
Investor signal	Capital-efficient scale-up for Lithium Harvest - fast-tracks deployment through partner/project capital.	100% ownership of high-margin lithium volumes for Lithium Harvest, while partner incentives speed contract signings - no capital bottleneck.

A consistent DBOO model de-risks execution, cements strong operator partnerships, and seeds a repeatable pipeline of projects - driving faster scale and resilient, high-quality earnings for shareholders.

Outcome	What it means in practice	Why shareholders care
Faster deployment	JV: Partner capital accelerates funding and site enablement. DBOO with royalty-based feedstock: single-sponsor financing, standard docs, and no partner CapEx approval shorten decision cycles; co-location and tie-ins often streamline site integration.	More plants online sooner turn market up-cycles into near-term volumes and valuation uplift.
Diversified cash flows	Mix of product sales from DBOO plants (100% LH) and distributions from JVs, spread across multiple operators, basins, and pricing mechanisms.	Reduces concentration risk so a single project, counterparty, or pricing dip does not stall cash flow.
Margin quality and visibility	High-margin lithium product revenue; royalties are predictable, contracted obligations that improve margin planning; JVs add recurring distributions.	Better predictability supports premium multiples and healthier free cash flow.

Geographic Focus & Go to Market Models

Region	Model
North America/Ant Antics	DBOO
Europe	DBOO
South America	DBOO
Asia Pacific	Technology licensing
Middle East	Technology licensing

Offtake Agreements

Structured Offtake Agreements to Scalable Growth
At Lithium Harvest, our go-to-market strategy for lithium chemicals is built on a foundation of structured offtake agreements and long-term price visibility. Rather than exposing early-stage production to the volatility of spot markets, we are securing futures-based sales contracts with strategic partners to support financial stability, de-risk operations, and enable scalable capacity expansion.

Lithium Pricing Mechanisms Overview

Pricing Mechanism	Description	Risk profile	Typical buyer	Timing
Spot sales	Sold at current market price; immediate delivery	High (volatile)	Traders, brokers, surplus buyers	Short-term
Fixed-price futures	Contracted in advance at a predetermined price	Medium-Low	Traders, Tier-2 battery manufacturers	6-36 months
Indexed pricing	Linked to market indices (e.g., LME, Fastmarkets, BMI) with an agreed formula	Medium	OEMs, strategic buyers	Mid- to long-term
Hybrid (floor/ceiling)	Indexed pricing with a pre-defined price floor and cap	Low (hedged)	Traders, Tier-2 battery manufacturers	Multi-year
OEM strategic contracts	Long-term offtake with ESG compliance, custom terms, and volume commitments	Low (strategic)	EV OEMs, battery gigafactories	Long-term (3-10 years)

Our initial production volumes will be sold through contracted offtake agreements with traders, specialty chemical companies, and tier-2 battery manufacturers - buyers who prioritize secure, ESG-compliant, high-purity lithium. These early-stage contracts provide predictable revenue and commercial validation, which are essential for reinvestment and accelerating our modular deployment strategy.

Lithium Harvest's Phased Sales Strategy

Phase	Production level	Sales model	Target buyers	Pricing mechanism	Strategic goal
Phase 1	Early volumes (low scale)	Offtake agree-ments & futures	Traders, Tier-2 battery makers, chemical firms	Fixed price or hybrid	Secure cash flow
Phase 2	Mid-scale production	Mix of futures +indexed sales	Tier-1 battery producers, large traders	Indexed + hybrid	Enable flexible pricing and improve margin capture
Phase 3	Large-scale output	Direct long-term contracts	EV OEMs, battery giga-factories	Indexed + floor/ceiling	Establish strategic partnerships and vertical integration

Alongside structured offtakes, we may layer simple swaps/collars on a portion of volumes and hedge key inputs/FX to stabilize cash flow.

OEM Upstream Movement Is Accelerating Market Access
The traditional sales path through intermediaries is now being accelerated by OEM behavior. Major EV and battery OEMs are moving upstream - acquiring stakes in projects, signing long-term offtakes, and locking in sustainable supply early to ensure future production. This shift increases the likelihood of Lithium Harvest securing OEM partnerships sooner than expected, particularly given our:

- Carbon-neutral, ESG-compliant extraction process
- Domestic and traceable supply
- Fast-to-market modular model
- Co-location strategy that minimizes CapEx and OpEx

To meet the volume expectations of large buyers, we may also partner with other lithium suppliers to aggregate offtake volumes - enhancing commercial leverage, access to larger contracts, and improving logistics, pricing, and buyer confidence.

Capacity ramp and phase-gated offtake strategy:
Early phases prioritize futures-based offtakes with traders and tier-2 battery makers to secure price visibility while we ramp production. We will enter Phase 3 OEM agreements once installed nameplate capacity reaches OEM-relevant volumes, enabling bankable, multi-year commitments at the scale large buyers require.

Strategic Summary
By combining structured offtake agreements, a modular and scalable production model, and aligning with the evolving procurement behavior of OEMs, Lithium Harvest is positioned to:

- Generate stable early-stage margins
- De-risk project financing
- Build long-term, high-value partnerships
- Accelerate growth within the global battery supply chain

Partnership Value Model

Turning Produced-Water Liabilities into Low-Carbon Lithium Profits - for Operators & Lithium Harvest

Partner's Role

- **Use existing resources:** Integrate with our partner's current infrastructure and land assets.
- **Low-risk, high reward:** Lithium Harvest model minimizes CapEx and market risk, streamlining partners' access to the lithium market.

Scenario 1: Joint venture
Profit from a pioneering venture in lithium.

Scenario 2: Royalties
Receive royalties & promote sustainability.

Lithium Harvest's Role

Lithium Harvest patented lithium extraction solution

- **Strategic co-location:** Decentralized facilities at a partner's site enhance synergy, reduce impact, and streamline lithium extraction for efficient growth.
- **Scalable & modular:** Modular design adapts to various volumes and lithium concentrations, maximizing output and efficiency.
- **Seamless integration:** Rapid deployment with minimal setup, fitting into existing infrastructure without disruption.
- **Turnkey solutions:** The Lithium Harvest DBOO model offers complete end-to-end services, ensuring seamless operation and allowing partners to focus on core operations.

Key Advantages of Partnership

- **New revenue stream:** Turn costly byproducts into valuable lithium.
- **Fast market access:** Fast entry into the lithium market with minimal risk.
- **Hassle-free operation:** Lithium Harvest operates the plant, allowing our partner to focus on their core business while Lithium Harvest handles the complexities of lithium extraction.
- **ESG & social license:** Enhance partner ESG profile and secure a social license through sustainable water and resource management.
- **First-mover benefits & competitive edge:** Lithium Harvest solution provides faster, more cost-effective, and sustainable lithium, positioning the partnership ahead of competitors in the race to supply CRM.
- **Portfolio diversification:** Strengthen and diversify the partner's market presence.

Lithium Harvest handles end-to-end offtake sales; partner customer ties extend market reach and enhance joint value.

Competitive Edge in Lithium Offtake Markets

- **World's most sustainable lithium:** Setting new global sustainability standards while meeting the increasing demand for sustainably sourced lithium.
- **Competitive pricing:** The lowest cost of any lithium mining technology on the market.
- **Fastest to market:** Rapidly converts oilfield wastewater and geothermal brine into lithium compounds to meet market demand.
- **Rapid & scalable production:** Rapid market delivery and adaptability to meet increasing demand.

Revenue Streams

1. Core - Lithium Chemicals
Our primary revenue is the sale of battery-grade lithium compounds produced under DBOO plants.

- **Products:** Lithium carbonate
- **Buyers:** Traders, specialty chemicals, Tier-1 battery makers, EV OEMs
- **Pricing:** Fixed-price futures, indexed, or hybrid floor-ceiling per our offtake strategy
- **Margin profile:** High - driven by price realization, feedstock terms, and operating efficiency

2. Additional/Secondary Revenue Streams

Technology licensing
Selective, region-specific use where partners prefer CapEx ownership or where local policy favors in-country technology control.

- **Model:** Upfront revenue + license fee + per-ton royalty + paid operation and annual support
- **Where it fits:** Asia-Pacific and Middle East focus, plus select JV extensions
- Why it helps: Capital-light income accelerates market access without overextending our balance sheet

Water for beneficial reuse
Monetize treated produced water where reuse is permitted and economically attractive.

- **Model:** Water purchase/offtake agreements - $0.25-$0.50/bbl. fee for on-spec volumes
- **Buyers/uses:** Operators (drilling, completions, EOR), industrial users, select municipal or ag where allowed
- **Why it helps:** Offsets disposal and trucking, adds steady site-level revenue, strengthens ESG outcomes

Carbon credits and environmental attributes
Potential monetization of verified emissions reductions from our process and avoided disposal logistics.

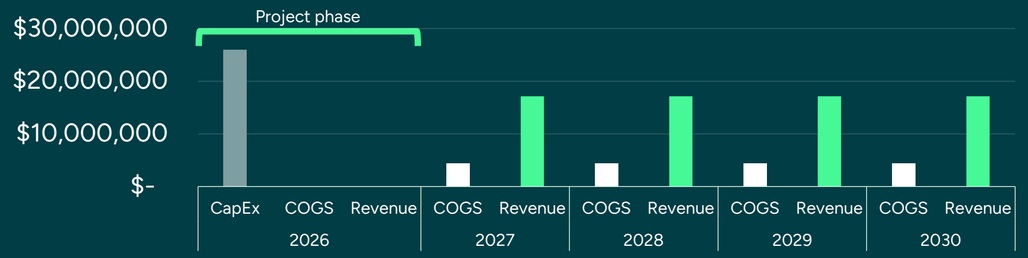
- **Model:** Sell verified CO_2e reductions on voluntary markets or equivalent environmental attributes where eligible

Revenue Stack at the Asset Level

Stream	Counterparty	Pricing model	Timing	Margin profile	Notes
Lithium chemicals	Traders, Tier-1s, OEMs	Fixed, indexed, or hybrid	From COD after qualification	High	Core driver under DBOO
Tech licensing	Regional partners	Upfront + per-ton royalty + services	Pre-COD to ramp up	Medium-High	Capital-light, selective regions
Beneficial re-use of water	Operators/ industrial	$/bbl. with indexation	From commissioning	Medium	Basin-specific permits/ rights
Carbon credits	Corporate buyers	Verified CO_2e credits	Post-verification	Variable	Only counted when issued

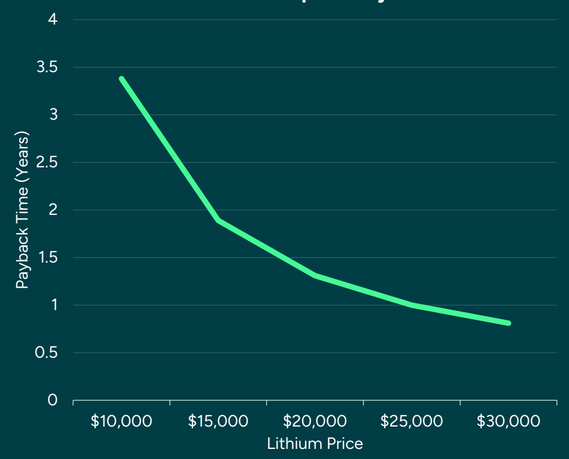
Base-case discipline: We underwrite assets based solely on lithium sales. Licensing, water reuse, and credits are incremental and only modeled when contracted or verified. This maintains conservative forecasts while preserving clear upside potential.

Cost Structure & Profitability
This section presents our base-case JV business model for the DBOO platform: how revenue, cost buckets, and pricing mechanisms translate into unit economics, margins, and cash flow. It is a standardized, portfolio-level view designed for comparability across sites and scenarios. All figures here are illustrative of the operating model and sensitivity drivers - not a substitute for site assumptions.



Produced water	40,000 bbl./d
Lithium concentration	125 ppm
Lithium price	$14,175 (Consensus price 1-revenue year)
CapEx	$26M
OpEx	$3,647/t
Lithium production	1,200 tpa
Gross margin	74%
Revenue	$17.1M
1-year result	$12.7M
Payback period	2 years

How Lithium Prices Impact Payback Time



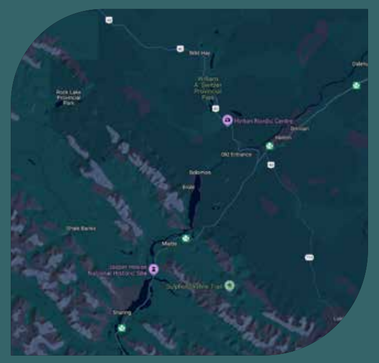
For project-specific numbers, assumptions, and sensitivities, go to projects.

Project
Portfolio
Lithium
Harvest

Alberta Facility

This project targets lithium extraction from geothermal water integrated with a new-build geothermal heating plant. It is being developed under a DBOO structure with royalties for feedstock in partnership with two geothermal operators.

Target first production is Q1 2027.



Location	Alberta, Canada
**Nominal production*	5,376 (tpa LCE)
Feed	Geothermal brine
**Volume*	226,000 bbl/d
Concentration	98 ppm

Total CapEx	$64.3M
**Revenue*	$88.8M
**Gross margin*	69%
**Payback period*	1.05 years

Sustainability metrics

At full run-rate, Alberta avoids ~109.7 kt CO_2 per year - roughly ~23,800 cars off the road. It also avoids ~211 million ft² of land disturbance (~3,667 football fields) and ~517 million gallons of freshwater (~18,117 pools) annually.

ND I Facility

The project recovers lithium from produced water under a DBOO model with royalties for feedstock. The project is being developed with a US mid-stream energy provider.

Target first production is Q4 2027.

Location	ND, US
**Nominal production*	1,374 (tpa LCE)
Feed	Produced water
**Volume*	48,000 bbl/d
Concentration	118 ppm

Total CapEx	$25.9M
**Revenue*	$22.7M
**Gross margin*	60%
**Payback period*	1.92 years

Sustainability metrics

ND I avoids ~28 kt CO_2 per year - equivalent to ~6,100 cars off the road. It also avoids ~54 million ft² of land disturbance (~937 football fields) and ~132.1 million gallons of freshwater (~4,630 pools) each year.

ND II Facility

Our second North Dakota project mirrors the DBOO model, extracting lithium from produced water with a royalty-based feedstock structure. It was likewise originated with a US midstream energy provider.

Target first production is Q4 2027.

Location	ND, US
**Nominal production*	1,587 (tpa LCE)
Feed	Produced water
**Volume*	60,000 bbl/d
Concentration	109 ppm

Total CapEx	$32.8M
**Revenue*	$26.2M
**Gross margin*	77%
**Payback period*	1.62 years

Sustainability metrics

ND II avoids ~32.4 kt CO_2 per year - about ~7,000 cars off the road. It also avoids ~62.4 million ft² of land disturbance (~1,083 football fields) and ~152.6 million gallons of freshwater (~5,348 pools) annually.

*Numbers based on first year of full production

Projects

Project Stage-Gate Approach
We apply a disciplined stage-gate process to allocate capital efficiently and accelerate execution once risks are mitigated. Each gate requires a defined minimum evidence before advancing to the next phase.

1. Concept Development
In this phase, projects are screened for technical and commercial viability. Focus areas include water availability, lithium concentration, and early mass balance to estimate production potential and economics.

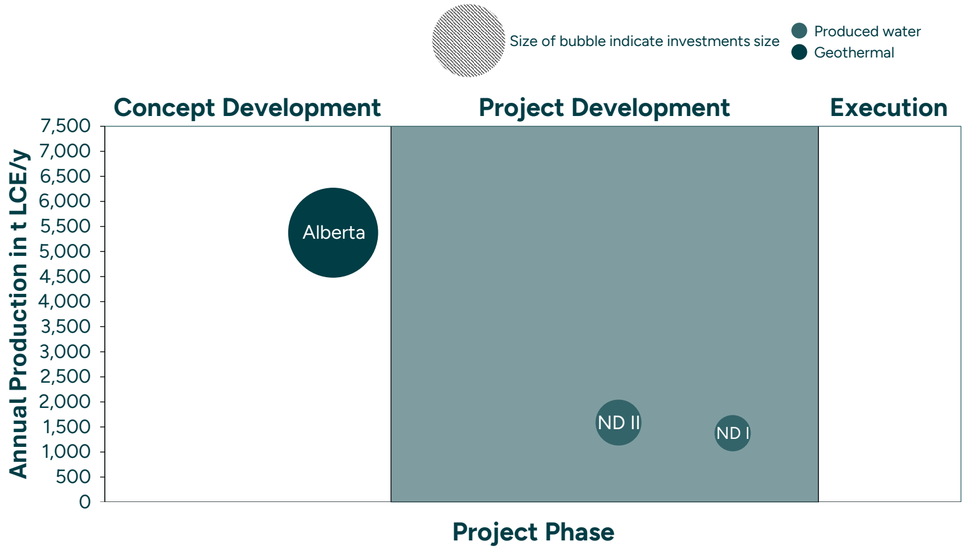
Key Activities:
- Confirm feed quantity and quality; initiate water sampling program (≥12 months
- Build mass balance, recovery assumptions, and nameplate capacity estimates
- Define site concept and integration with host infrastructure
- Develop conceptual CapEx/OpEx using benchmarks; identify major cost drivers
- Draft high-level schedule, permitting pathway, and ESG baseline

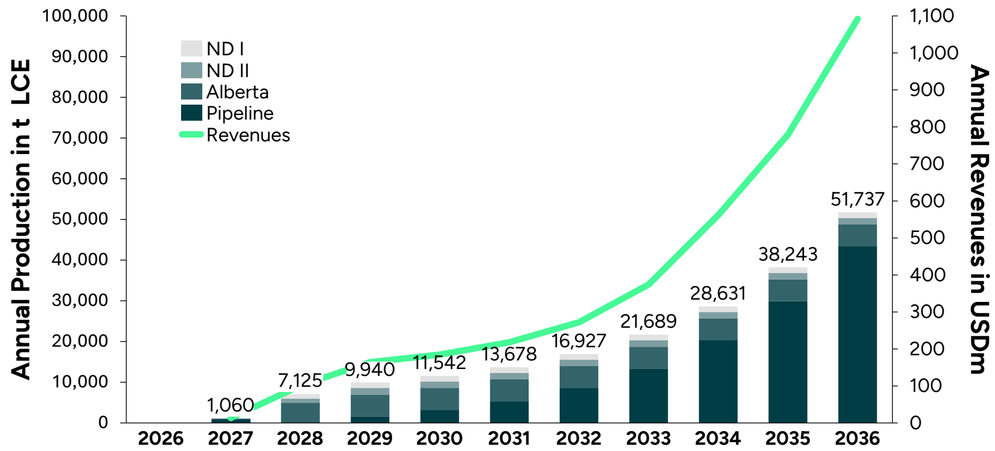
2. Project Development
With viability established, the project advances to detailed design, permitting, and commercial structuring. The goal is to de-risk execution and finalize investment readiness.

Key Activities:
- Complete mass and heat balances in simulation software; validate recovery and product specs
- Develop layout drawings and P&IDs; define utilities and tie-ins
- Collect vendor quotes and local pricing; initiate supplier negotiations
- Advance permitting; finalize execution schedule and critical path
- Structure commercial agreements (feedstock, water, royalties, offtake); map tax and incentive frameworks

3. Project Execution
Fully sanctioned and financed projects proceed to procurement, construction, and ramp-up. These projects are tracked against performance metrics and handed over to operations post-commissioning.

Key Activities and Outcomes:
- Secure financing and issue POs for long-lead items
- Execute procurement, construction, commissioning, and testing
- Ramp to nameplate capacity; transition to operations with defined KPIs
- Final handover: COD achieved, reliability run completed, and performance acceptance met

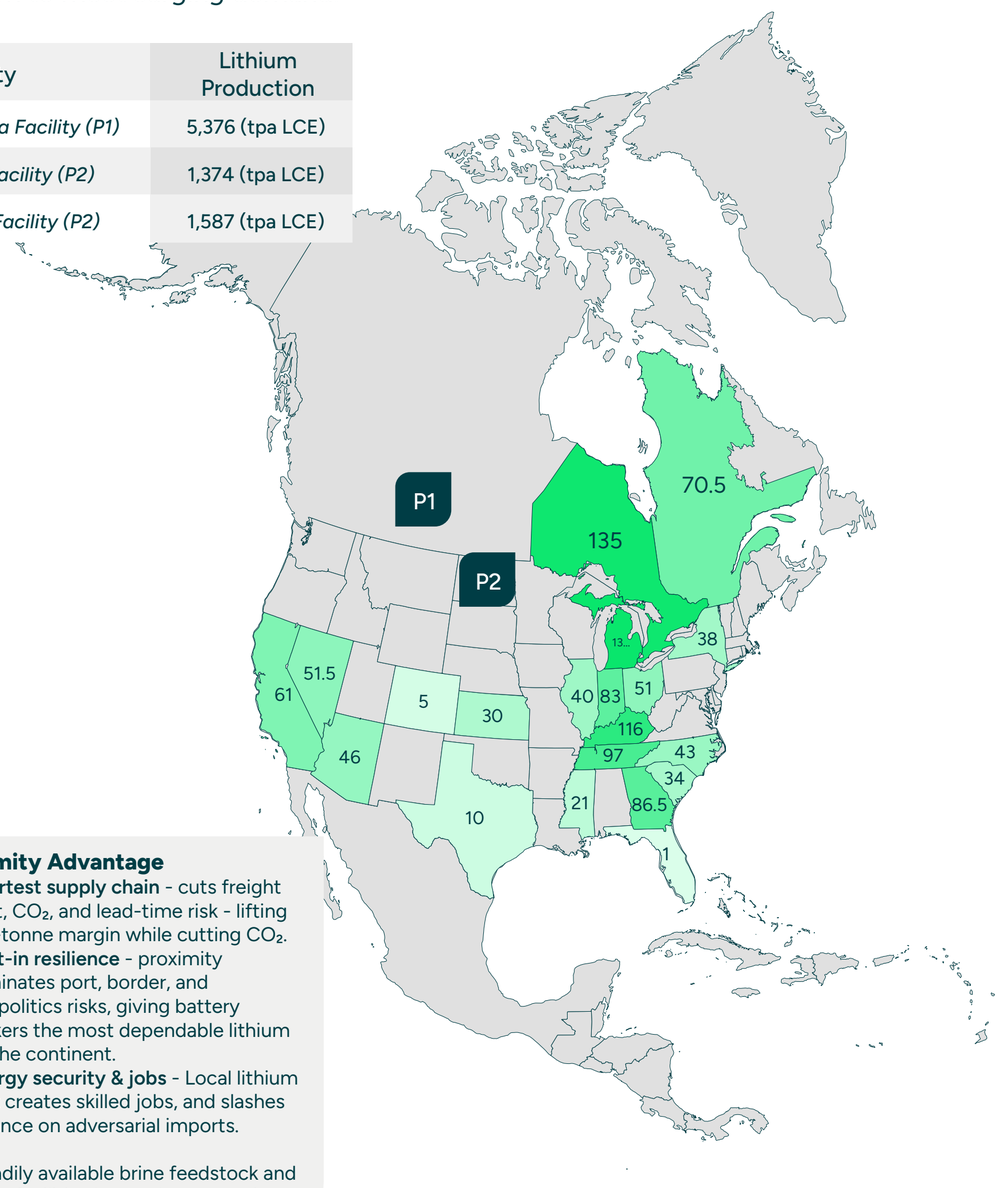




NA Battery Belt - Fast, Local Supply

Our pipeline supplies the North American battery belt with local, fast, sustainable lithium to meet surging demand.

Facility	Lithium Production
Alberta Facility (P1)	5,376 (tpa LCE)
ND I Facility (P2)	1,374 (tpa LCE)
ND II Facility (P2)	1,587 (tpa LCE)



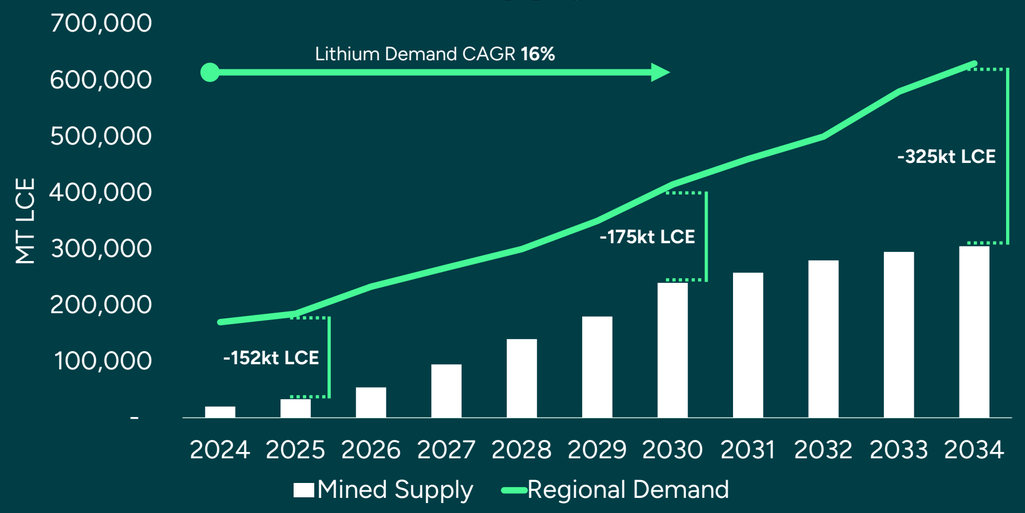
Numbers referred to North America gigafactories in GWh in 2030

Proximity Advantage

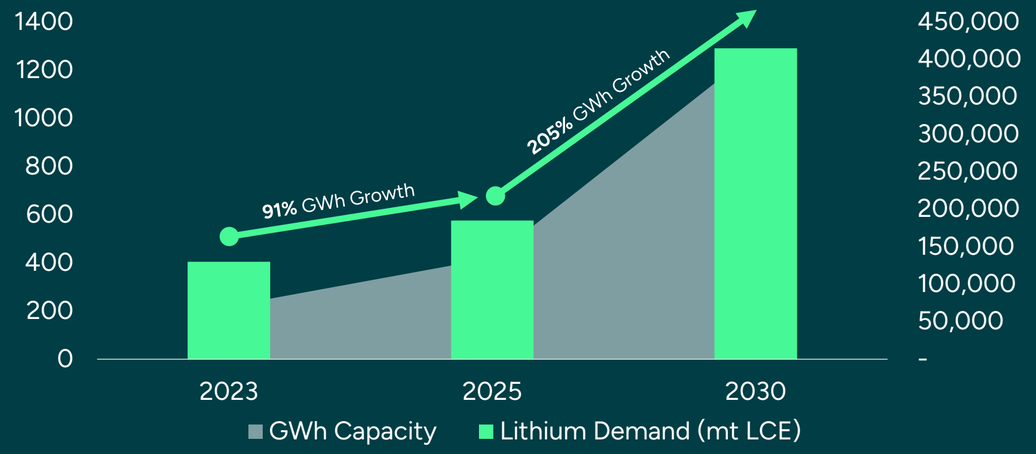
- **Shortest supply chain** - cuts freight cost, CO_2, and lead-time risk - lifting per-tonne margin while cutting CO_2.
- **Built-in resilience** - proximity eliminates port, border, and geopolitics risks, giving battery makers the most dependable lithium on the continent.
- **Energy security & jobs** - Local lithium that creates skilled jobs, and slashes reliance on adversarial imports.

Our readily available brine feedstock and modular facilities let us place capacity exactly where offtakers need it.

NA Lithium Supply & Demand



Lithium Demand Outruns NA Battery Build-Out



7x Supply Growth Still Can't Close the Gap

Year	NA Battery Capacity	NA Li Supply	NA Li Demand	Regional Gap	LH Boost	Gap After LH
2025	~420GWh	~33,000 mt	~185,000 mt	~-152,000 mt	-	~-152,000 mt
2030	~1,280GWh	~240,000 mt	~415,000 mt	~-175,000 mt	+11,542 mt (full LH pipeline in 2030)	~-163,458 mt

Source: Benchmark Mineral Intelligence and Lithium Harvest Internal Analysis

Growth Strategy & Future Projects

Lithium Harvest

Growth Strategy

Capital-Light. Speed-Focused. Market-First.
To fully capitalize on accelerating lithium demand, our growth strategy is simple: scale ahead of the next demand step-up and capture the spread. We will deploy low-cost, modular extraction units at pace, secure long-term offtake to de-risk revenue, and recycle early cash generation into new facilities. In the build years, EBITDA/CapEx improves from -0.11 (2026) to 1.03 (2028), then stays around ~2.0x through the scale phase, peaking at 3.12x (2029). Cumulatively, EBITDA/CapEx reaches 1.20x in 2026-2030 and 1.98x in 2031-2036, for 1.85x over 2026-2036 as realized pricing and contracted volumes ramp.

- **Build-phase (2026–2030):** CapEx $231.0m, EBITDA $276.1m, EBITDA/CapEx ~1.20x
- **Scale-phase (2031–2036):** CapEx $1,155.6m, EBITDA $2,284.5m, EBITDA/CapEx ~1.98x
- **Total (2026–2036):** CapEx $1,386.6m, EBITDA $2,560.6m, EBITDA/CapEx ~1.85x

1. Expand Manufacturing Capacity at Speed
Standard DBOO train, surface-based feedstock replicated across sites; detailed schedules sit in the Projects Portfolio.

Portfolio metric	2027	2028	2030	→2033	→2036
Volume ramp	1,060 tpa	7,125 tpa	11,542 tpa	21,688 tpa	51,741 tpa
Revenue ramp	$13.5m	$101m	$184.7m	$374.1m	$1.092bn

2. Invest Ahead of the Curve
We deliberately trade near-term cash flow for long-term advantage in 2026-2028 to secure supply, customers, and first-mover benefits.

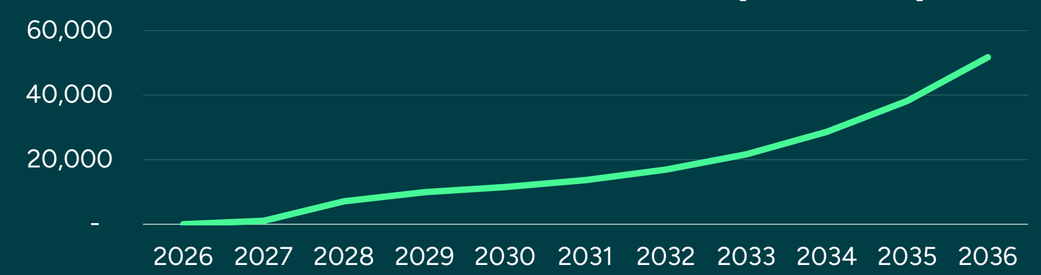
- Trade near-term cash flow for long-term market position and offtake economics
- Improve offtake quality with scale: larger, predictable blocks increase tenor and price certainty
- Lock in low-cost production advantages
- Establish multi-year lead over slower-to-scale competitors

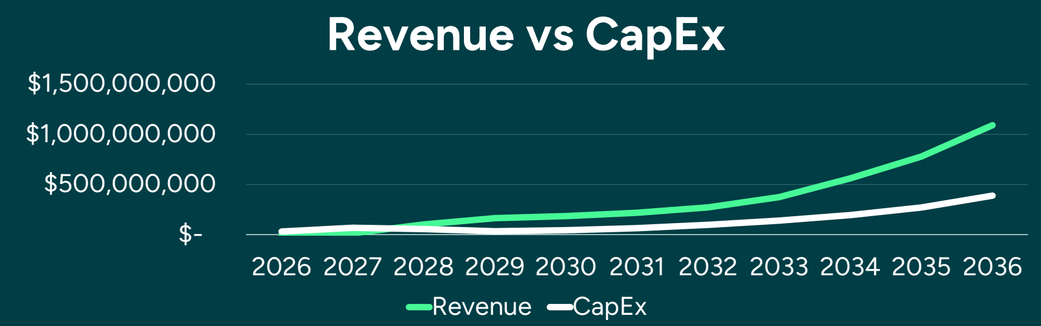
3) Reinvest Profits to Maximize Long-Term Value

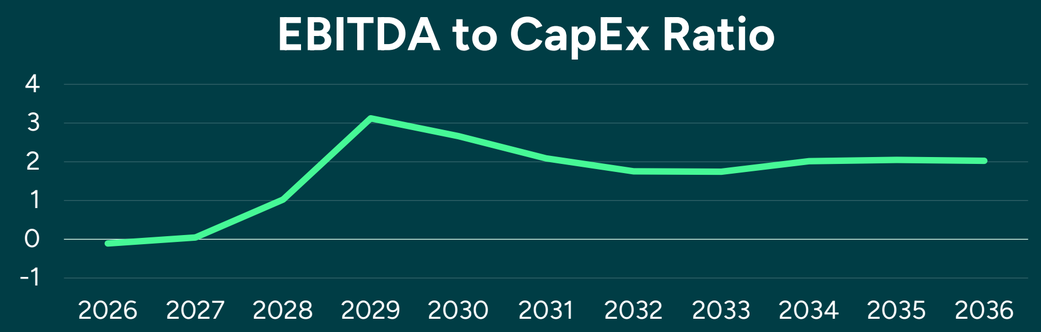
- **Reinvestment flywheel:** Early EBITDA funds additional trains, site development, and process optimization
- **Operating leverage:** Modular, co-located plants minimize fixed cost; from 2028 onward, revenue growth outpaces CapEx in the model
- **R&D priorities:** Purity and recovery improvements, multi-mineral potential to enhance offtake quality and resilience
- **Commercial edge:** Streamlined deal-to-sale execution

4. Secure Strategic Position in Global Lithium Market
With a 2-5 year operational head start, we expect a multi-year advantage due to our speed to market, low CapEx per ton, and sustainability leadership.

- **First-mover advantage:** Commercial operational systems reduce buyer adoption risk and shorten diligence cycles
- **Preferred supplier status:** EV, battery, and storage buyers favor bankable scale and reliable specs
- **ESG premium:** low-impact footprint supports pricing, access to incentives, and policy alignment







Future Growth Projects

Mobile Site-Validation Unit (SVU)

Investment: $2.2 million

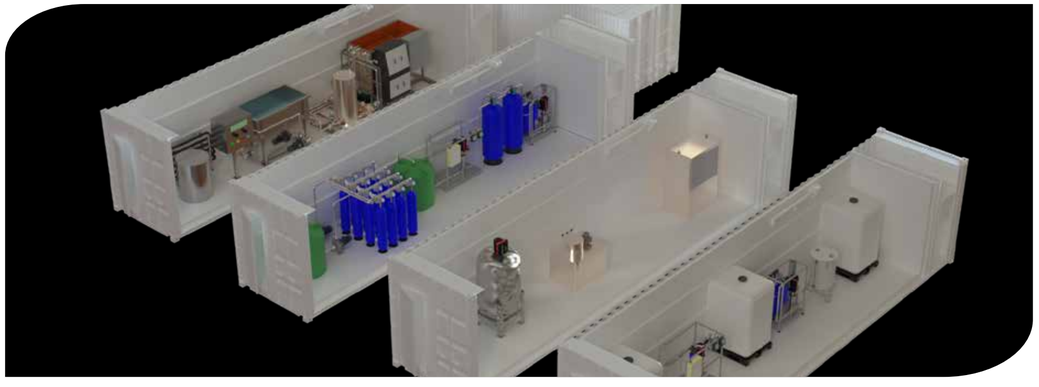
Role in growth plan: Site-specific validation to convert prospects into bankable DBOO projects with performance guarantees.

Objective: Generate decision-grade operating and integration data on partner brines to underpin design, guarantees, and offtake terms for the first commercial unit at each site.

What the SVU Establishes

- **Tailored validation** - every brine is different. We optimize recovery, product pathway, and economics for your water stream.
- **Faster decisions** - weeks of operating data, not years, to move to full-scale DBOO.
- **De-risked investment** - real performance and sustainability data smooth partner and investor approvals.
- **Scalable by design** - a scaled-down commercial plant, so results translate directly with no surprises.
- **Integration clarity** - confirms tie-ins, footprint, utilities, HSE procedures, and site automation needs.
- **Digital-twin ready** - SVU data calibrates the digital twin for accurate scaling, OpEx modeling, and precise project economics.

Bottom line: A commercial readiness trial that finalizes the design, guarantees, and revenue model - so we can advance to full-scale with partners in confidence.



Digital Twin

Role in growth plan: Rapid, site-specific engineering and economics with fewer physical iterations.

Objective: Use a calibrated digital twin to translate a water analysis into a defensible process design and business case in hours. The model specifies expected recovery, product pathway, energy use, reagent consumption, and utilities, minimizing the need for extended piloting.

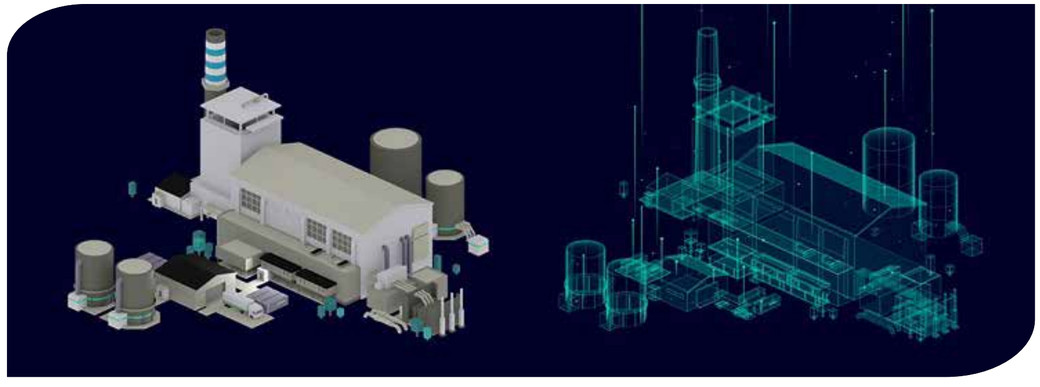
What the Digital Twin Delivers

- **Process specification from brine samples:** Mass and energy balance, operating envelope, and product quality pathway.
- **Fast techno-economics:** OpEx corridor, key CapEx drivers, and sensitivity to flow, grade, and impurity load.
- **Scale-up integrity:** Alignment between lab, SVU campaigns, and commercial plant, so theory and field performance converge.

Why Is It Value-Accretive

- Shorter path from brine samples to term sheet and DBOO decision.
- Fewer and shorter pilot campaigns, with targeted test plans.
- Better capital discipline through scenario analysis before FID.

Bottom line: A calibrated digital twin transforms a brine sample analysis into an engineered flowsheet and defendable unit economics in hours, shrinking piloting, improving first-time-right performance, and derisking FID.



Other Critical Minerals

Role in growth plan: Optionality and margin expansion where brine chemistry and offtake justify CapEx.

Objective: Develop selective co-recovery modules for high-value minerals in partner brines, with an initial focus on magnesium. Use site screening to add co-products only where grades, flows, and offtake economics clear our IRR threshold.

Why Magnesium First

- **Strong commercial pull:** External forecasts indicate the magnesium metal market could reach about USD 10.7 billion by 2034 from USD 5.4 billion in 2024 at ~7.1 percent CAGR.
- **Lightweighting demand:** Replacing cast iron and traditional steel with magnesium and other light alloys can reduce body and chassis weight significantly, supporting fuel savings and EV range gains.
- **Chemistry fit:** Many produced waters and geothermal brines contain meaningful Mg that can be recovered with targeted separation.

Approach & Scope

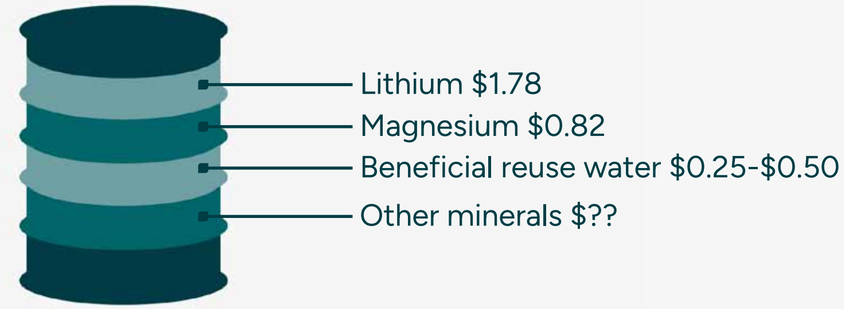
- **Technology pathway:** Leverage our separation and water treatment stack to evaluate sorption, membrane, and crystallization routes for Mg and, where viable, other minerals such as rare earth elements and germanium in different brine sources.
- **Integration:** Co-recovery sits as an add-on to the lithium flowsheet. It reuses brine handling, utilities, and controls to keep incremental CapEx and footprint low.

Grants to support development:

Title	Description	Status	Value
Sustainable metals from geothermal water	Build a database of geothermal/produced water (>300,000 entries). TEA for critical minerals from formation water. Identify industrial wastewaters suitable for recovery.	Complete	$113,000
Using membrane distillation to produce metals from geothermal water	Collect and analyze samples across Europe and North America. Bench and lab testing of membrane distillation for metal production.	Ongoing	$634,000
Sustainable magnesium extraction assessment from Danish geothermal water	Conceptual business case and scoping study for magnesium production at an identified geothermal source.	Ongoing	$87,400

Bottom line: Co-recovery is an options strategy, not a mandate. Magnesium leads due to market pull and chemistry fit. We will add modules only where site data and contracted demand produce risk-adjusted returns that lift $/barrel and preserve capital discipline.

Disclaimer: Calculations in the barrel illustration are based on Li $14,178/t (2027 consensus), Mg $2,250/t, and Lithium Harvest internal concentration data. Illustrative only; results vary by volumes and concentrations.



Expand Lithium Chemical Portfolio

Role in growth plan: Sequence products for margin and market fit. Start with lithium carbonate; add lithium hydroxide when the customer mix justifies it.

Why Lithium Carbonate First

- **Process simplicity and cost:** carbonate is produced directly from brines via LiCl + soda ash, while hydroxide typically adds a carbonate-to-hydroxide conversion step with lime, increasing reagents and residuals.
- **Demand alignment:** LFP and other low-Ni chemistries continue to gain share globally, strengthening the case for carbonate-led output.

Where Lithium Hydroxide Fits

- **Customer pull:** high-Ni NMC/NCA cathodes for high-end, larger or longer-range vehicles in Europe and the US maintain a structural need for hydroxide; sequencing preserves the option to add hydroxide capacity as contracts materialize.

Share of battery-grade lithium chemicals (global)	2022	2026	2030
Lithium carbonate	65%	51%	40%
Lithium hydroxide	25%	40%	50%
Other	10%	9%	10%

Sequencing logic

- Producing carbonate first allows immediate revenue capture at lower cost, while postponing hydroxide production provides the flexibility to respond to market recovery or niche demand without committing upfront to a higher-cost route.

Bottom line: Lead with carbonate to match today's chemistry mix, cost curve, and time-to-cash, while engineering the plant for an efficient hydroxide add-on once customer pull and margins justify the step-up. The sequencing preserves capital discipline and expands addressable demand as market shares evolve.

Battery Recycling

Role in growth plan: CapEx-light adjacency that monetizes lithium and de-risks wastewater at partner recycling plants, using our separation and water-treatment expertise.

Objective: Provide modular process-water solutions that recover lithium from recycling circuits and close water loops while meeting strict discharge limits for inorganic fluorides.

Where We Create Value

- Lithium recovery from multiple aqueous streams in the recycling flow sheet, for example: Wash streams from black-mass leaching, critical wash water recovery, and electrolyte waste streams.
- Compliance and ESG: targeted removal of inorganic fluoride before discharge or reuse.

Grants to support development:

Title	Description	Status	Value
Recycling and reuse of LiB batteries from electric bikes and scooters	Develop a process to recover lithium and remove fluoride from LiB recycling wastewaters	Complete	$202,000
Direct recycling of LMV Li-ion batteries by means of innovative mixed cathode leaching process	Develop and demonstrate process technologies to recycle problematic LiB batteries	Ongoing	$2,127,000

Bottom line: A partner-led, CapEx-light entry that turns recycling wastewater from a liability into value: recover lithium where it pencils, meet inorganic fluoride limits, close water loops, and capture shared economics.

Source: IEA, Market, and DOE

Risk Factors & Mitigations

Lithium Harvest

Risk & Mitigations

Project Level and Market Level

Technology Scale-Up Risk
- **Risk:** Even with proven unit operations, integration and commercial-scale operation can surface issues (fouling, recovery dips, maintenance).
- **Mitigation:** Site-Validation Units, digital twin for design/control, and experience from 400+ industrial water systems.
- **Takeaway:** We de-risk scale by validating on real feed, instrumenting the process, and applying lessons from hundreds of full-scale deployments.

Market & Price Risk
- **Risk:** Lithium prices are volatile; a significant decline in prices can pressure revenue and returns. Includes geopolitical risks (tariffs, market entry, tech sourcing) and potential product substitution in key applications.
- **Mitigation:** Low cost (~$3,647/t) in the bottom decile of the OpEx cost curve, offtakes with fixed or floor pricing, diversified brine sources and regions, and flexible scaling.
- **Takeaway:** The downside is buffered by a cost advantage and contract structure; portfolio diversification and agility reduce exposure to any single market shock.

Execution & scale execution risk
- **Risk:** Building, commissioning, and ramping a new facility on time and on budget is challenging for a smaller company.
- **Mitigation:** Proven partners; team with 400+ plant builds and large mining process portfolios; modular design to confine complexity; mapped supplier alternates; co-location to leverage existing infrastructure; schedule buffers; strong vendor relationships.
- **Takeaway:** We reduce critical-path risk with modularity, supplier redundancy, and co-location, backed by an experienced team.

Regulatory & Environmental Risk
- **Risk:** Oilfield and lithium-handling regulations, water discharge, and permit shifts can affect timing and costs. Includes critical mineral policy shifts and geopolitics.
- **Mitigation:** Water recycling and neutral carbon footprint; robust pretreatment; early authority engagement; no open pits, tailings, or evaporation ponds; dedicated compliance hire at commercial stage. Plant built within existing infrastructure of partner.
- **Takeaway:** A smaller footprint and cleaner flowsheet lower permitting friction; proactive compliance and early engagement keep timelines predictable.

Competition Risk & Substitution Risk
- **Risk:** New DLE chemistries or incumbent process improvements could erode advantage; majors may invest aggressively, or chemistry shifts could erode market share or reduce lithium intensity.
- **Mitigation:** Defensible IP; first-mover position in oilfield brines with proprietary brine database; ongoing process improvement and adsorbent benchmarking; partnership/licensing agility if complementary tech adds value.
- **Takeaway:** We compete on cost, speed, and integration know-how. The market size supports multiple winners; we're positioning ourselves as the partner of choice for oilfield operators.

Financing Risk
- **Risk:** Capital intensity and cyclical funding conditions can slow builds and scale-up.
- **Mitigation:** Modular extraction with low CapEx/t; initial facilities financed, then expansion via earnings, debt, and government support; acknowledgment of sector-wide funding constraints and staged deployment to match capital.
- **Takeaway:** Smaller, repeatable modules are financeable through cycles; each commissioned unit de-risks and supports the next.

Team Risk
- **Risk:** Recruiting, retaining, and developing specialized talent, as well as key-person dependency.
- **Mitigation:** Individual performance and development goals; incentive programs; documented playbooks; culture and social initiatives aligned to the operating environment.
- **Takeaway:** We align incentives with milestones and institutionalize knowledge so that capability scales with the project pipeline.

Summary: Across both project and market domains, Lithium Harvest's modular design, low unit costs, and ESG-leading footprint substantially mitigate the principal risks typically cited by investors in early-stage lithium ventures. No single risk appears existential; most are controllable through disciplined execution and proactive commercial strategy, leaving the overall risk profile manageable for growth-stage capital.

Team
Lithium
Harvest

Leadership

Execution Pedigree - Why This Leadership Team Can Deliver

- **400-plus industrial systems already built.** The founders have designed, engineered, and commissioned more than 400 large-scale water-treatment systems on five continents - industrial proof that complex process plants can be brought online on budget and to specification.
- **Automated reliability is built in.** A proprietary, fully automated control algorithm, proven across over 400 industrial systems, will run our modular lithium extraction units, ensuring safe, efficient, and consistent performance from day one.
- **Over two decades of C-suite experience.** The core leadership group brings 20+ years of executive management in public and private companies, including two Nasdaq chief executive tenures and multiple growth-stage transitions.
- **Heavy-asset finance & operations expertise.** Senior finance leaders have overseen multi-million-dollar mining and process plant portfolios, aligning project economics with lender requirements and implementing disciplined capital allocation and project execution.

In short, the team combines deep process engineering, heavy-asset financial rigor, and public-market governance - the precise skill set needed to scale Lithium Harvest's first 8,338t LCE facilities and the multi-plant pipeline that follows.

+20 years
Executive management experience

+20 years
Water treatment experience

+400
Successful water treatment system installed

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.

Thomas Lund Hansen, CFO

In November 2024, the Company promoted Thomas Lund Hansen to CFO. Mr. Hansen has served as Head of Projects and Project Execution of the Company since February 2023. Prior to joining the Company, Mr. Hansen served as Strategy Director of Grundfos from October 2018 to January 2023. Mr. Hansen has vast experience in the mining industry and held several management positions within the industry through more than 25 years, including Commissioning and Site Manager of FL Smidth from June 1997 to August 2003, Consultant at McKinsey & Co from June 2005 to July 2007, Business Analysis Manager of Rio Tinto PLC from May 2008 to June 2011, Finance Director of BHP Billiton from July 2011 to February 2014, and Managing Director and CFO of Bryanston Resources UK from May 2014 to December 2017.

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.

People & Governance

Lithium Harvest

People & Communities (Social)

We create low-impact lithium while building resilient communities and transparent governance from day one. It is integral to our core values, promises, and business plan to serve the community by creating local jobs, prioritizing local subcontractors, and generating local value, all while excelling in sustainability and green energy. We operate a safe, inclusive, and high-skill workplace, delivering local benefits where we are based. Our success depends on specialized scientists, engineers, operators, and experienced leadership.

Our People

Talent Acquisition and Retention

We need to attract and retain the right talent for our business. We believe that our sustainable technology and socially conscious behavior make us an attractive workplace.

Further, we have implemented several initiatives to attract, develop, and retain talent:

Individual Performance- and Development Goals - We have implemented an employee evaluation system. All employees are subject to this program and have individual performance and development goals that are regularly tracked and updated. On a personal level, we also offer to cover the costs of relevant training and education. The executive management monitors the program.

Equal Opportunity and Inclusive and Positive Working Environment - We cultivate an inclusive and positive working environment. We support diversity and provide equal opportunity and fairness in our management systems. We track workforce diversity, and we promote equal pay.

Employee Incentive Program

We intend to implement an Employee Incentive Program in 2025. The incentive program will be based on both team and individual performances, with compensation in the form of cash and equity grants.

Our Communities

Good Jobs, Locally

- Co-located plants create qualified regional jobs and leverage existing infrastructure to shorten commutes and supply chains.
- Local hiring target and internships/apprenticeships in partnership with technical schools where available.

Community Engagement

- We plan to engage with local communities where we operate through transparent communication and open dialogue.

Labor & Human Rights

- Supplier and contractor standards aligned with international labor principles, including modern-slavery and child-labor prohibitions.
- Audit rights and corrective-action plans for non-conformance.

Governance

Board Composition

Our board currently consists of four Directors.

Our ambition is to grow our board to five Directors by the end of 2025 - three Non-Executive and two Executive Directors. Further, we intend to create the following board committees before the end of 2025:

- Audit Committee
- Compensation Committee
- Nominating & Governance Committee

In our recruitment of new Directors, we strive to build a diverse board with relevant management backgrounds and diverse skills. Directors are expected to timely and fully participate in all regular and special board meetings and all meetings of committees that they serve on.

Non-Executive Directors are compensated through cash and equity grants, while Executive Directors are compensated through equity grants. Director compensation is evaluated on a yearly basis in December.

Executive Compensation

We believe that our Executive team is a critical component of our success. We seek to attract and retain the best talent in the industry.

Our Executive compensation consists of three components:

- Individual base salary
- Individual bonus program
- Individual equity award program

Our board (Compensation Committee) reviews executive compensation annually in December.

Code of Ethics

The Company intends to adopt a code of ethics before the end of 2025.

Board of Directors

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.

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

*Jacob Therkelsen, Non-Executive Director

Mr. Therkelsen is Partner and Head of M&A Advisory at Consilio Partners since 2014. He is also Chairman of the Board at Euromerger since 2018. Prior to joining Consilio Partners, Mr. Therkelsen served as Partner and Head of M&A Advisory at BDO Corporate Finance from 2012 to 2014 and held a number of management positions, including Director and Partner, at Deloitte Corporate Finance from 1993 to 2012.

*Stephen Schueler, Non-Executive Director

Mr. Schueler is a global commercial leader with senior roles across consumer, tech, and logistics. He began at P&G in sales, earning his MBA from San Francisco University, then advanced through unit and district management into international leadership. At P&G, he supported the Ariel launch across Latin America's southern cone, led the South Korea business, and later oversaw Russia and Eastern Europe before returning to Cincinnati to head global retail operations. Schueler then served as Corporate Vice President of Global Retail Sales and Marketing at Microsoft, helping launch Xbox One, Office 365, Surface, and Windows Phone. He moved to Maersk as Chief Commercial Officer, managing 387 offices across 130 countries, and was CEO of Safmarine Shipping Line. Stephen is now CEO of Enerjen Capital, Chairman of Iner Fuel, European Maritime Finance, and Health Advisor, and board advisor to LumeNXT, Warehowz.com, International Flight Support, and Joblio. Schueler has continually dedicated himself to creating a greener world.

Appointments pending uplisting

Finance Overview

Lithium Harvest

Finance

Finance Overview
Lithium Harvest is currently a pre-revenue company and trades on the OTC Markets under the ticker "SPGX." Subject to shareholder approval, we intend to change our corporate name to "Lithium Harvest, Inc." and up-list to a major U.S. exchange in Q4 2025 under the proposed ticker "LIHV."

Since inception, Lithium Harvest has raised $5.6 million in equity and non-dilutive support. Founders contributed $1.2 million (2012-2023), followed by series A private placements of $4.3 million at a $100 million pre-money valuation. The proceeds funded completion of R&D, operations, market analysis, and go-to-market preparation. We secured a Danish Eco-Innovation Programme (MUDP) under the Danish Ministry of the Environment grant of $78,278, with a further $552,021 pending approval. As of October 7, 2025, non-restricted cash on hand totals approximately $550.000. Monthly cash burn averages $95,000-$110,000 primarily for R&D, engineering, commercial, and investor-readiness, sufficient to reach commercial readiness.

Revenue Outlook
First commercial revenue is expected in 2027 upon commissioning the Alberta Facility in Q1 2027. At nameplate, Alberta is designed for 5,376 tpa/LCE; at full utilization in 2029, Alberta contributes ~$88.8 million of revenue. North Dakota I (ND I, ~1,374 tpa/LCE) and North Dakota II (ND II, ~1.587 tpa/LCE) are planned online in Q4 2027. Under this rollout and pipeline phasing, consolidated model revenue is:

	2027	2028	2030	→2033	→2036
Revenue ramp	$13.5m	$101.0m	$164.2m	$184.7m	$1.092bn

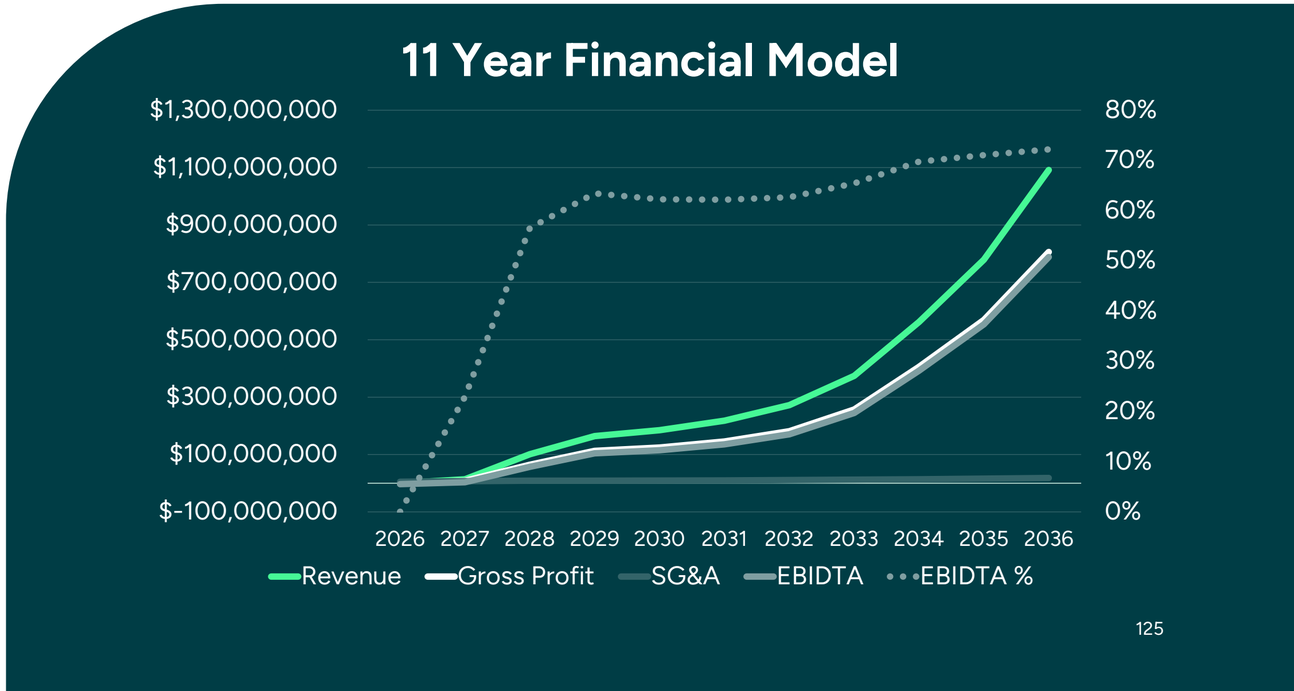
Model margins ramp with scale and learning:
- **Gross margin:** ~60% (2027) → ~74% (2036)
- **EBITDA margin:** ~23% (2027) → ~72% (2036)

Capital Efficiency & Cost Position
Capital efficiency is a core competitive advantage. Our projected CapEx intensity of $17,100/t of installed capacity is up to ~73% below traditional mining projects and roughly ~56% below the peer-group median. Operating costs are equally compelling: at $3,647/t, we anticipate ~60% gross margin in 2027 on the model's price path (anchored to the 2027 analyst consensus of $14,178/t). Sensitivity analysis indicates the business remains EBITDA-positive even if market prices fall by roughly ~62% from today's levels (~$9,500/t: as of Oct 2025 - Benchmark Minerals), underlining the robustness of our cost position.

Profitability & Funding Plan
We expect EBITDA to be positive in 2027 as Alberta stabilizes. Positive free cash flow is anticipated in 2029, following the commissioning and ramp of ND I and ND II. The current raise funds Alberta, ND I, and ND II through commissioning and early ramp, plus working capital and key hires. Subsequent expansions may be financed by operating earnings, project-level debt, and applicable government programs once initial assets are cash-generative and bankable. We will continue to evaluate strategic capital where it accelerates delivery on attractive terms.

Pricing Assumptions
The model applies a progressive pricing curve aligned with leading analyst consensus rather than a static spot. This forward curve reflects expected demand growth, supply additions, and technology adoption, yielding a realistic revenue outlook anchored to market expectations.

Long-Term Potential & Exit
Beyond the current projection window, continued step-ups in installed capacity on ~2-year cycles support multi-site growth with industry-leading margins, subject to execution and market conditions. Strategically, we believe Lithium Harvest could be attractive to larger players across oil & gas, mining, automotive, and the broader battery value chain once the solution is proven at commercial scale. Recent reference points include GM's $50 million Series B investment in EnergyX (2023), BMW Ventures' investment in Lilac Solutions (2021), and Stellantis's €50 million investment in Vulcan Energy (2022) alongside a 10-year offtake extension. As our assets mature and cash flow is sustained across sites, potential liquidity paths include an IPO or a strategic transaction with an industry consolidator seeking secure, cost-advantaged lithium offtake. These are options, not commitments, and will be evaluated pragmatically as milestones are met and market conditions allow.



Budget

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Revenue											
Lithium Production (MT)	0	$1,060	7,125	9,940	11,542	13,678	16,931	21,688	28,631	38,243	51,741
Lithium Sales ($/t)	0	$12,704	$14,178	$16,519	$16,000	$15,925	$16,063	$17,250	$19,625	$20,375	$21,100
Revenue	**$0**	**$13,464,687**	**$101,024,649**	**$164,204,124**	**$184,677,490**	**$217,828,132**	**$271,961,644**	**$374,126,585**	**$561,875,593**	**$779,196,029**	**$1,091,739,508**
Cost of Goods Sold											
Total COGS	$0	$5,448,374	$36,914,121	$51,605,142	$60,579,725	$72,545,836	$90,754,527	$117,418,751	$156,308,610	$210,156,109	$285,762,589
Gross Profit	$0	$8,016,313	$64,110,528	$112,598,982	$124,097,764	$145,282,296	$181,207,116	$256,707,834	$405,566,982	$569,039,920	$805,976,919
Gross Margin	0%	60%	63%	69%	67%	67%	67%	69%	72%	73%	74%
SG&A	**$3,303,150**	**$4,929,323**	**$6,969,226**	**$8,464,116**	**$9,199,849**	**$9,645,076**	**$10,887,918**	**$12,106,010**	**$13,812,040**	**$15,724,012**	**$18,080,549**
EBITDA	$-3,303,150	$3,086,990	$57,141,301	$104,165,160	$114,961,532	$135,437,492	$170,459,792	$244,786,771	$391,988,678	$553,603,312	$788,242,808
EBITDA %	n/a	23%	57%	63%	62%	62%	63%	65%	70%	71%	72%
Capital Expenditures											
CapEx	**$30,737,000**	**$67,977,000**	**$55,705,196**	**$33,360,000**	**$43,200,000**	**$64,800,000**	**$97,200,000**	**$140,400,000**	**$194,400,000**	**$270,000,000**	**$388,800,000**

Investment Opportunity

Lithium Harvest

Building Bankable Lithium Supply

Lithium Harvest is seeking $60 million of new equity and debt to fund the commercialization of our first production assets and transition from pre-revenue to revenue generation. This round carries the company through commissioning, first shipments of battery-grade lithium carbonate, and ramp to near-steady operations at the first facilities.

- **Facility A:** Alberta, commissioning Q1 2027, first shipments in 2027, ramping to ~100% of nameplate in 2029 (nameplate ~5,376 tpa LCE).
- **Parallel builds:** ND I and ND II, each commissioning Q4 2027 (nameplates ~1,374 tpa and ~1,587 tpa respectively).

Purpose of Funding (Use of Proceeds)
The raise is designed to bridge the company from final development into stable operations at the first facilities. This raises funds for Alberta, ND I, and ND II facilities through commissioning and early ramp, as well as working capital and key hires. Subsequent expansions may be financed by operating earnings, project-level debt, and applicable government programs once initial assets are cash-generative and bankable. We will continue to evaluate strategic capital where it accelerates delivery on attractive terms.

Milestones Enabled By This Round
- **2027:** Construct and commission Alberta (Q1) and ND I/ND II (Q4); initiate first battery-grade shipments and recognize first revenue in 2027 (model EBITDA turns positive in 2027).
- **Profitability path:** Modeled EBITDA margin expands from ~23% (2027) to ~57% (2028) and ~63.4% (2029), reaching ~72% by 2036.

Why This Valuation Is Justified
- **Capital efficiency** - $17,100/tpa CapEx intensity, lower decile vs DLE peers and ~55-60% below typical peer medians and means.
- **Cost leadership** - $3,647/t LCE OpEx from modular, co-located surface-brine operations, ~40-48% lower than dominant routes (solar evaporation and hard rock).
- **Compelling entry multiple** - ~5.3x 2028E EBITDA and ~2.9x 2029E EBITDA, with EV per installed capacity of ~$35.9k/tpa across the first three sites.
- **Rapid path to margin** - EBITDA positive in 2027, expanding toward the 60s by 2029 and ~72% by 2036 as volumes ramp and fixed costs dilute.
- **Downside protection** - Bottom-quartile cash costs, staged modular builds, and a multi-site rollout reduce single-asset risk and support cash generation across price cycles.
- **Line-of-sight to scale** - Three facilities online in 2027, 8,337 tpa combined nameplate, short build times, and regional proximity to customers.
- **Protected differentiation** - Patented, end-to-end lithium extraction built for surface brines and rapid deployment.
- **Execution advantage** - Leadership team with deep industrial water pedigree and 400+ large-scale systems delivered

Investor Offer & Structure
We welcome a lead (board seat available) and a syndicate that may include venture, growth, PE, and strategic investors. Strategic participants may align equity with offtake, JV, or market-access arrangements. Standard minority protections and customary governance terms apply; final terms to be set in the term sheet.

Future Funding Needs
- **No additional corporate equity expected.** Under the base-case ramp, this round fully funds Alberta, ND I, and ND II early ramp to cash generation.
- **Self-funding from operations.** Once facilities are online and cash-generative, we plan to fund follow-on builds primarily via operating cash flow plus project-level, non-recourse debt and applicable government programs.
- **Selective use of equity.** No further equity is needed to execute the plan. We would consider equity only if it advances the schedule, improves risk-adjusted returns, or secures a high-revenue project unavailable through debt alone.

Conclusion & Next Steps
Lithium Harvest offers a clear path from proven, IP-protected technology to commercial supply in a strategically important market, with three facilities commissioned in 2027 and a model that turns EBITDA positive in 2027. For financial investors, this round targets the value inflection from pre-revenue to scaled operations. For strategics, equity can pair with prioritized offtake of low-impact, battery-grade lithium. Please initiate diligence to review the full financial model, engineering packages, and data room; we are prepared to discuss lead terms and partnership structures.

Ready to talk?

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One of the world's most
sustainable lithium
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Harvest

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