

# Green lithium production for the EV future

April 2023

CARBON NEUTRAL | BATTERY GRADE LITHIUM | POWERED BY CLEAN ENERGY | SUSTAINABLE EXTRACTION

# CTL – A Snapshot

New path for lithium in Chile – low impact, sustainable lithium extraction



3 strategic lithium projects in Chile, >500 km<sup>2</sup> licence areas



Total lithium resources exceed 2 million tonnes LCE – further upgrades due by Q2 2023



Wholly owned licenced basins – no competing lithium projects in area and no indigenous settlements

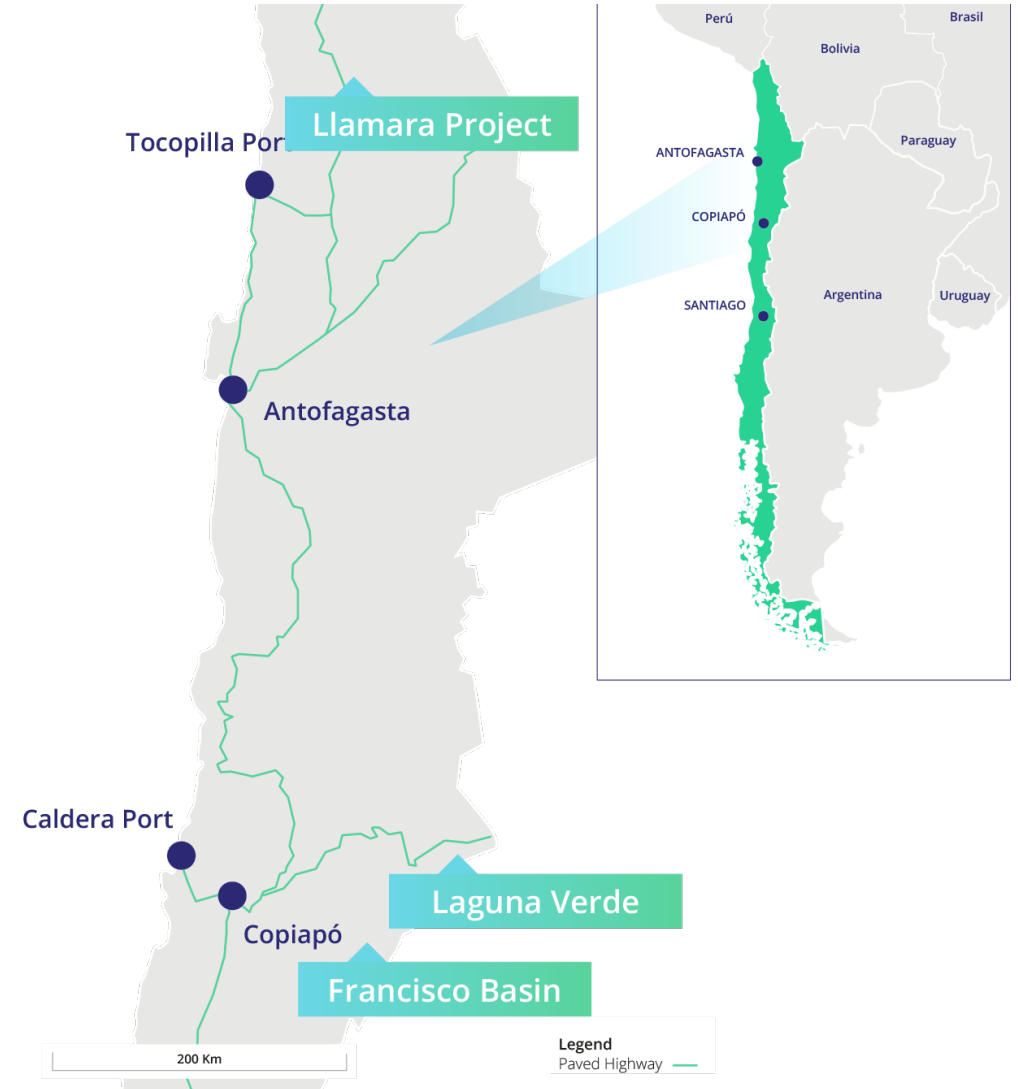


Experienced board and management that have developed new major production projects in Chile



Listed on AIM March 2022 – £9.6m raised in pre-IPO and IPO funds, a further £12.3m raised in November 2022

Project	Licence Area	Resource Estimate (JORC)
#1 Laguna Verde	67 km <sup>2</sup>	1.5 million tonnes LCE at 206 mg/L Li
#2 Francisco Basin	110 km <sup>2</sup>	0.5 million tonnes LCE at 305 mg/L Li
#3 Llamara	344 km <sup>2</sup>	Greenfield exploration



# CleanTech Lithium – Key Data



<b>Market listing:</b> AIM, OTC, FWB, ASX soon	<b>Ticker:</b> (AIM:CTL), (OTC:CTLHF), (FWB:T2N)	<b>Market cap:</b> £55.3M	<b>Share price:</b> 52p (04-Apr-23)
<b>Funds raised since Oct 2021:</b> £21.9m (£4.0, £5.6, £12.3)	<b>Shares in issue:</b> 106,433,500 <b>Fully diluted:</b> 119,076,245	<b>Research:</b> Canaccord / Fox Davies	<b>Price Target:</b> £5.50/ £4.45

## Directors and Significant Shareholders:

Percentage not in public hands 35.76%

Share Register as at 31 March 2023

Investor	Holding
Board and Management	19.45%
* Regal Emerging Companies Opportunities Fund and Regal Emerging Companies Funds 111	16.32%
Luke Jarvis	4.79%
Argonaut Investments	3.05%
Ayanda Capital Limited	2.79%
Premier Miton Group	2.59%
Konwave AG	2.38%
JCAM	2.17%

## Analyst coverage:



Canaccord Genuity - Top pick of 2023



Fox-Davies

## Mentions / Awards:

**Forbes**

- Top 4 Lithium stocks  
ALB-ATL-PDD

**MINING  
[DOT]COM**

- Top 10 Lithium stocks



\*The Regal Funds are two separate funds, each of which are managed by the same investment manager, being Regal Funds Management Pty Limited (ACN 107 576 821).



# Lithium

THE RESOURCE OF THE 21<sup>ST</sup> CENTURY

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# Demand for Lithium

Demand forecast to increase exponentially



Lithium is an essential material for the green economy and the decarbonisation of transport



Lithium demand forecast to rise: (\*)

- From 350,000 tonnes LCE in 2020 to 2.5 million tonnes LCE in 2030;
- Over 7 million tonnes LCE in 2040



Positive long term price trend estimate of US\$22,500/tonne for battery grade LCE from 2027 – 2040 (\*\*)

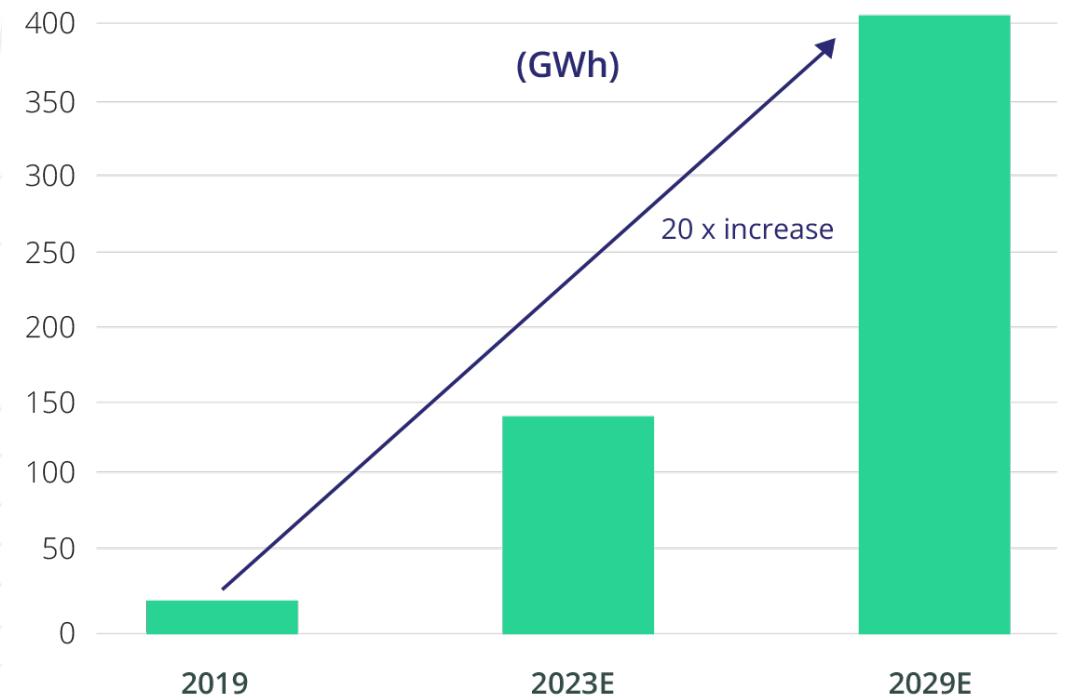


Europe is the key growth market for lithium with demand forecast to increase 20X this decade



EU announced strict CO2 footprint limits on the Li-ion battery supply chain. In tandem with carmakers setting carbon neutral targets

## European Li-ion Battery Cell Forecast



\*\* Source: Canaccord Genuity: Rating and Target Price Changes, 22 August 2022

\* Source: Benchmark Minerals, Global Lithium Forecast, Q4 2021



# Owned Projects

LOCATED IN THE LITHIUM TRIANGLE

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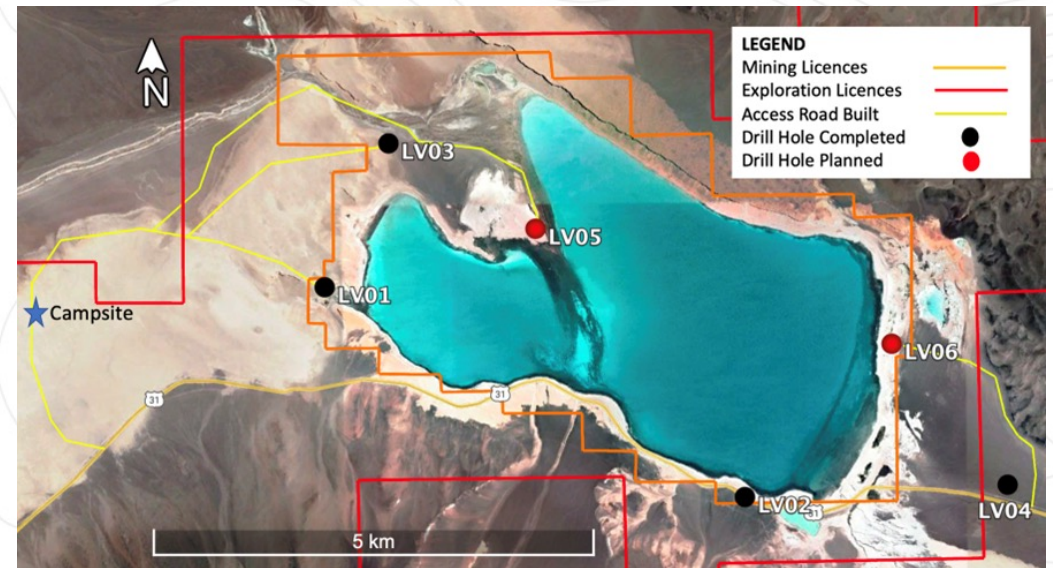


# #1 Laguna Verde

- A resource drill programme comprising four holes completed 1H 2022
- Produced JORC compliant resource estimate of 1.5 million tonnes LCE at 206mg/L lithium - majority of resource was upgraded to Measured + Indicated:
- New two well drilling campaign (LV05 & LV06) started in November 2022
- Current estimate has large upside, further upgrade confirmed 2Q 2023

JORC Resource	Measured	Indicated	M+I	Inferred	Total
Lithium (million tonnes LCE)	0.2	0.6	0.8	0.7	1.5
Grade (mg/L Li <sub>3</sub> CO <sub>2</sub> )	211	205	206	205	206

- Higher grades at depth (up to 409mg/L in deepest samples)
- Strong geothermal influence on brines, average 20–30°C, matches ideal temperature range for DLE process (significant potential opex saving)
- Makes Laguna Verde the shallowest geothermal influenced brine in the world, with these elevated temperature within 65m of surface
- Environmental Impact Statement baseline studies commenced April 2022



Drilling at LV01 1H 2022



# Laguna Verde: Scoping Study

Results announced January 2023



- Supports the potential for Laguna Verde to become a major supplier of battery grade lithium
- Calculates accumulated net cashflows (post tax and royalties) of \$6.3bn, generated over the operational life of the assets
- Attractive economics, with post tax NPV of US\$1.83bn, at 8% discount, & post tax IRR of 45.1%, with payback of 1 year 8 months
- Pre-Feasibility study (PFS) to commence imminently, targeting completion in H2 2023



Rig mobilising at Laguna Verde January 2023

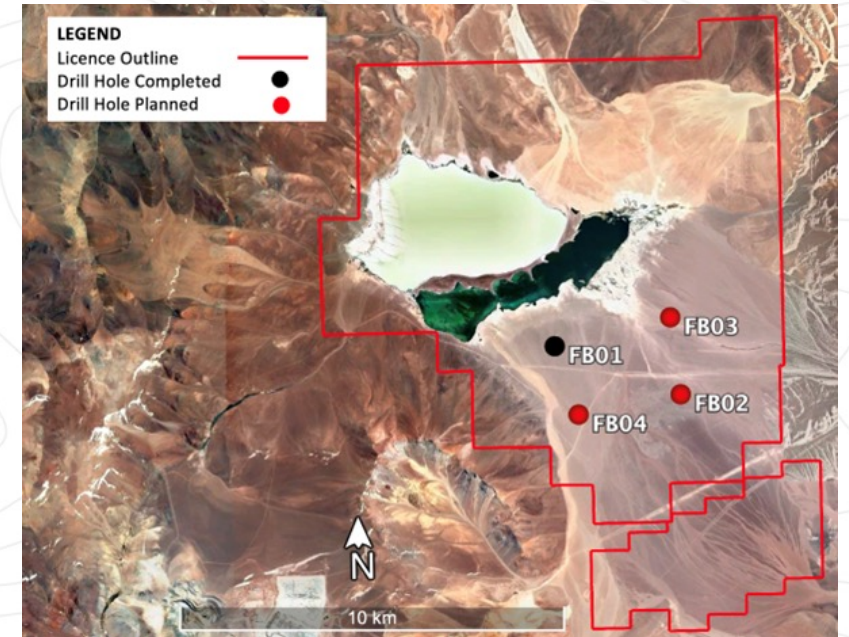
Key Operating Metrics	Unit	Study Outcome
Production Rate of Lithium Carbonate	Tonnes per annum	20,000
Operational Life	Years	30
Resource (Measured + Indicated)	Thousand tonnes	802.6
Construction Period	Years	1.5
Recovery rate - Direct Lithium Extraction	%	90.4
Recovery rate - Concentration stages & chemical plant	%	94.2
Recovery rate - Total	%	85.2

Key Financial Metrics	Unit	Study Outcome
Capital Cost (including 10% contingency)	US\$ Million	383.6
Operating Cost	US\$ / tonne Li <sub>2</sub> CO <sub>3</sub>	3,875
Lithium Price (Lithium Carbonate)	\$US/tonne	22,500 from 2027
Accumulated Net Cashflows Over Operational Life	US\$ Billion	6.3
Payback Period	Years	1 year 8 months
IRR Post-Tax	%	45.1
NPV Post-Tax (Discount Rate = 8%)	US\$ Billion	1.83
NPV Post-Tax (Discount Rate = 10%) - Sensitivity Analysis	US\$ Billion	1.43



# #2 Francisco Basin

- New lithium discovery August 2022
- Hole FB01 completed, 34 brine samples collected from aquifer zone, average lithium grade of 305mg/L
- JORC compliant Inferred resource estimate of 0.5 million tonnes LCE, based on FB01 results
- Further three drill hole campaign (FB02, FB03 & FB04) currently underway after the Chilean winter break – expected to complete in Q2 2023
- Planned upgrade resource estimate to Measured + Indicated in 2Q 2023
- Drilling is wide diameter cased bores, convertible to production bores in a commercial operation
- Scoping study commenced in late 4Q 2022, pre-feasibility study planned to commence late 2Q 2023
- Environmental Impact Statement baseline studies underway



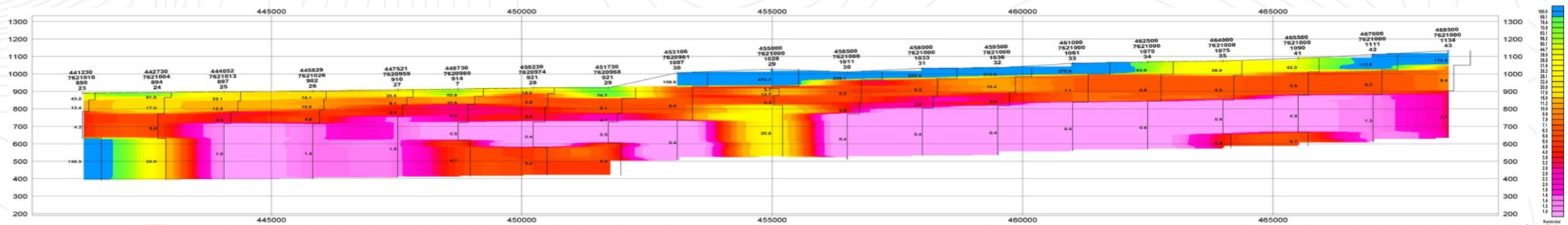


# #3 Llamara

- Greenfields project in one of the largest basins in the lithium triangle, not previously drilled for lithium – total licence area 344 km<sup>2</sup>

Lithium Triangle Basin	Company	Basin Area (km <sup>2</sup> )
Atacama	SQM / Abarmale	18,100
Hombre Muerto	Livent	4,000
Pampa del Tamarugal	CleanTech	17,150

- Historical surface sampling within basin: salt crusts up to 3,100ppm Li, hectorite up to 2,400ppm Li. These evaporite deposits indicate lithium prospectivity of basin brines
- Historical geophysics lines intersecting license area indicate very large hypersaline aquifer
- Exploration drill hole to commence in coming weeks to identify if lithium is present in the aquifer – rig contract secured, results expected 2Q 2023





Our Vision:

Direct Lithium Extraction,  
powered by clean energy

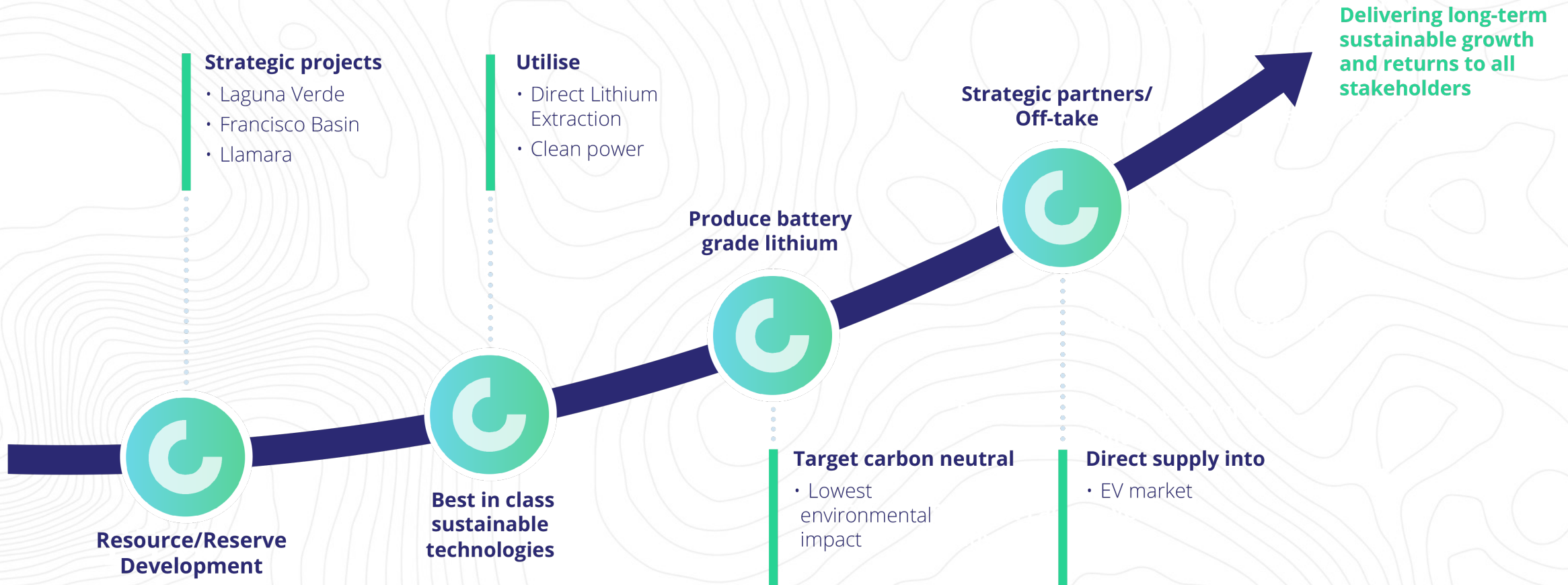
TO BE THE GREENEST LITHIUM SUPPLIER TO THE EV BATTERY MARKET

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# Strategy

Sustainable value creation





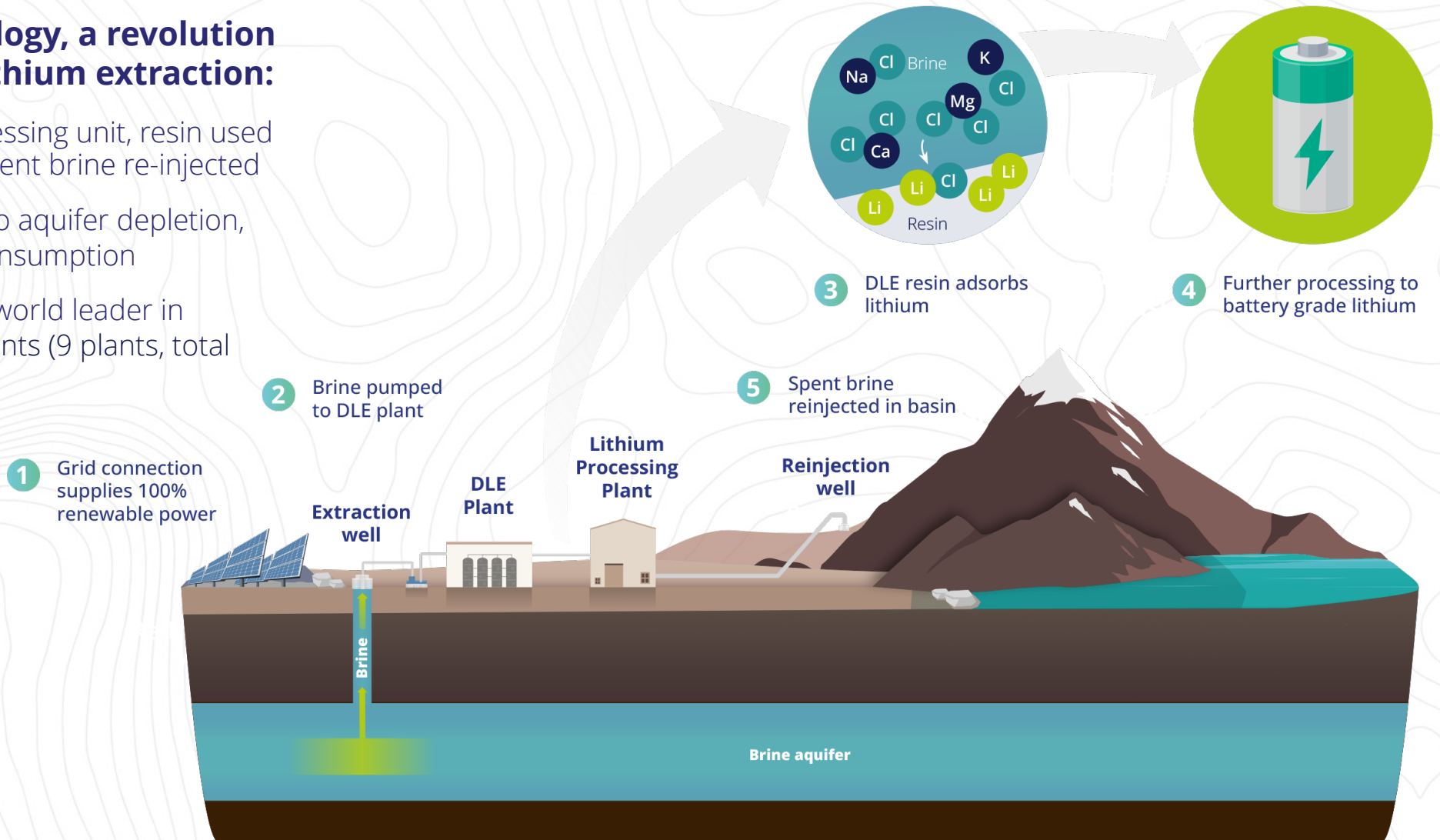
# Direct Lithium Extraction (DLE)

Low impact and sustainable



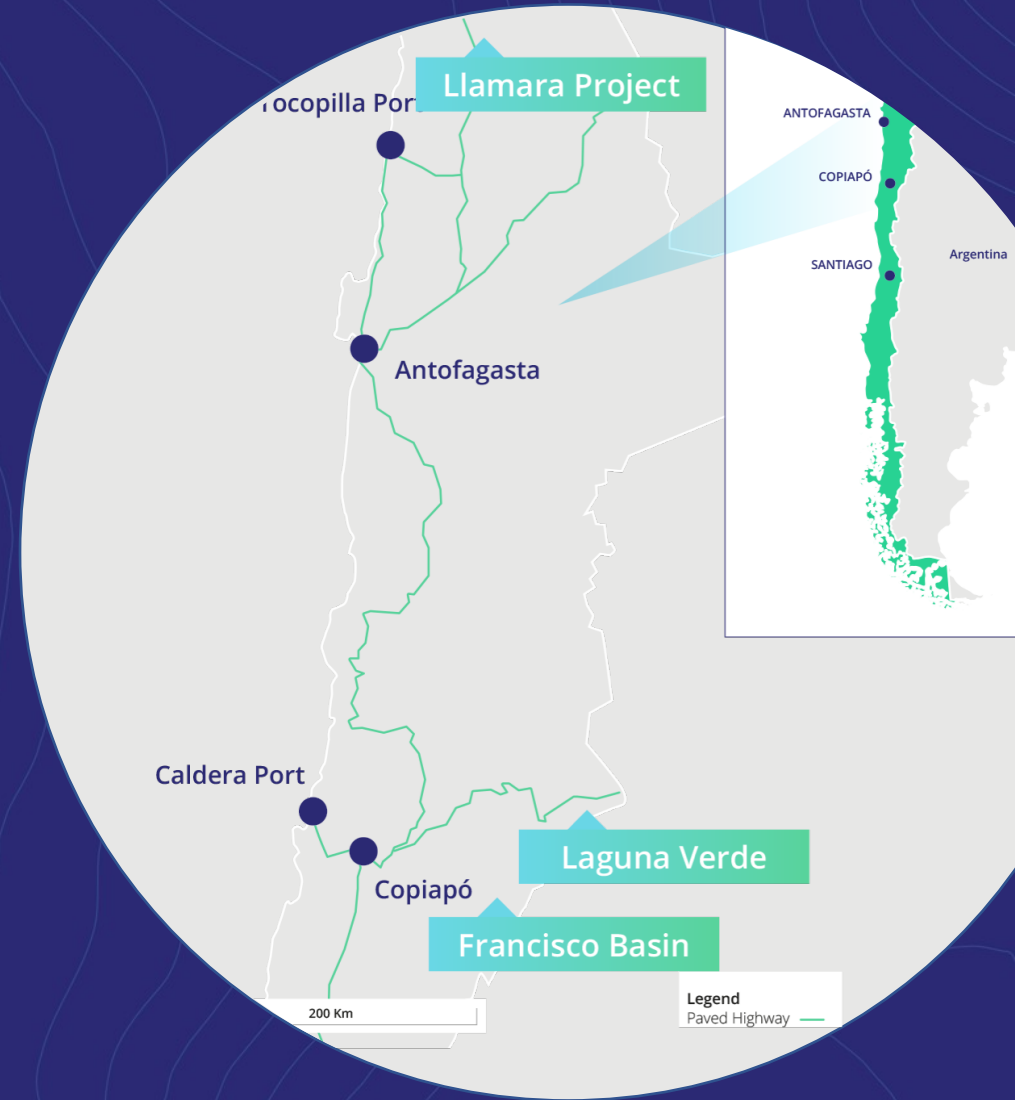
## Deploying DLE technology, a revolution in sustainability for lithium extraction:

- Brine is pumped to processing unit, resin used to extract only lithium, spent brine re-injected
- No evaporation ponds, no aquifer depletion, low-carbon, low-water consumption
- Working with Sunresin – world leader in commercial scale DLE plants (9 plants, total capacity 73,000 tpa LCE)



# Chile

LARGEST LITHIUM RESERVES GLOBALLY



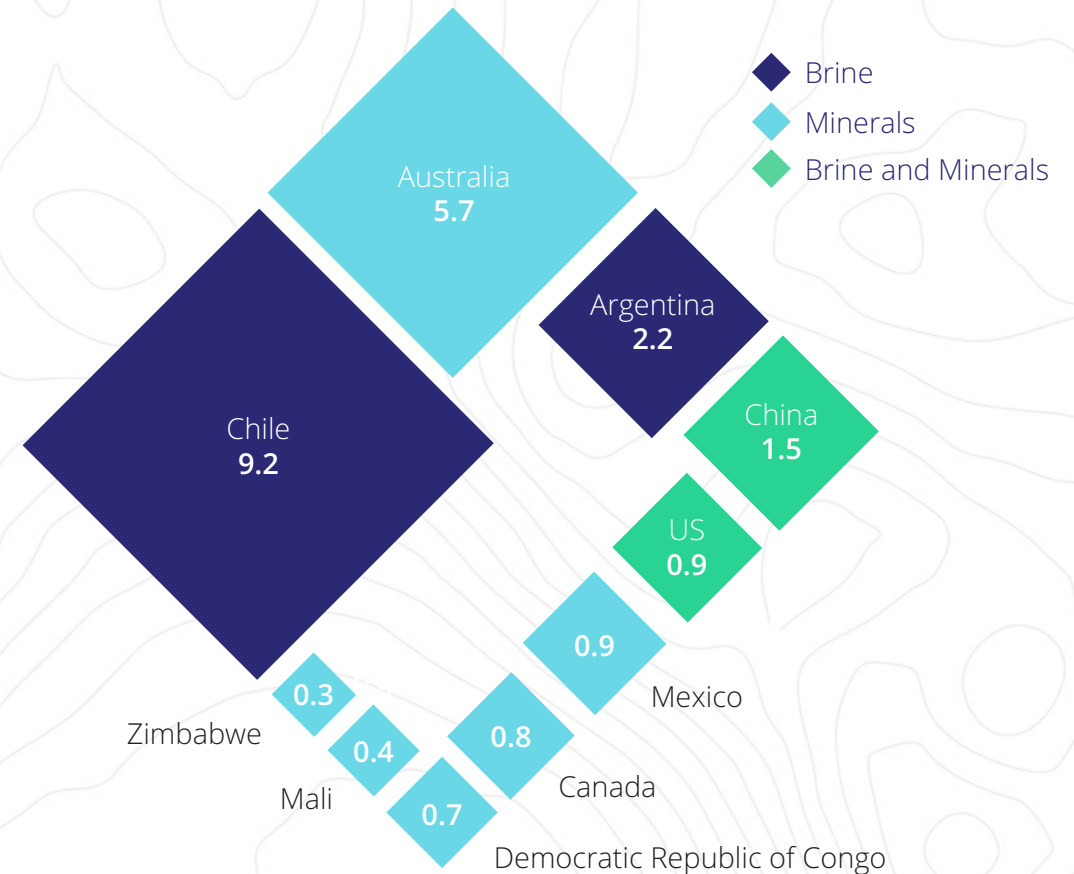


# Chile: The Home of Battery Metals

Largest global lithium reserves

- ✓ CTL strategy aligns perfectly with the Government's plan for the lithium industry. Only DLE projects prioritised for the future.
- ✓ Strong mining code and laws
- ✓ Only major lithium carbonate producer that holds a free trade agreement (FTA) with the US – Recent 'Inflation Reduction Act' requires 80% of minerals in the battery to be sourced from the US or FTA country by 2026
- ✓ "Let's invest in Chile" action plan announced Sep 2022 by new Chile President, includes:
  - Tax incentives for private investment
  - Improving access to financing
  - Public investment in infrastructure for development
  - Promoting foreign investment
  - Creating one-stop-shop for permitting
  - Promoting public-private partnerships for investment

## Global Lithium Reserves (Million Tonnes)



Source: United States Geological Survey, McKinsey & Company article, 25 May 2022

# Positioned for Production

**GREEN LITHIUM FOR THE EU BATTERY SUPPLY CHAIN**

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# Our ESG Approach – Ambition and Values

Socially minded, environmentally driven and governed by our core values



## Ambition

- To produce the greenest battery grade lithium for the EV future



## Values:

- Seeking to create a safe workplace
- Improving the environment that we operate in
- Leading with transparency and integrity

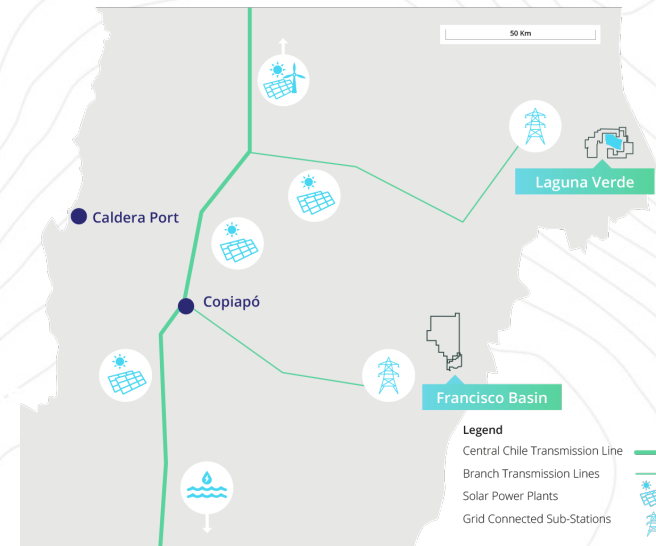


## ESG Approach:

- Commitment to carbon neutrality, net-zero production and low water consumption
- Low environmental footprint, powered by Chile's established renewable energy grid
- Strong stakeholder and government relations & good corporate governance



Francisco Basin site visit with CTL safety specialist in March 2023



Chile's Renewable Energy Grid

# Roadmap to raise ~USD \$400m Capex Funding

## Timing

- Funding the capital cost of the project will only follow after Laguna Verde resources have been upgraded, the PFS is largely complete and DLE pilot plant results are known, etc. *[ie. following further multiple de-risking and value inflection points]*
- Detailed discussions with various parties likely to commence in 3Q 2023, supported by the Company's brokers & other financial institutions.

USD \$400m likely to come from a mix of stakeholders & consortia of funders – to include:



- Traditional Infrastructure debt funding for projects of this scale is a well travelled path
- Banks increasingly keen to show the Green / ESG credentials of their investments



- Off-takers very likely to prove a key source of finance as they seek to de-risk their future off-take / supply chain in the race to meet demand – equity, debt, forward sales, etc
- Car & battery manufacturers, Global entities, Energy companies, international traders, etc



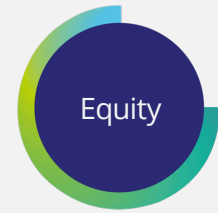
- Companies operating in Chile have potential access to funds available through the recently signed Inflation Reduction Act (IRA) – via Chile's Free Trade Agreement (FTA) with the US
- Unique position for CTL and its shareholders



- Much like the banks, but could well prove more sophisticated and combining equity components
- Asset and resource backed finance



- As with Infrastructure funds, but ESG funds will be ringfenced to more ethical and lower carbon investment opportunities such as CTL
- US\$ 'trillions available through ESG funds



- Board will need to balance minimising dilution with giving existing holders the opportunity to participate in future raises

## Track record

- Board has proven track record, having raised >USD\$2bn for small-medium sized companies for infrastructure, mining and natural resource projects – maximising value and minimising shareholder dilution
- With strong cashflows forecast, project could potentially justify debt of up to 75% of the project CAPEX.



# Summary: De-risked Path to Production

Driving shareholder value – sustainable lithium for the EV future



Short lead time  
to production



Proven DLE  
Technology \*



Excellent  
infrastructure  
Roads, renewable power  
& water supply



Right to operate  
No indigenous communities  
or unique flora/fauna  
to disturb



Supportive  
government/  
stakeholders



Financed  
for growth



Strategic partner/  
offtake upside



ESG  
focus

\* DLE plants operating successfully in Argentina and China

# Appendices

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# DLE: Proven Technology in Various Countries

Pioneering Methodology for Sustainable Lithium Extraction



Company	Producers														
	CleanTech Lithium	Livent	Lanke Lithium	Zangge Lithium	Jintai Lithium	Eramet/ Qingshan	Standard Lithium	Vulcan Energy	Rio Tinto	CTR	Energy Source Minerals	Berkshire Hathaway	Lake Resources/ Lilac	Compass Minerals	E3 Metals
Asset name	L. Verde / Francisco Basin	Hombre	Qinghai	Qinghai	Qinghai	Centenario-Ratonos	Smackover	Zero Carbon Lithium™	Rincon	Hell's Kitchen	ATLiS	Salton Sea	Kachi	Great Salt Lake	Clearwater Lithium
Country															
DLE provider	SunResin	Proprietary	SunResin	SunResin	SunResin	Proprietary	Proprietary	N/A	Axion	Lilac	Proprietary	Proprietary	Lilac	N/A	Proprietary
Stage	Pilot	Production	Production	Production	Production	Construction	Demo	Pilot	Pilot	Offsite pilot	Pilot	Pilot	Offsite pilot	Pilot	Pilot
Resource (Mt LCE)	2.0	N/A	N/A	N/A	N/A	10	3	16	12	3	N/A	N/A	4	2	7
Lithium Grade (mg/L)	206-305	N/A	N/A	50 - 60	N/A	436	168	181	397	181	N/A	N/A	211	71	75
Geothermal															
Start date	2025	1998	2017	2018	2019	2024	tbc	2024	2025	2024	2024	tbc	2024	tbc	2025
Capacity (ktpa LCE)	40	20	20	20	7	24	21	40	50	20	20	90	25	20-25	20
Valuation (US\$m)*	\$70	\$4,600	N/A	N/A	N/A	N/A	\$756	\$764	\$825	N/A	N/A	N/A	\$877	\$1,810	\$111

\*Valuations as at 30.01.23

“DLE can massively increase supply, you don’t need two years of drying lithium out from the brine. And instead of getting about 40% of lithium out of the brine, you can get more than double the amount.”

(McKinsey, May 2022)

# Board & Management

Strong operational experience, local knowledge and commercial understanding



## Board



**STEVE KESLER**  
Executive Chairman

- 45 years of executive and board roles in the mining sector
- Direct lithium experience as CEO/Director of European Lithium
- Chile experience with Escondida and as the first CEO of Collahuasi.



**ALDO BOITANO**  
Chief Executive Officer

- Co-founder of CleanTech Lithium, 25 years of management roles
- Board member of the International Leadership Association.
- Pioneer in Chile's solar industry with >800MW of projects deployed.



**GORDON STEIN**  
Chief Financial Officer

- Commercial CFO with over 30 years expertise in energy & natural resources
- A chartered accountant, has worked with start-ups to major companies, including board roles of 6 LSE companies.



**MAHA DAUDI**  
Non-Executive Director

- Over 20 years of holding several Board and senior level positions, including with leading commodity trader, Trafigura.
- Holds expertise in offtake agreements and forming strategic partnerships.



**JONATHAN MORLEY-KIRK**  
Non-Executive Director

- 30 years of experience including 17 years in Non-Executive Director roles
- Expertise in financial controls, audit, remuneration, capital raisings, taxation/ structuring and risk management



# Board & Management

Strong operational experience, local knowledge and commercial understanding



## Senior Management



**SERGIO VIDELA**  
Studies & Projects  
Manager



**JASON BAVERSTOCK**  
Executive Strategy &  
Development



**ALVARO FLOREZ**  
Legal Manager



**SABINE MACAYA**  
Operations Manager



**GERALDINE CARMONA**  
Finance Manager



**MARCELA SEPULVEDA**  
Community Relations



**RODRIGO RIVAS**  
DLE Processes  
Manager



**TERESA RENTERO**  
Senior Hydrogeologist



**DERMOT BOYLAN**  
Group Financial Controller

## Technical Advisory



**MARCELO BRAVO**  
Ad-Infintum

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