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CleanTech Lithium PLC
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CleanTech Lithium PLC ("CleanTech Lithium" or "CTL" or the "Company")
Direct Lithium Extraction (DLE) Progress Update

CleanTech Lithium PLC (AIM:CTL, Frankfurt:T2N, OTCQX:CTLHF), an exploration and development company advancing sustainable lithium projects in Chile for the clean energy transition, provides a progress update on Direct Lithium Extraction (DLE) with the final components for the DLE Pilot Plant arriving and being installed in Copiapó, Chile.

The Company is progressing the Pre-Feasibility Study (PFS) at its major Laguna Verde project which will incorporate the results from extensive test work over six months using the lab scale multivalve DLE system. In addition, the DLE Pilot Plant and downstream process plant to produce battery grade lithium carbonate will enable the Company to advance discussions with potential strategic partners who can support the development and financing of the Company's projects.

Highlights:

- Delivery of final components of the DLE Pilot Plant at CTL's warehouse facilities in Copiapó means the pilot plant can be fully assembled and testing starts.
- Technicians from Sunresin are scheduled to visit at the end of November 2023 for the final testing and commissioning phase.
- The DLE Pilot Plant is designed to produce up to 1 tonne per month of lithium carbonate equivalent (LCE) in concentrated lithium eluate which will be processed to battery grade lithium carbonate at an existing third party facility.
- Samples of the product will be made available to potential strategic partners and offtakers, such as major auto and battery manufacturers, for testing and product qualification.
- Recently, a team from CTL's senior leadership visited several DLE operations in China. The visit demonstrated how rapidly DLE technology is advancing.
- CEO Aldo Boitano, Non-Executive Director, Maha Daoudi and DLE Process Manager, Rodrigo Rivas, visited DLE operations and manufacturers spanning the DLE supply chain to see first hand the commercial application of the technology in China.

Aldo Boitano, Chief Executive Officer, CleanTech Lithium said: "The recent visit to China has shown me the great opportunity DLE offers to produce lithium with an ESG led approach. It is clear in my mind that DLE is the way forward for lithium production if we are to meet EV production targets.

The companies we visited in China are forging ahead with lithium extraction from brine with no evaporation ponds and this has provided further certainty in our projects as we progress with the PFS for Laguna Verde. This important phase of CTL's growth will help with the discussions we are planning to have with strategic partners in 2024.

The next six months is going to be a busy period for CTL, with the combination of the PFS and the analysis of results from the DLE Pilot Plant making this an exciting period in the Company's journey."

Maha Daoudi, Independent Non-Executive Director, CleanTech Lithium said: "It has been fantastic to return to China and see the pace of technological advancement. With the support of a local specialist consultant with whom I have worked before for many years, we have been able to meet the Chairmen and CEOs of some of the world's leading DLE developers to discuss how we can apply their technical expertise to CTL's projects. It has been overall a very constructive visit and gives positive perspectives for the development of CTL's projects. "

DLE Pilot Plant

The pilot plant is designed for process optimisation and to produce a purified concentrated eluate that will feed the downstream process to deliver 1 tonne per month of LCE for product qualification by potential offtakers and strategic partners.

The US$2 million plant has been fabricated in Belgium by Puritech, a wholly-owned subsidiary of the Company's DLE partner, Sunresin, who are the leading provider of operational DLE facilities in the world.

The final shipment for the DLE Pilot Plant has arrived in Chile and will be transported to CTL's warehouse facility in Copiapó where it will be assembled. Technicians from Sunresin are scheduled to visit at the end of November 2023

for the final testing and commissioning phase.

The DLE pilot plant will process feed brine to produce an eluate in which lithium has been selectively extracted and concentrated, while other elements in the brine are greatly reduced (see figure 1). The eluate will then undergo several stages of concentration and impurity removal before carbonation into battery grade lithium.

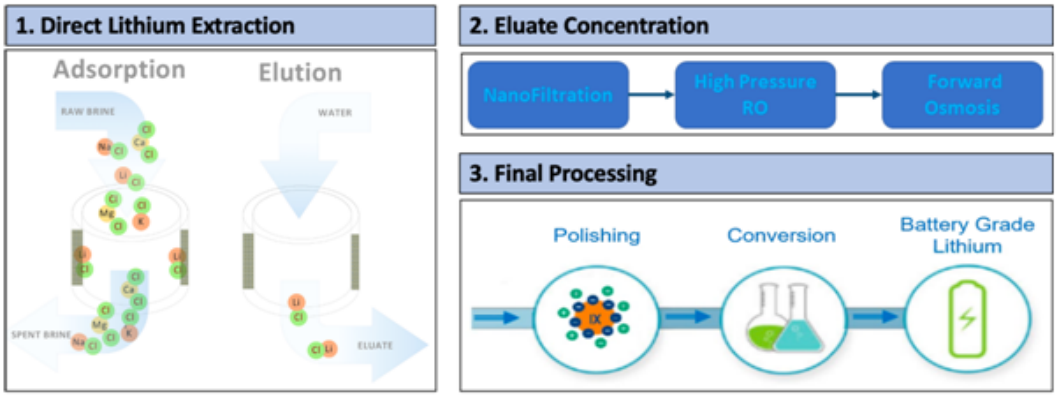


Figure 1: CleanTech Lithium's simplified DLE processing flowsheet

China Visit by Senior Management

CEO, Aldo Boitano, Non-Executive Director Maha Daoudi and DLE Processes Manager, Rodrigo Rivas, recently visited China where they met with several DLE operators and developers. Ms Daoudi has significant experience in China from her time at world leading trading company, Trafigura, where she helped develop strategic partnerships and significant offtake agreements over a number of years. A key objective of the trip was to share learnings and developments of CTL's projects, meet the leadership teams of DLE companies and see the facilities of existing operators.



Figure 2: Sunresin's senior leadership team welcoming CleanTech Lithium to their facilities



Figure 3: Lanshen's senior leadership team welcoming CleanTech Lithium to their facilities

CTL visited Sunresin New Materials Co. Ltd. and Lanshen Technology which included seeing facilities similar to the Company's DLE pilot plant being assembled in Copiapó. This included a trip to Geermu, Golmud to see a resin manufacturing process which is used for their three operating DLE plants.



Figure 4: Lanshen's demonstration plant for extracting lithium from brine with Minmetals Salt Lake Co. Ltd.

Source: Lanshen New Material Technology Co.Ltd.



Figure 5: Jiuwu's senior leadership team welcoming CleanTech Lithium to discuss DLE development and attend a site visit

A further productive meeting was held with Jiangsu Jiuwu Hitech Co.,Ltd, a leading specialist in membrane technologies, including a visit to a working DLE pilot plant.



Figure 6: CEO, Aldo Boitano from CleanTech Lithium on a visit to a DLE pilot plant

A meeting was held with Yongzheng, experts in the manufacturing and exporting of lithium batteries. The Company is currently constructing a 5,000 tpa battery-grade lithium hydroxide project where it is using a technology that maximises lithium recovery rates.

DLE, as demonstrated in China, is a proven method of producing lithium from brines faster and with much higher recovery rates compared to traditional production that require pre-treatment and evaporation ponds. DLE is based on a commercially proven adsorption technology and has been used in multiple industries over many decades and is now being applied to brine-based lithium projects.

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For further information contact:

CleanTech Lithium PLC	
Aldo Boitano/Gordon Stein	Jersey office: +44 (0) 1534 668 321
	Chile office: +562-32239222
	Or via Celicourt
Celicourt Communications	+44 (0) 20 7770 6424
Felicity Winkles/Philip Dennis/Ali AlQahtani	cleantech@celicourt.uk
Dr. Reuter Investor Relations	+49 69 1532 5857
Dr. Eva Reuter	
Harbor Access - North America	+1 475 477 9401
Jonathan Paterson/Lisa Micali	
Porter Novelli - Chile	+569 95348744
Ernesto Escobar	Ernesto@publicoporternovelli.cl
Beaumont Cornish Limited	+44 (0) 207 628 3396
(Nominated Adviser)	
Roland Cornish/Asia Szusciak	
Fox-Davies Capital Limited	+44 (0) 20 3884 8450
(Joint Broker)	
Daniel Fox-Davies	daniel@fox-davies.com
Canaccord Genuity Limited	+44 (0) 207 523 4680
(Joint Broker)	
James Asensio	

Notes

About CleanTech Lithium

CleanTech Lithium (AIM:CTL, Frankfurt:T2N, OTCQX:CTLHF) is an exploration and development company advancing sustainable lithium projects in Chile for the clean energy transition. Committed to net-zero, CleanTech Lithium's mission is to produce material quantities of battery grade using sustainable Direct Lithium Extraction technology, powered by renewable energy, the Company plan to be the leading supplier of 'green' lithium to the EV and battery manufacturing market.

CleanTech Lithium has four lithium projects - Laguna Verde, Francisco Basin, Llamara and Salar de Atacama - located in the lithium triangle, the world's centre for battery grade lithium production. The two major projects: Laguna Verde and Francisco Basin are situated within basins controlled by the Company, which affords significant potential development and operational advantages. All four projects have direct access to existing infrastructure and renewable power.

CleanTech Lithium is committed to using renewable power for processing and reducing the environmental impact of its lithium production by utilising Direct Lithium Extraction. Direct Lithium Extraction is a transformative technology which removes lithium from brine, with higher recoveries and purities. The method offers short development lead times, low upfront capex, with no extensive site construction and no evaporation pond development so there is no water depletion from the aquifer. www.ctlithium.com

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