

SCOPING STUDY INVESTOR PRESENTATION

Solaroz Lithium Brine Project, Argentina

High margin lithium project
with large scale & long life
potential

31 OCTOBER 2023

ASX:LEL

lithiumenergy.com.au

A HIGH MARGIN, LARGE SCALE LITHIUM PROJECT

Developing Solaroz for sustainable lithium supply



Outstanding project economics



Significant upside opportunity with resource expansion potential



Scoping Study demonstrates low technical and development risk



Multiple EV Battery parties seeking partnership

HATCH

Design and Engineering components of Study undertaken by global professional services firm, Hatch

SOLAROZ LITHIUM BRINE PROJECT

Scoping Study confirms exceptionally strong project economics for both 20ktpa and 40ktpa LCE production scenarios

Pre-Tax NPV ₁₀	20ktpa US\$2.3bn	40ktpa US\$3.9bn	Pre-Tax IRR	20ktpa 41%	40ktpa 44%
Mine Life	20ktpa 36 years	40ktpa 19 Years	Capital Payback Period (Post Tax)	20ktpa 2.5 years	40ktpa 2 years
Annual EBITDA	20ktpa US\$378m	40ktpa US\$730m	CAPEX (ex 30% contingency)	20ktpa US\$542m	40ktpa US\$987m

CORPORATE OVERVIEW

Lithium Energy Limited (ASX:LEL)

Fully Paid Ordinary Shares

103,010,000

Options

(Exercise Prices: Various \$0.30 - \$1.595)

36,500,000

Market Capitalisation

(@ \$0.675)

(as at 30 October 2023)

\$70 Million



HIGHLY EXPERIENCED TEAM

Strong leadership, technical and commercial experience



William Johnson
Executive Chairman

MA (Oxon), MBA, MAICD

- Masters degree in Engineering Science from Oxford.
- 35 year international business career, resource exploration and development.
- Highly experienced public company director.



Victor Ho
Company Secretary & CFO

BCom, LLB (Western Australia), CTA

- 23+ years executive roles with ASX-listed companies.
- Chartered Tax Adviser (CTA).
- Extensive experience in public company administration.



Raúl Di Lena
GM Solaroz S.A.

BSc Chem Eng; MFin (Magister of Finance, UNR)

- Chemical Engineer with 25+ years experience.
- Extensive experience with lithium brines in Argentina.
- Former Operations Manager for Minera Exar S.A, the local joint venture between Lithium Argentina and Ganfeng Lithium.



Peter Smith
Executive Director

BSc (Sydney), AIG, ASEG

- Geophysicist with 30+ years in mineral exploration.
- Ex. Normandy, Pasminco, BHP Billiton, Cliffs Natural Resources.
- Extensive experience in mineral exploration, development leading to production.



Murray Brooker
Technical Consultant

BSc, MSc, MAIG, RPGeo, MAIH

- Extensive experience evaluating salt lake lithium and potash brine projects in Argentina.
- Worked extensively in the Olaroz-Cauchari basin in Jujuy, Argentina. JORC competent person for ASX listed Allkem on the Olaroz and Cauchari brine projects.



Graham Fyfe
GM Projects

BSc Chem Eng

- Chemical Engineer with 30 years resources experience.
- Ex. De Beers, Rio Tinto, Battery Minerals Limited.
- Extensive experience with graphite development.



Farooq Khan
Executive Director

Bjuris, LLB (Western Australia)

- Executive management of ASX-listed companies.
- Extensive experience in the capital markets including capital raisings, mergers and acquisitions and investments.

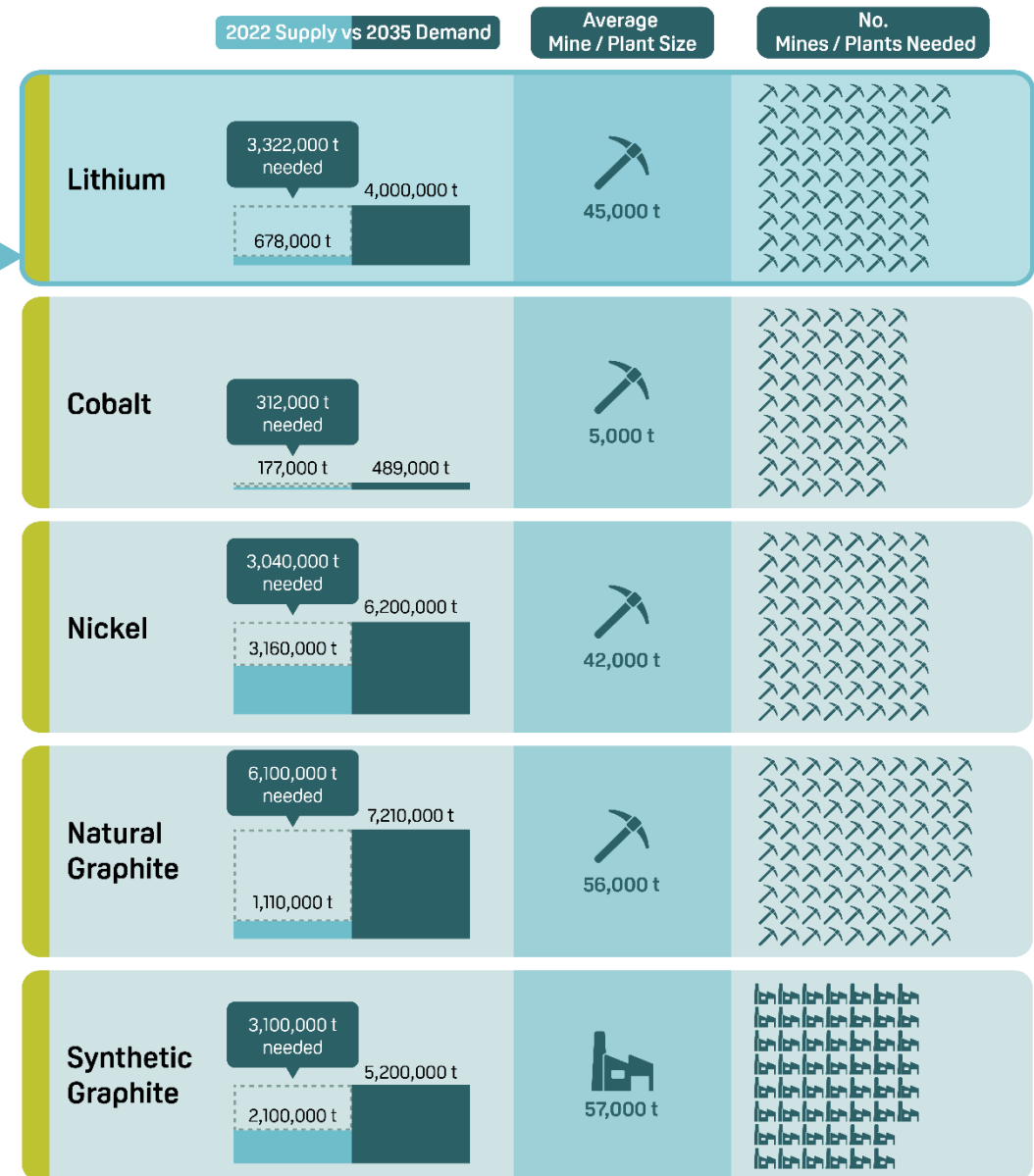
INCREASED BATTERY DEMAND NEEDS SUPPLY

74 new lithium mines required by 2035 to support global demand

Average size 45,000 tonnes LCE

- 500% increase in battery demand by 2035, forecast by Benchmark.
- Solaroz is ideally positioned to feed into forecast LCE supply deficit.
- Supply into US and EU from Argentina supported by policy frameworks and trade agreements.

How Many Mines do we Need?

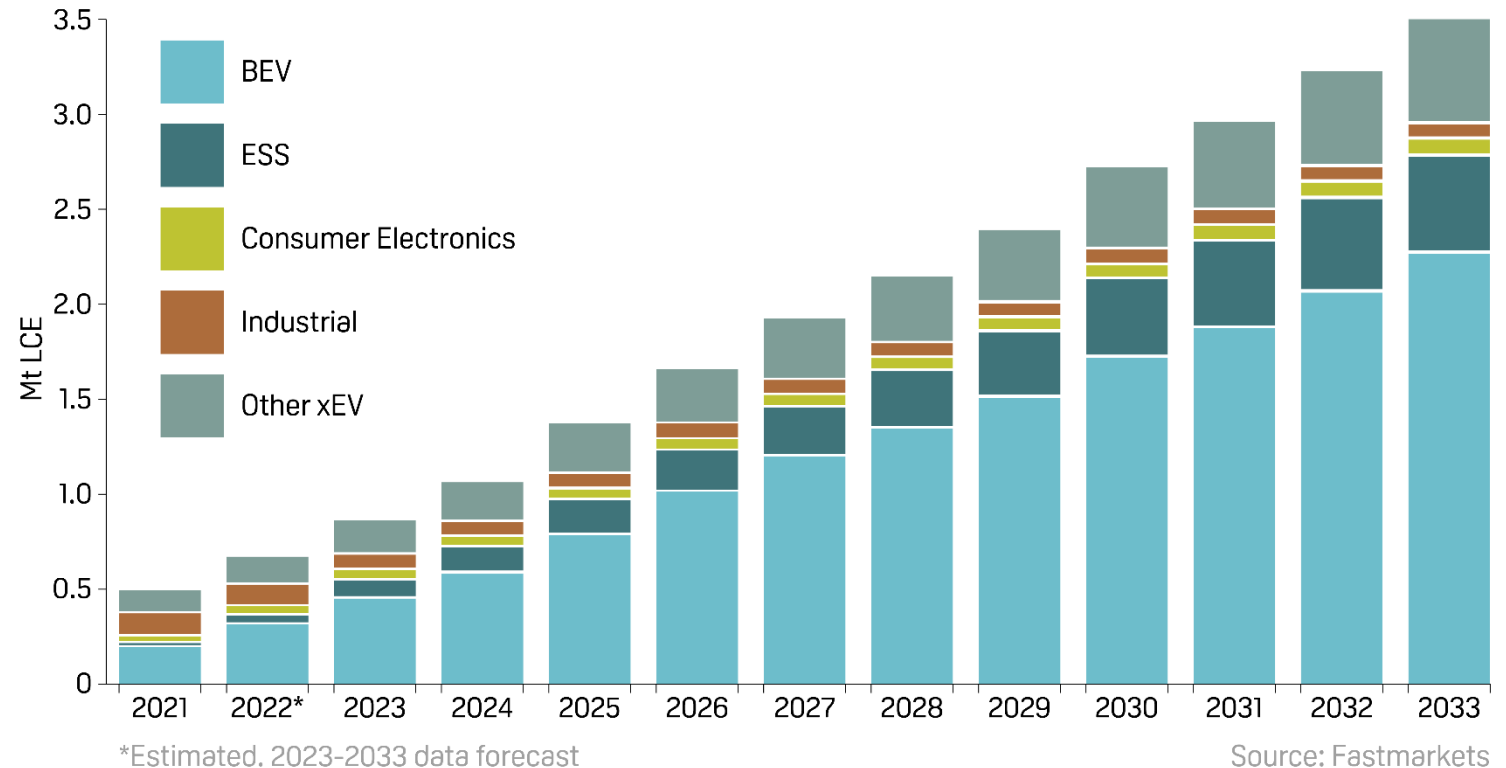


ACCELERATING LITHIUM DEMAND DRIVEN BY EVS

- Demand for battery materials is accelerating as the world transitions to net zero.
- Unprecedented demand from battery electric vehicles (BEVs) continues.
- Fastmarkets forecasts demand from BEVs to grow by 300% from 2023 to 2033 (20% CAGR).

3.5 million tonnes Lithium Carbonate Equivalent (LCE) needed by 2033

EV adoption continues to gather pace



LITHIUM BRINE IS KEY FOR FUTURE SUSTAINABLE SUPPLY

Brine processing uses less carbon and less water than hard rock lithium sources

- **Lower carbon emissions**

Lithium carbonate produced from brine typically has less than 1/3 the carbon intensity (CO₂ emissions) of equivalent lithium chemicals produced from hard rock deposits.

- **Less water**

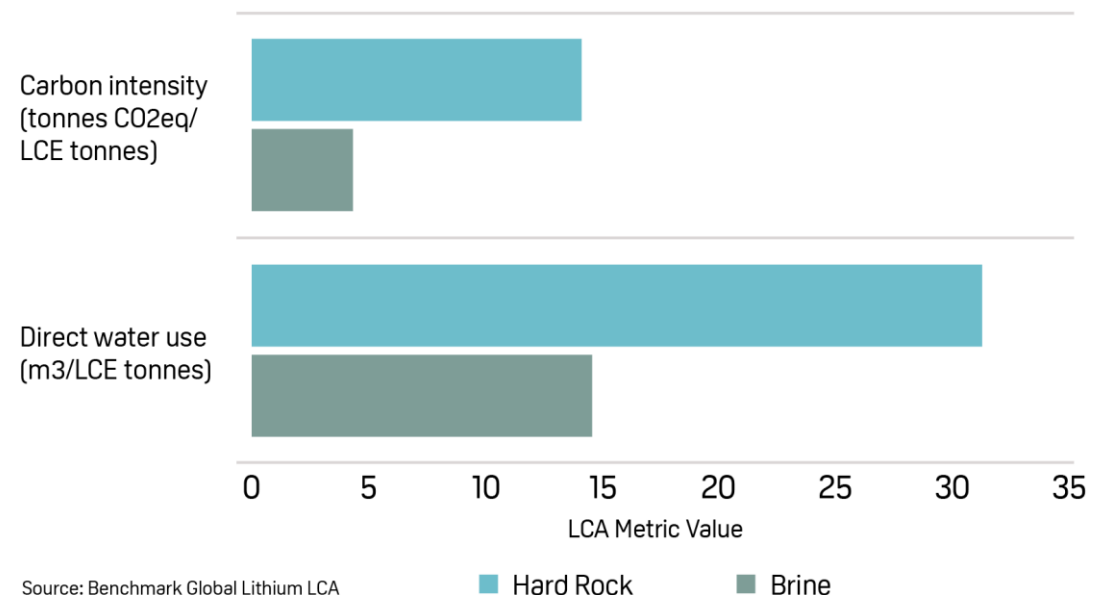
Brine processing uses less than 1/2 the water as spodumene processing.

- **Environmental metrics**

Benchmark's life cycle assessment (LCA) analysis finds that on almost every metric, lithium chemicals from hard rock sources are more environmentally damaging than those from brine sources.

Environmental impact of spodumene vs brine

Lithium carbonate produced from brine is less carbon and water intensive than using spodumene ore.



SCOPING STUDY HIGHLIGHTS

Key Results

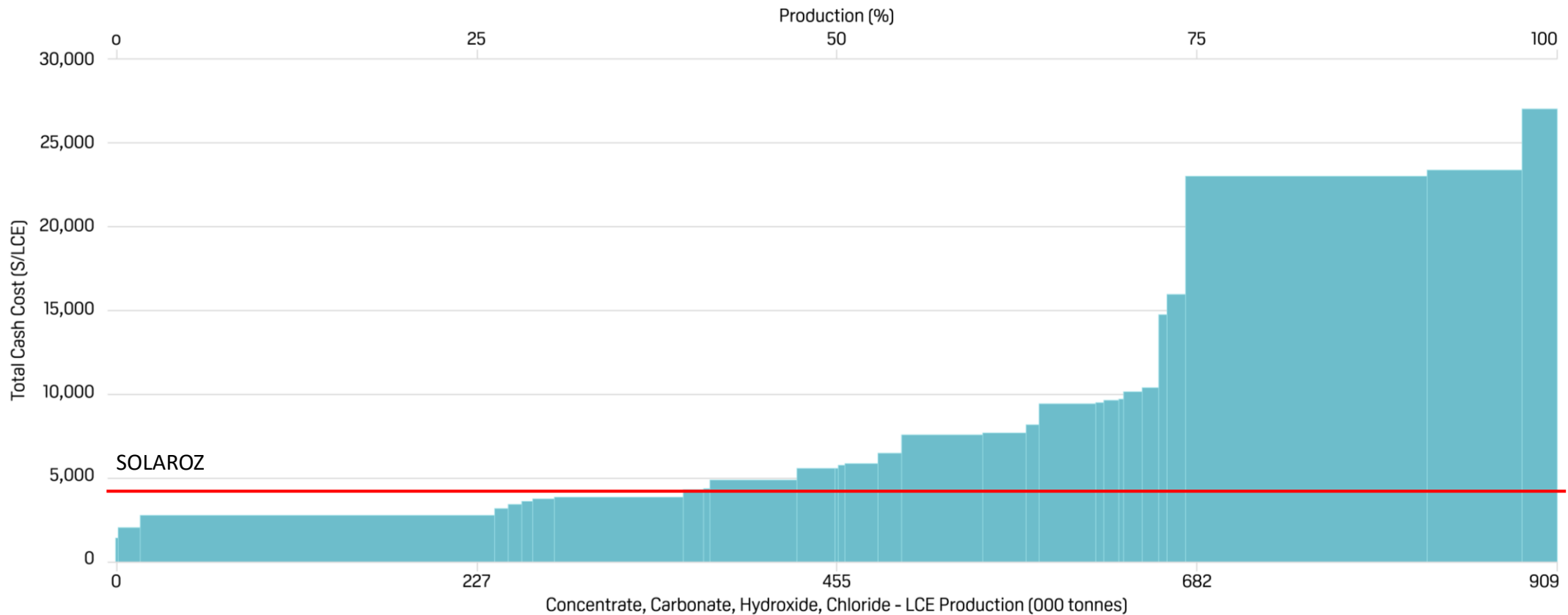
Parameters	Units	20ktpa LCE	40ktpa LCE
Lithium Carbonate Production	Tonnes/year	20,000	40,000
Project Life Estimate (including ramp-up)	Years	36	19
Capital Cost (CAPEX) (ex 30% contingencies)	US\$M	542	987
Direct Capital Cost (ex contingencies, indirect costs and Owner's costs)	US\$M	372	714
Average Annual Operating Cost (OPEX)	US\$/tonne	4,985	4,611
Average Li₂CO₃ Selling Price (assumed constant over life of mine)	US\$/tonne	25,000	25,000
Average Annual EBITDA	US\$M	378	730
Pre-Tax Net Present Value (NPV₁₀)	US\$M	2,290	3,879
Pre-Tax Internal Rate of Return (IRR)	%	41	44
After-Tax and Royalties Net Present Value (NPV₁₀)	US\$M	1,319	2,200
After-Tax and Royalties IRR	%	29	32
Payback Period (After-Tax)	Years	2.5	2.0

SOLAROZ IS HIGHLY COMPETITIVE ON THE COST CURVE

Industry Total Cash Cost curve for LCE production 2023

2023 Lithium Production Ranked on Total Cash Cost

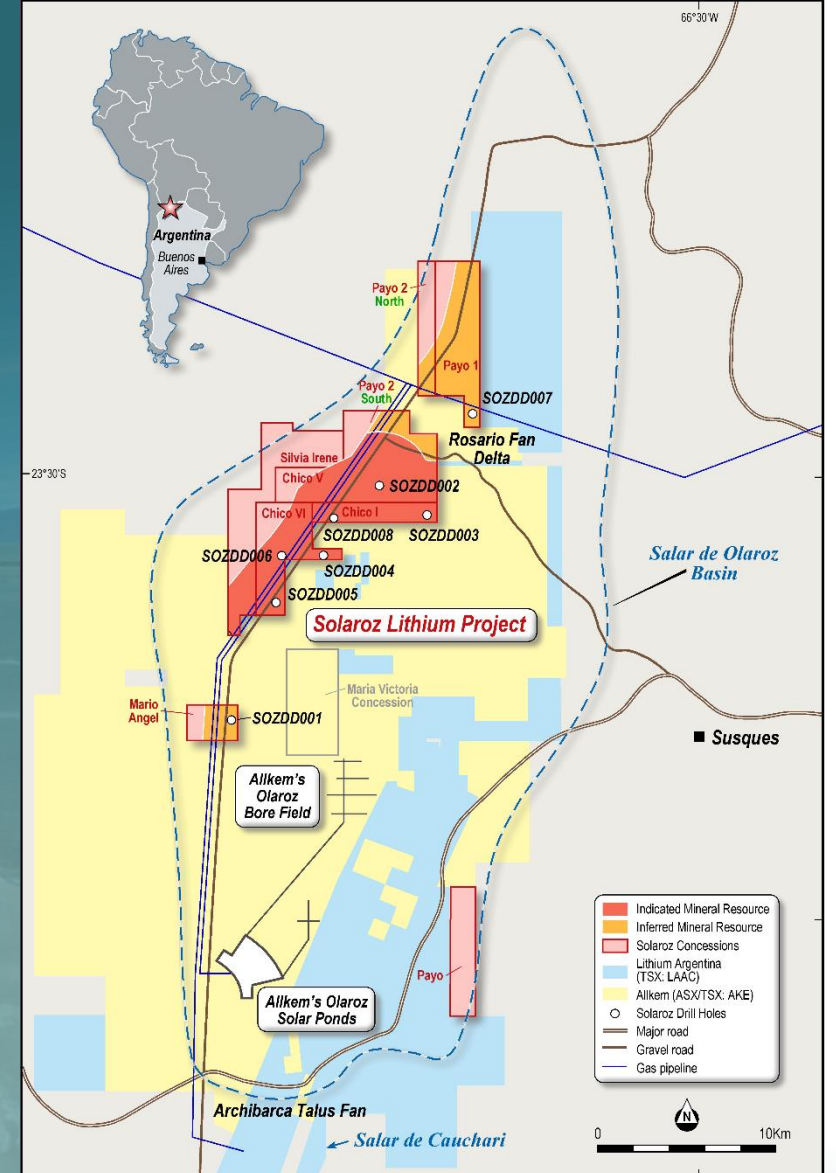
Scenario: Market Intelligence 2022 Constant USD



SOLAROZ MINERAL RESOURCE ESTIMATE

Solaroz hosts a significant, strategic resource of lithium

- Total JORC Indicated and Inferred MRE of **3.3Mt of LCE**.
- **Indicated category 2.4Mt of LCE**.
- Contains **high-grade core of 1.3Mt of LCE** with an average concentration of 400 mg/l lithium.
- 1.3Mt of LCE alone is sufficient for 36 years LCE production at 20ktpa or 19 years at 40ktpa, using solar evaporation.
- MRE encompasses 8 holes of initial drilling program, with **potential to add size and grade with further drilling**.



Solaroz Lithium Project, Argentina
Solaroz Concessions Location Plan

LEL LITHIUM ENERGY LTD www.lithiumenergy.com.au

PONDS OR DLE?

Solaroz can take advantage of alternative development pathways

The favorable climate, infrastructure and chemistry of brines at the Olaroz Salar supports the potential development of Solaroz with traditional solar evaporation and/or DLE technology.

Evaporation Ponds

Scoping Study confirms Solaroz brines are suitable for processing using conventional solar evaporation.

12,000ha Solaroz landholding could support evaporation ponds of similar scale to Allkem and Lithium Argentina.



Lithium Argentina Cauchari – Olaroz project

OR

Direct Lithium Extraction

Direct Lithium Extraction (DLE) presents potential benefits including shorter timeframe to production & better recoveries.

Agreement with Lanshen for 3,000tpa DLE Demonstration Plant at Solaroz.

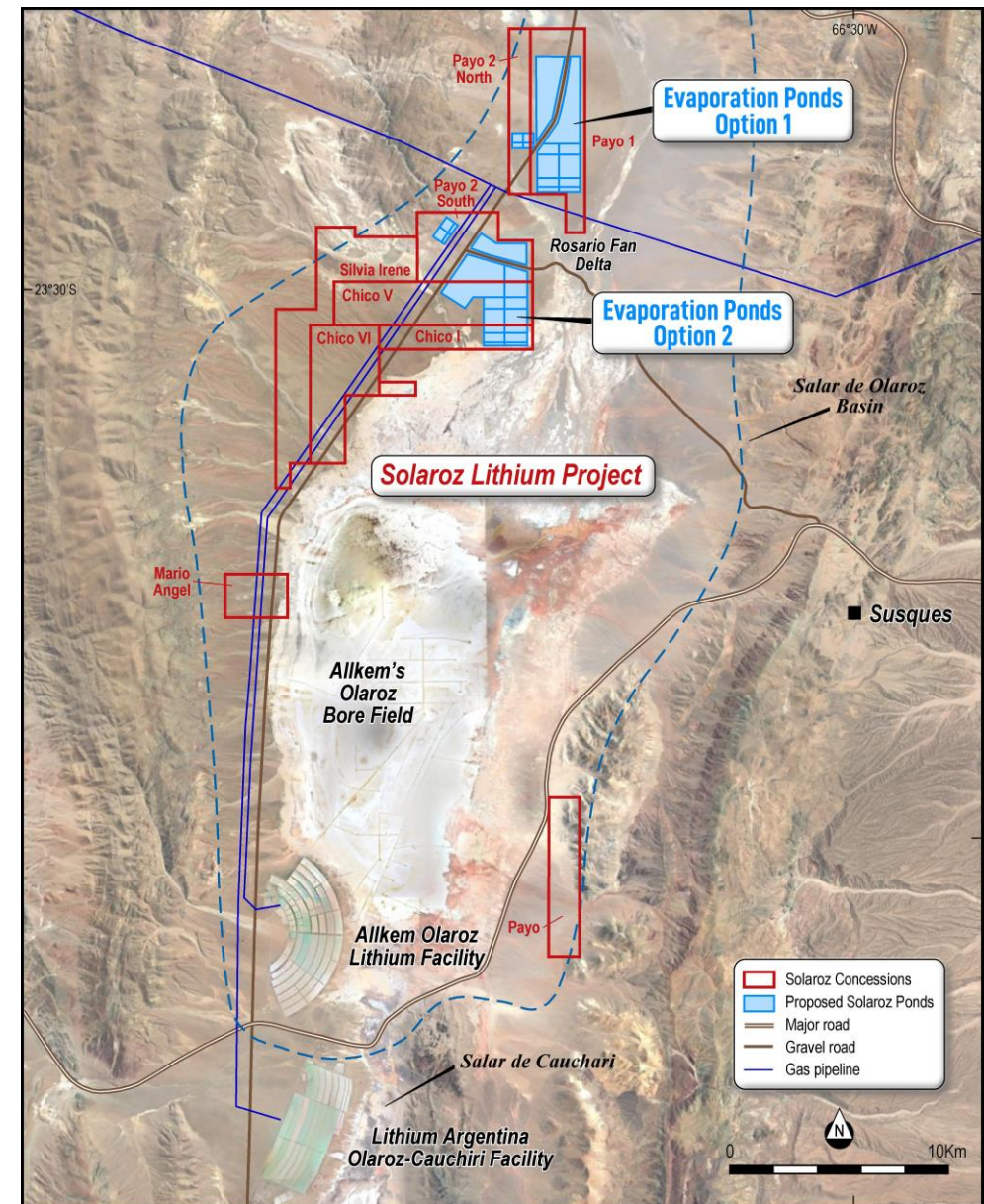


DLE Plant

SOLAR POND DESIGN

Development base case is solar evaporation

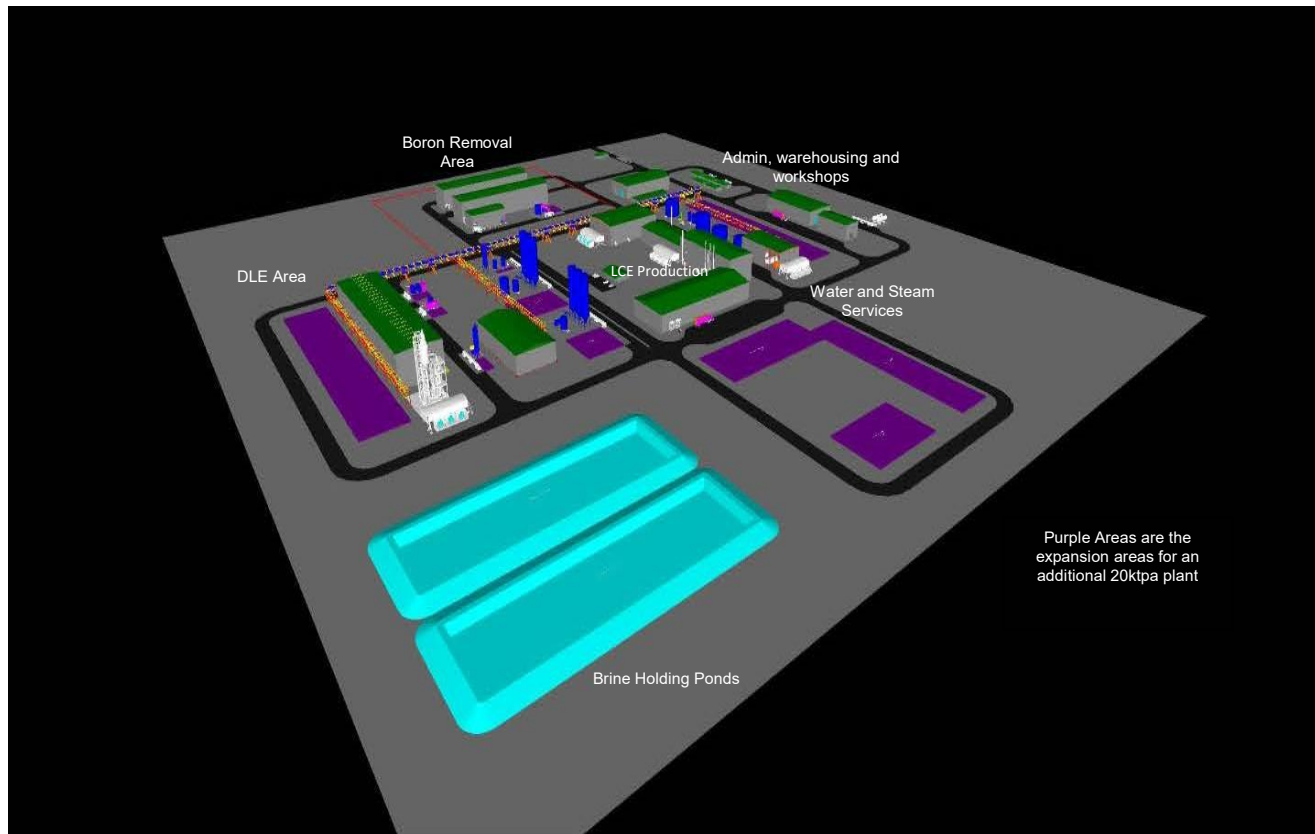
- Scoping Study modelling confirms suitability of solar evaporation as base development case for Solaroz.
- Solaroz concessions have potential to produce up to 40ktpa LCE via solar evaporation pond processing.
- Low technical risk as demonstrated by current operations of Allkem and Lithium Argentina on the Olaroz Salar.
- Optionality in potential production pathways for Solaroz – with site-based test work ongoing for both conventional evaporation and larger scale DLE.



Illustrative Solar Evaporation Pond Locations within Solaroz concessions in Olaroz Salar

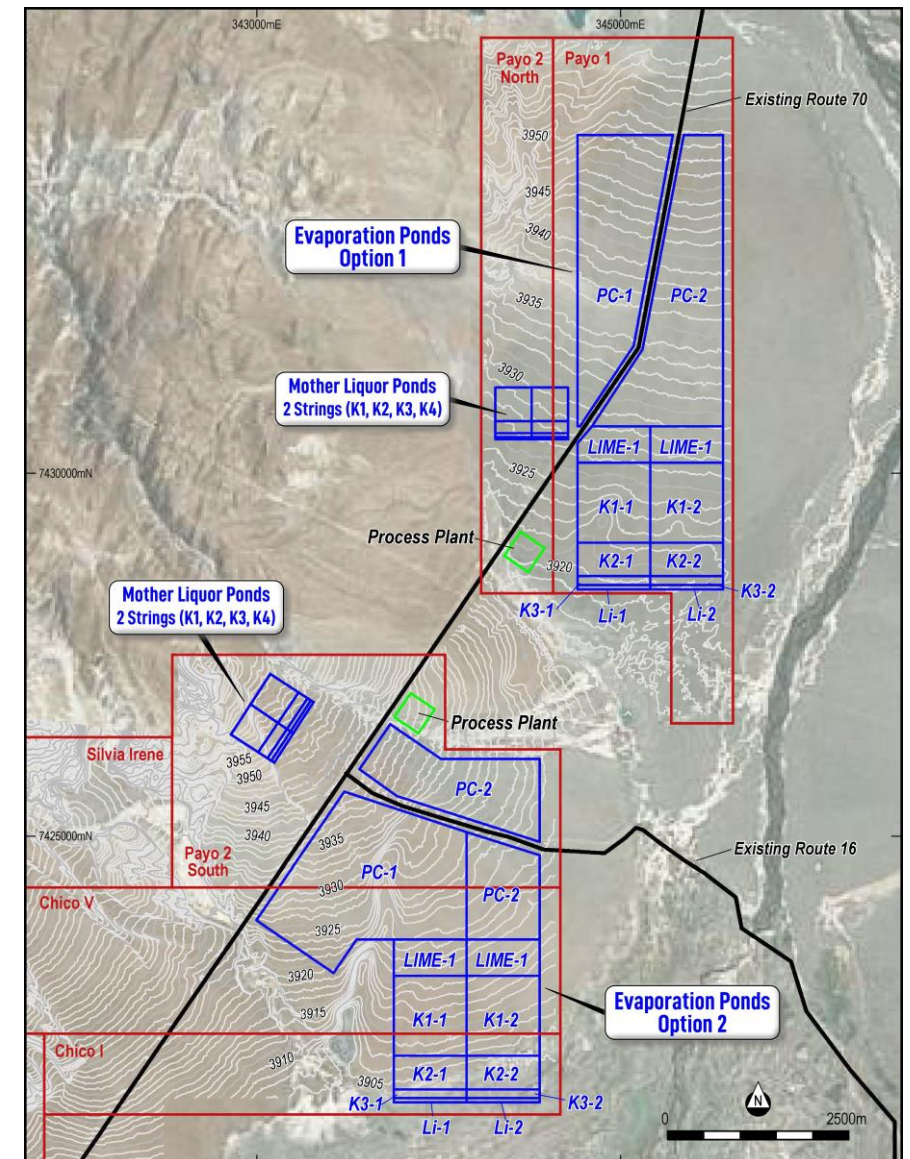
CONCEPTUAL PLANT DESIGN

Layout based on capacity for 40ktpa LCE production



Purple Areas are the expansion areas for an additional 20ktpa plant

20ktpa LCE Processing Plant Layout with purple areas designated for second 20ktpa production line

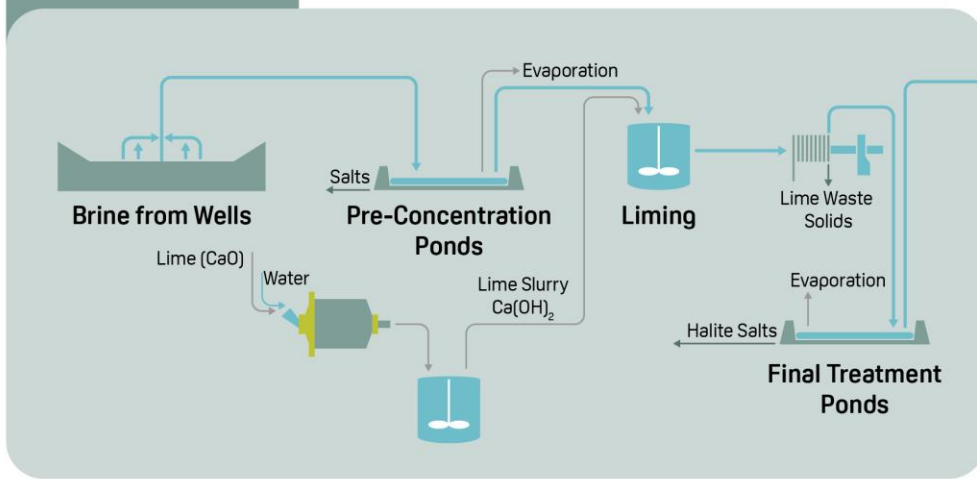


Evaporation Pond Layout for total 40,000tpa LCE production

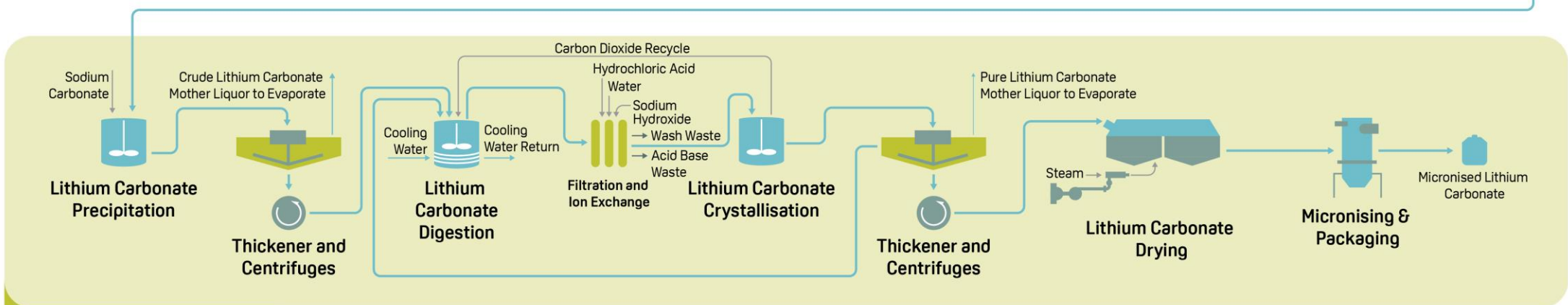
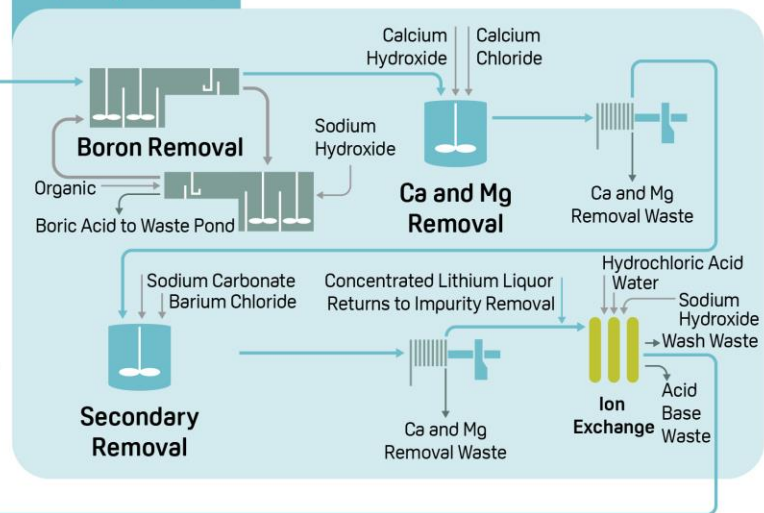
FLWSHEET CONFIGURATION

Standard configuration based on neighbouring operations

Lithium Concentration

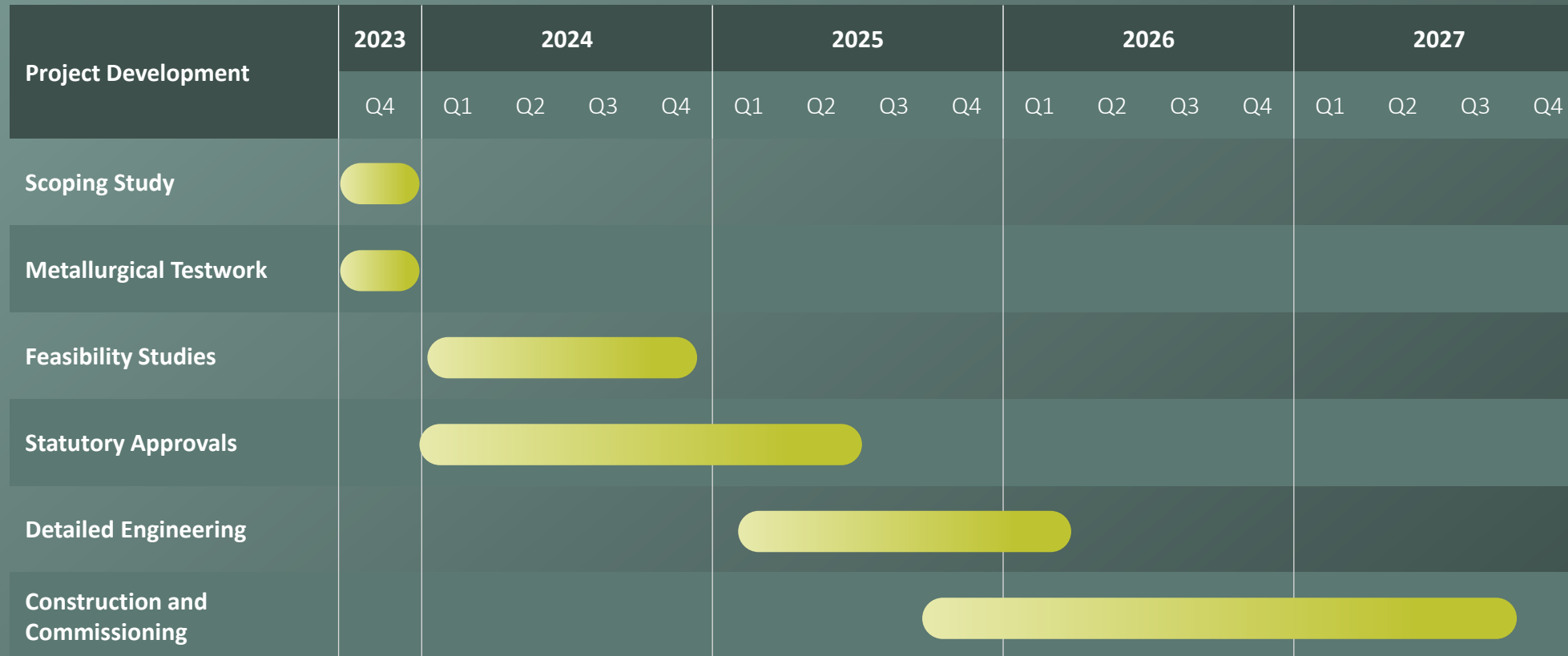


Impurity Removal



Lithium Carbonate Production

DEVELOPING SOLAROZ FOR SUSTAINABLE LITHIUM SUPPLY



THE SOLAROZ TEAM

Lithium Energy has assembled an experienced technical team on site in Argentina





APPENDIX

SOLAROS LITHIUM BRINE PROJECT

Table 1: Upgraded Total JORC Indicated and Inferred Mineral Resource Estimate

Mineral Resource Category	Lithology Units	Sediment Volume (million m ³)	Specific Yield %	Brine volume million m ³	Lithium mg/l	Lithium Tonnes	LCE Tonnes
Indicated Mineral Resource	A (Upper Aquifer)	7,200	10.0%	720	245	176,600	940,000
	B (Halite Salt Unit)	1,731	4.0%	69	340	23,600	125,000
	C (Lower Aquifer)	4,671	6.5%	304	363	110,000	590,000
	D (Tertiary Basement)	5,651	5.8%	328	406	133,000	705,000
	TOTAL	19,253	7.4%	1421	312	443,200	2,360,000
Inferred Mineral Resource	A	3,589	10.0%	359	245	88,000	470,000
	B	3,060	4.0%	122	340	42,000	220,000
	C	1,058	6.5%	69	362	25,000	130,000
	D	634	5.8%	37	405	15,000	80,000
	TOTAL	8,340	7.0%	587	289	170,000	900,000
TOTAL INDICATED & INFERRED MINERAL RESOURCE			7.3%		305		3,260,000

Notes:

- (a) The Indicated Mineral Resource Estimate encompasses the Chico I, Chico V, Chico VI, Payo 2 South and Silvia Irene (Central Block) concessions
- (b) The Inferred Mineral Resource Estimate encompasses the Mario Angel, Payo 2 South and Silvia Irene, Payo 1 and Payo 2 North concessions, and is in addition to the Indicated Mineral Resource Estimate
- (c) Lithium (Li) is converted to lithium carbonate (Li₂CO₃) equivalent (LCE) using a conversion factor of 5.323
- (d) Totals may differ due to rounding
- (e) Reported at a zero Lithium mg/l cut-off grade
- (f) Total Specific Yields are weighted averages

Source: LEL ASX Announcement dated 26 October 2023: Significant Solaroz Milestone Achieved with Upgrade to 2.4Mt LCE JORC Indicated Resource

SOLAROS LITHIUM BRINE PROJECT

Table 2: Upgraded High-Grade Core within Total JORC Indicated and Inferred Mineral Resource

Mineral Resource Category	Lithology Units	Sediment Volume (million m ³)	Specific Yield %	Brine volume million m ³	Lithium mg/l	Lithium Tonnes	LCE Tonnes
Indicated Mineral Resource	A	878	10.0%	88	349	30,000	165,000
	B	1,289	4.0%	52	357	18,000	100,000
	C	3,288	5.6%	183	401	75,000	390,000
	D	4,881	4.8%	235	425	100,000	530,000
	TOTAL	10,337	5.2%	557	400	223,000	1,185,000
Inferred Mineral Resource	B	92	4.0%	4	418	1,500	8,000
	C	436	5.7%	25	401	10,000	53,000
	D	109	4.9%	5	405	2,000	12,000
	TOTAL	637	5.3%	34	403	13,500	73,000
TOTAL INDICATED & INFERRERD MINERAL RESOURCE (HIGH-GRADE CORE)			5.2%		400		1,258,000

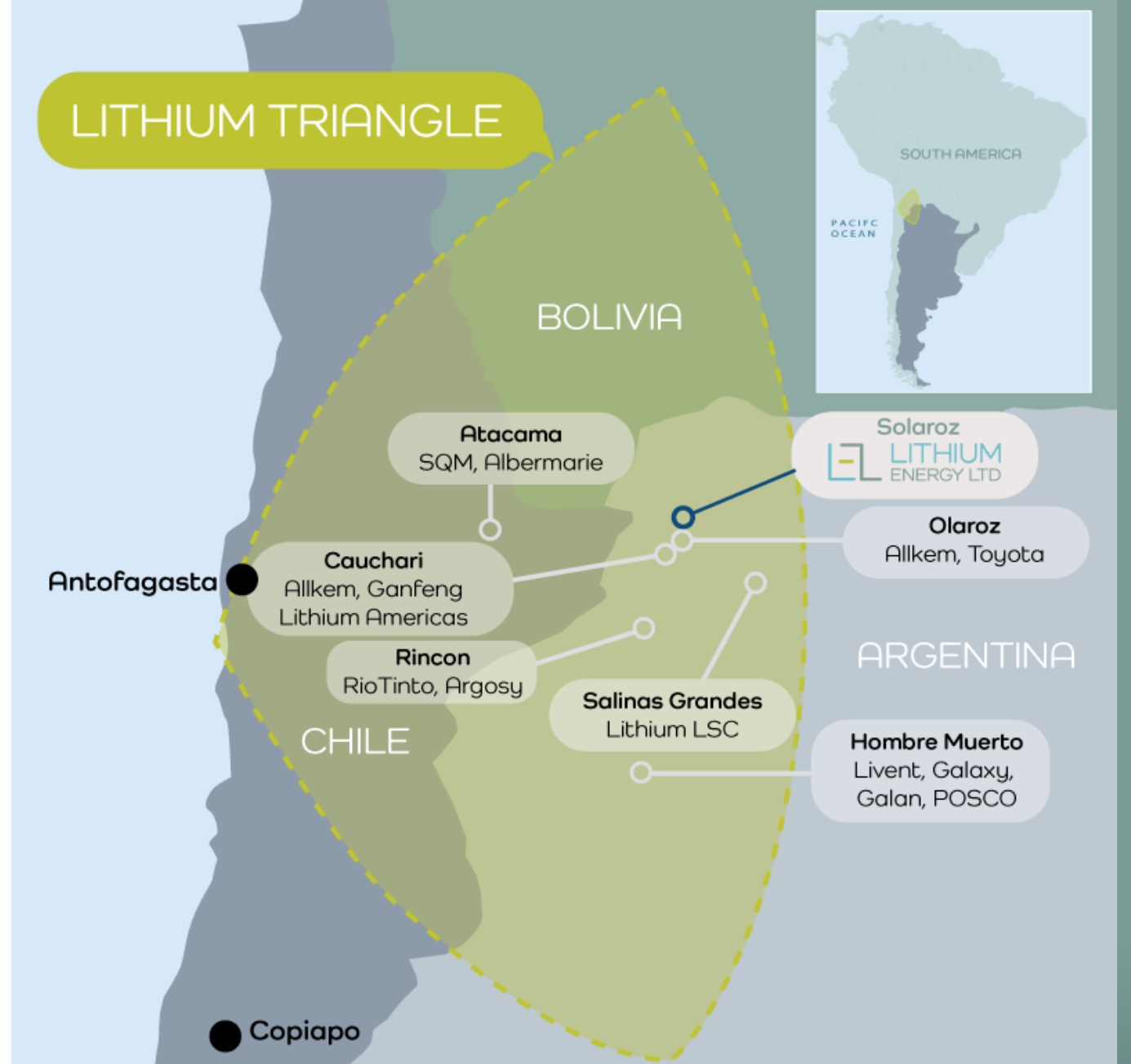
Notes:

- (a) The high-grade core comprises JORC Indicated and Inferred Mineral Resources estimated within the mineralisation envelope of (not in addition to) the Mineral Resource Estimates outlined in Table 1 .
- (b) The Indicated Mineral Resource encompasses the Chico I, Chico V, Chico VI, Payo 2 South and Silvia Irene (Central Block) concessions
- (c) The inferred Mineral Resource encompasses the southern Mario Angel (Units B and C) and Payo 1 and Payo 2 North (Northern Block) (Unit D) concessions, and is in addition to the Indicated Mineral Resource Estimate
- (d) Reported at a 320 mg/l Lithium cut-off grade
- (e) Refer Notes (c), (d) and (f) of Table 1

SOLARAZ LITHIUM BRINE PROJECT

Located in the prolific 'Lithium Triangle' in Argentina

- World's largest reserves of lithium are found in the **Lithium Triangle**.
- Argentina is the world's 3rd largest producer of lithium after Australia and Chile.
- Lithium brine projects from Argentina are among the lowest on the LCE cost curve.
- LEL holds **prime position** in an established large lithium brine basin.



SOLAROZ HAS EXCELLENT NEIGHBOURS AND LOCATION

- Brine production potential confirmed by existing production from Alkem's Olaroz Lithium Facility as a low cost, **high margin producer** of Lithium Carbonate from the Olaroz Salar.
- Lithium Argentina's first production from Olaroz-Cauchari Project ramping up in H2 2023 with full (40ktpa) production in Q1 2024.
- **Highly favourable climatic conditions** to support brine evaporation - low rainfall, high evaporation.
- **Excellent supporting infrastructure** including good roads, with natural gas pipeline running through the Salar.
- **Multiple potential sources of industrial water** identified within Solaroz concessions.

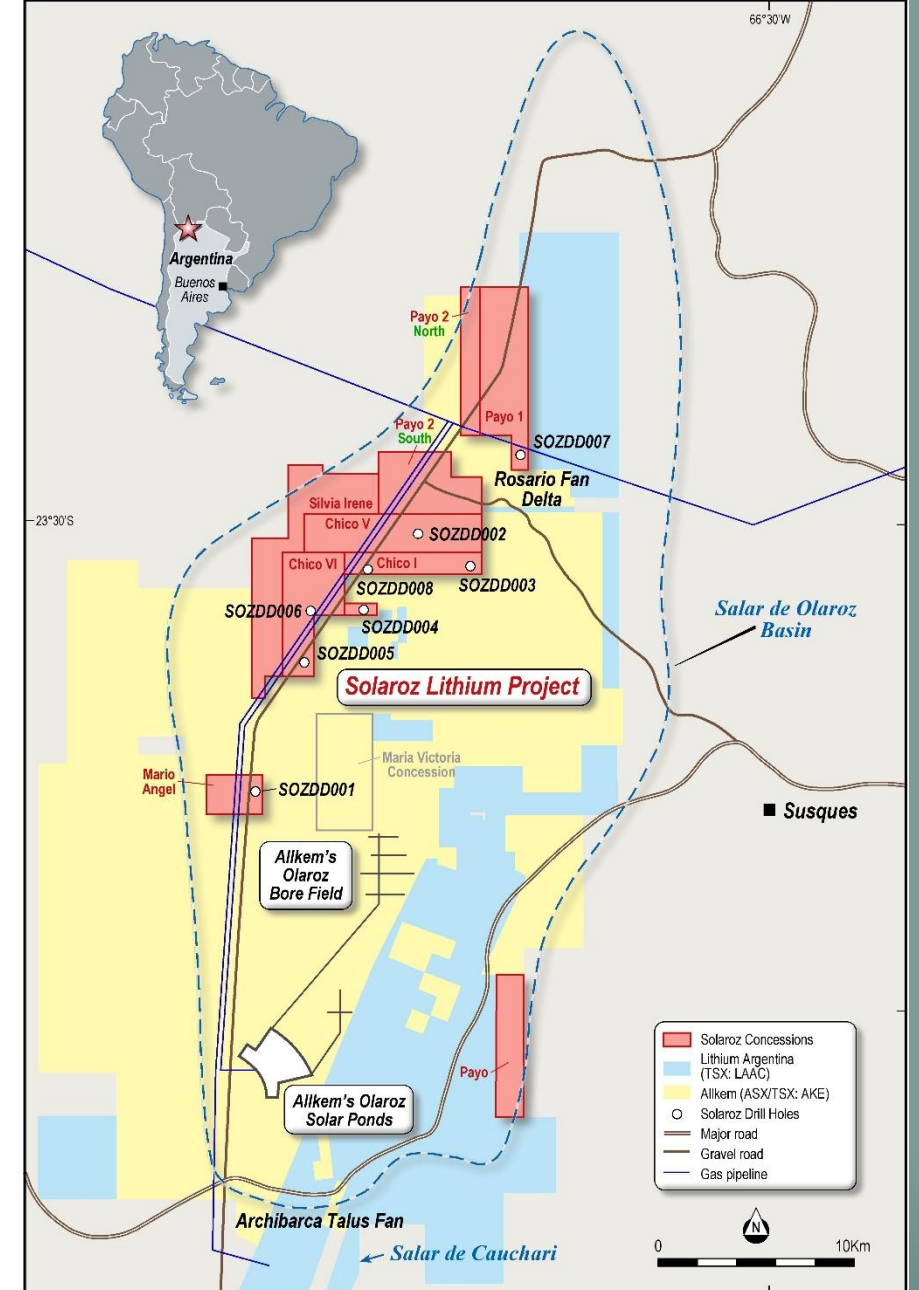


Alkema's production facility

SALAR DE OLAROS BASIN (OLAROS SALAR)

Home of Significant Lithium Production

<p>Allkem 66.5% JV partnership with Toyota Tsusho & JEMSE Argentina</p>	<p>Lithium Argentina 44.8% JV partnership with Ganfeng Lithium & JEMSE Argentina</p>	<p>LEL 90% JV partnership with Hanaq Argentina S.A.</p>
<p>Production</p>	<p>DFS: In Construction</p>	<p>Scoping Study</p>
<p>LCE Production increasing from 13ktpa to 42.5ktpa (AKE website)</p>	<p>LCE Production capacity ~40ktpa (2022 Annual Report, 31 March 2023; LAC website)</p>	<p>Production Target up to 40ktpa (LEL ASX, 31 October 2023)</p>



JORC CODE COMPETENT PERSONS' STATEMENTS

(1) The information in this document that relates to Mineral Resources estimates (dated October 2023) in relation to the Solaroz Lithium Brine Project is extracted from the following ASX market announcement made by Lithium Energy Limited dated:

- 26 October 2023 entitled "Significant Solaroz Milestone Achieved with Upgrade to 2.4Mt LCE JORC Indicated Resource"

The information in the original announcement is based on information compiled by Mr Murray Brooker (MAIG, MIAH), a Competent Person who is a Member of the Australian Institute of Geoscientists (**AIG**). Mr Brooker is an employee of Hydrominex Geoscience Pty Ltd, an independent consultant to Lithium Energy Limited. Mr Brooker has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the **JORC Code**). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement (referred to above). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (referred to above).

(2) The information in this document that relates to other Exploration Results in relation to the Solaroz Lithium Brine Project is extracted from the following ASX market announcements made by Lithium Energy Limited dated:

- 31 October 2023 entitled "Scoping Study Highlights Solaroz Potential as a Large Scale, Long Life, High Margin Development-Ready Lithium Project"
- 26 October 2023 entitled "Significant Solaroz Milestone Achieved with Upgrade to 2.4Mt LCE JORC Indicated Resource"
- 31 July 2023 entitled "Quarterly Activities and Cash Flow Reports – 30 June 2023"

The information in the original announcements is based on information compiled by Mr Peter Smith (BSc (Geophysics) (Sydney) AIG ASEG), a Competent Person who is a Member of AIG. Mr Smith is an Executive Director of Lithium Energy Limited. Mr Smith has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements (referred to above). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements (referred to above).

DISCLAIMER

The design and engineering components of the Scoping Study has been prepared by professional services firm Hatch for exclusive use by the Company, is not intended for public disclosure, must not be used or relied upon by third parties, covers only selected aspects of the Project, is based on various information provided by or on behalf of the Company, and is subject to various assumptions, conditions and disclaimers. Hatch does not endorse or otherwise provide any guarantee, warranty or other statement on the feasibility or any particular outcome of the Project.

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Forward-looking information and statements are based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date such statements are made, but which may prove to be incorrect. The Company believes that the assumptions and expectations reflected in such forward-looking statements and information are reasonable. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. The Company does not undertake to update any forward-looking information or statements, except in accordance with applicable securities laws.

Australia

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