Standard LITHIUM

NYSE: SLI - TSXv: SLI - FSE: S5L

January 26, 2022

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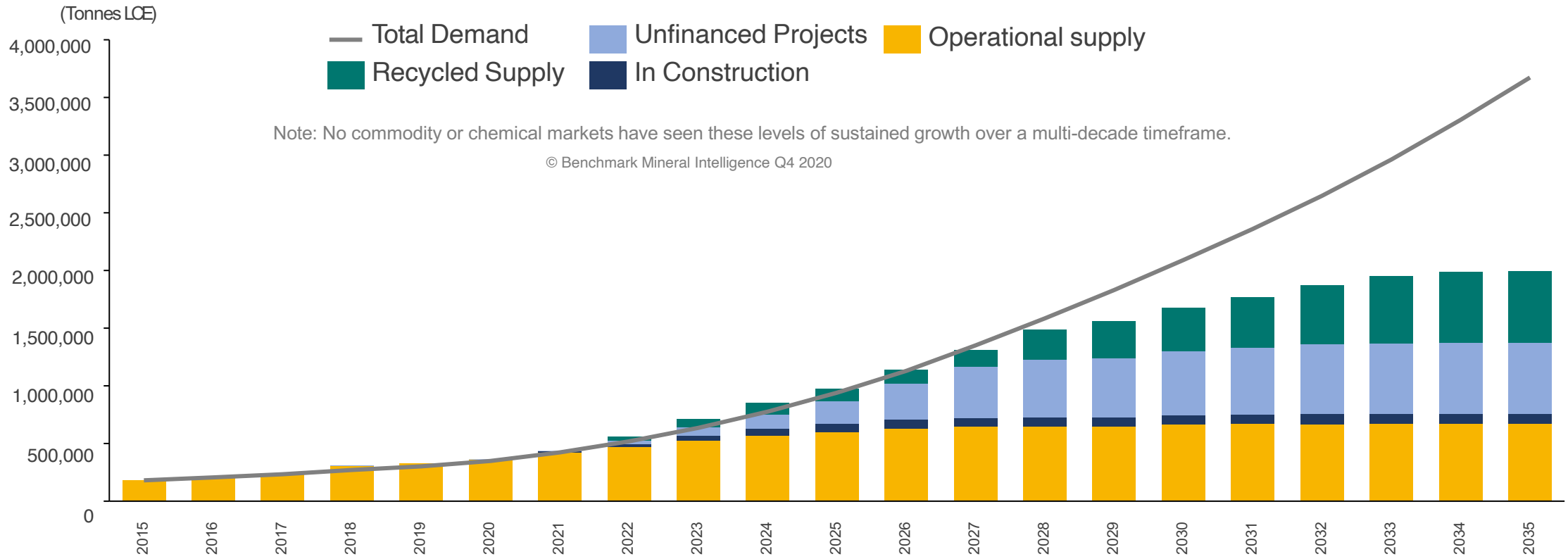
The technical content of this presentation has been reviewed and approved by Steve Ross, P.Geol., a Qualified Person as defined by National Instrument 43-101 and an employee of the Company.

Lithium's Moment:

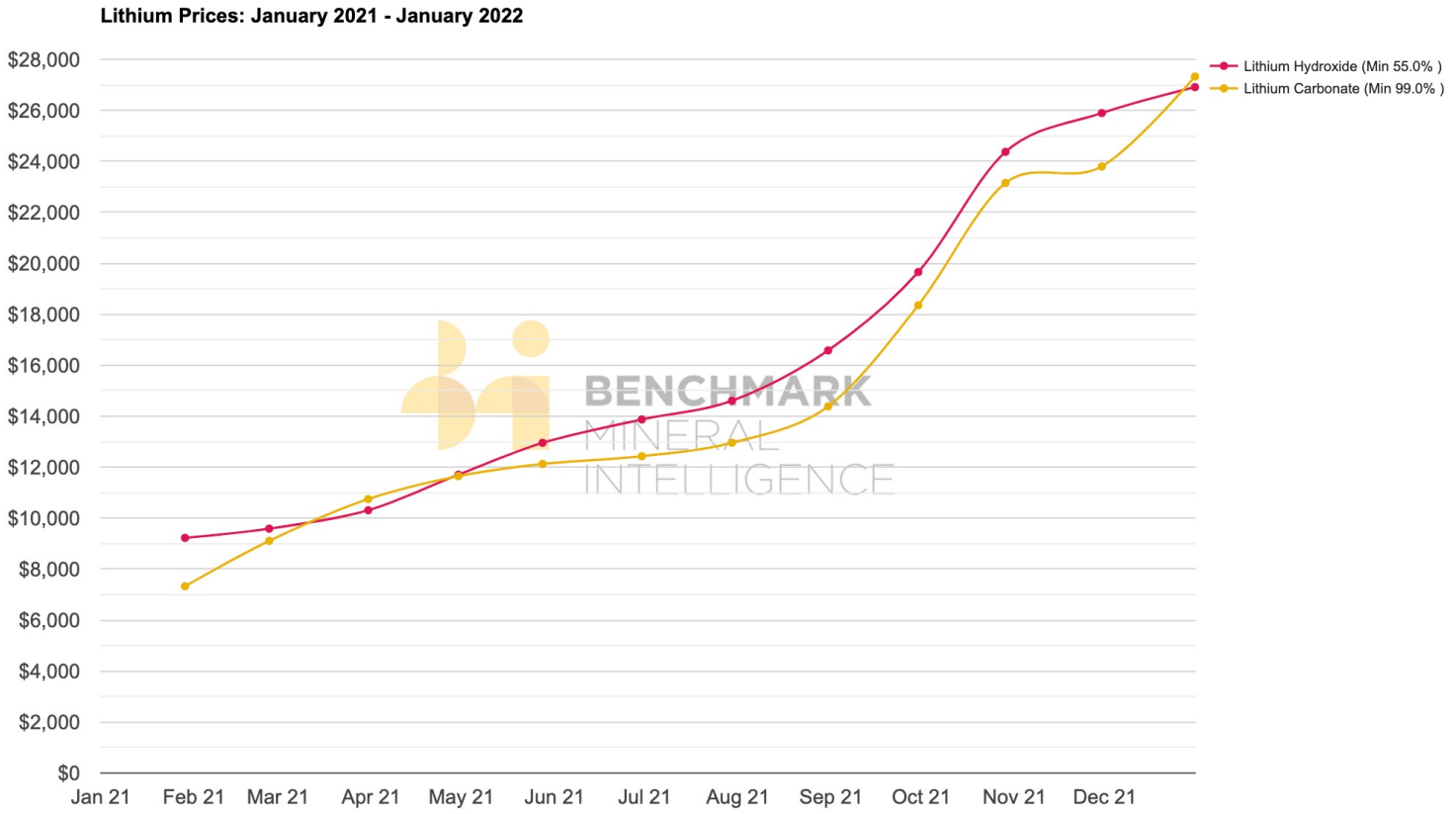
Lithium's Moment: There's no geological shortage of lithium but there is a shortage of advanced projects, and a shortage of time…

Example of Lithium Demand Vs Financed, Unfinanced Supply and Recycled Supply (MT LCE)



Lithium's Moment:

Year over year pricing up more than 200%



Lithium's Moment:

The United States is largely absent from most steps of this supply chain

LITHIUM MINING				
USA 1%	CHINA 15%	AUS 44%	CHILE 28%	ARG 8%
LITHIUM CHEMICAL PROCESSING				
USA 7%	CHINA 51%	RUSSIA 2%	CHILE 29%	ARG 11%
LITHIUM BATTERY CELL PRODUCTION				
USA 10%	CHINA 57%	JAPAN 15%	KOREA 10%	EUROPE 7%

STANDARD LITHIUM - OVERVIEW

America's most rapidly advancing lithium project

- **One of the largest lithium projects in the U.S.**
  4.335 Million Tonne LCE (3.14Mt Indicated* 1.195 Mt Inferred**)
- **First Mover** opportunity with a clear path to commercial production by leveraging existing infrastructure of North America's largest operating brine facilities
- **Strategic partnership** with global chemical major **LANXESS AG** operator of the largest brine processing operations in North America
- **The Real DLE** Bolt-On technology extracts & purifies lithium from the brine by-product of existing bromine production in S. Arkansas
- **North America's** premiere **Direct Lithium Extraction** project, minimal environmental footprint, existing industrial site, strong stake holder & community support.
- **Robust** project economics – lowest quartile OPEX Battery Quality Li2CO3* & LiOH**
- **Geo-politically safe,** business friendly, low-cost Arkansas U.S. location

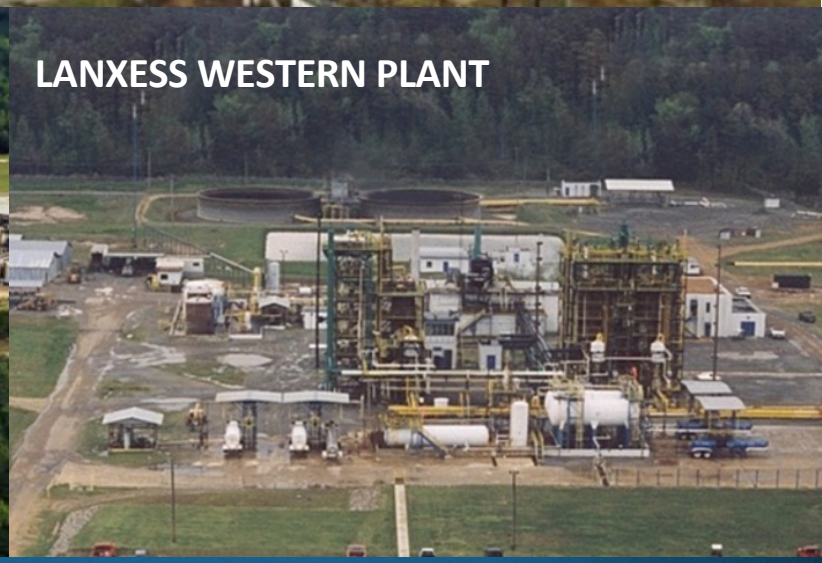
*Source: Worley Parson Preliminary Economic Assessment August 2019
** Source: HGA, Apex Geoscience Preliminary Economic Assessment November 2021

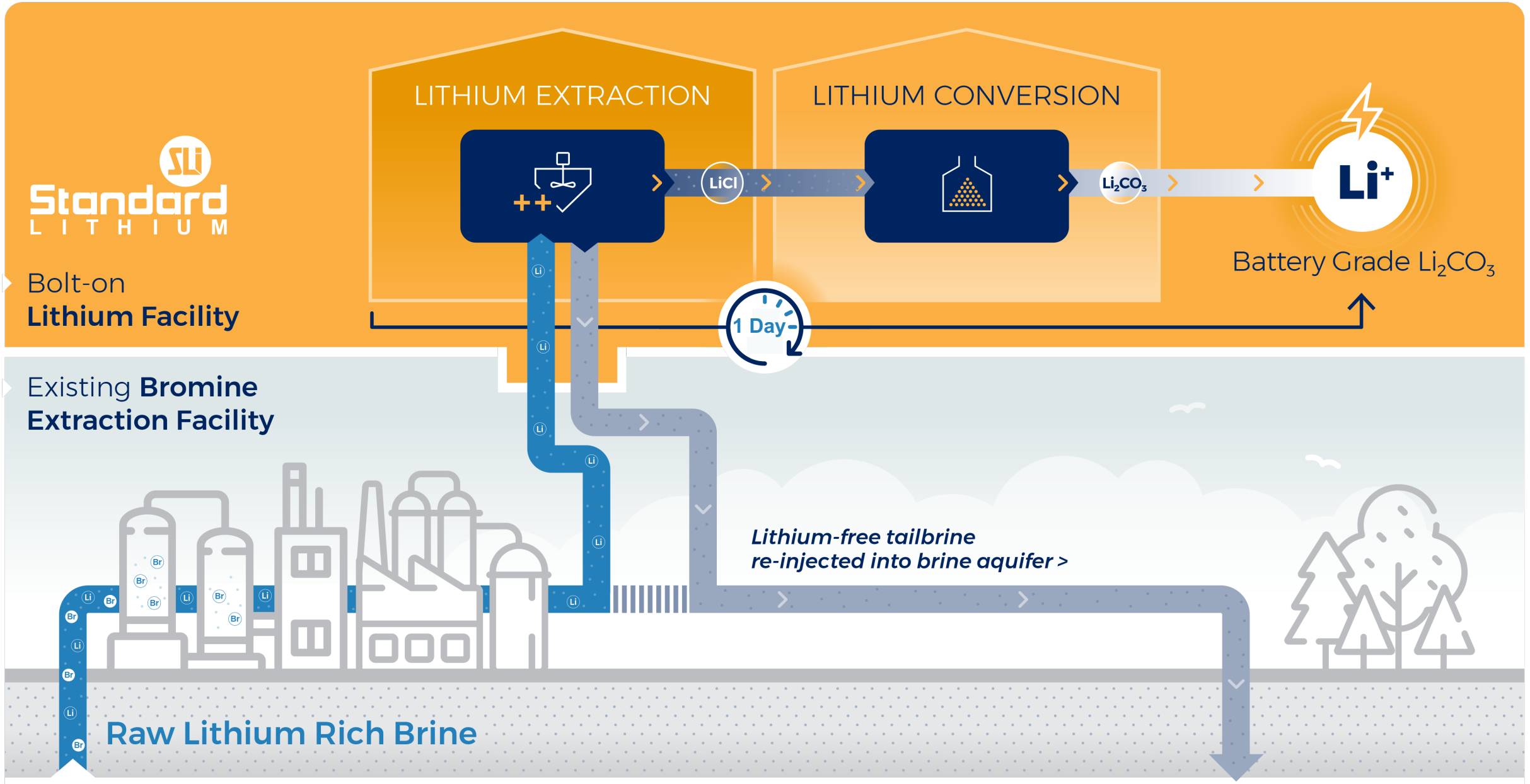
Capturing Opportunity

Leveraging existing commercial brine operations to FastTrack production

LANXESS Project

- 150,000+ acres of permitted brine leases
- 3 permitted brine processing facilities
- Road, rail, power, water onsite
- 250+ miles of supply & disposal pipelines
- 62 production & re-injection wells
- 5.25 billion gallons of brine processed annually
- 500+ member skilled workforce
- 50+ years of operating history




Standard LITHIUM
Bolt-on
Lithium Facility
LITHIUM EXTRACTION
LITHIUM CONVERSION
LiCl
Li_2CO_3
Li+
Battery Grade Li_2CO_3
1 Day
Existing Bromine
Extraction Facility
Lithium-free tailbrine
re-injected into brine aquifer >
Raw Lithium Rich Brine

FIRST TO MARKET:

THE LITHIUM COMPANY OF THE FUTURE

Winning the race to market through disruptive technology

Standard Lithium's proprietary "LiSTR" DLE process is the key to unlocking a globally significant domestic U.S. lithium resource

LiSTR Direct Lithium Extraction:

- Scalable, modular, highly automated process
- Increased recovery efficiency, consistent high purity final lithium chloride solution versus conventional evaporation ponds
- Smaller environmental footprint – dozens of acres versus thousands with evaporation ponds or hard rock surface mining
- Faster to market – Bolt on process leverages the existing infrastructure of North America's largest brine processing operations
- Most advanced direct lithium extraction technology – industrial scale pre-commercial demonstration plant in installed at the project. Over 5,000 hours of operation
- DLE technology enables more robust response to market supply and demand dynamics

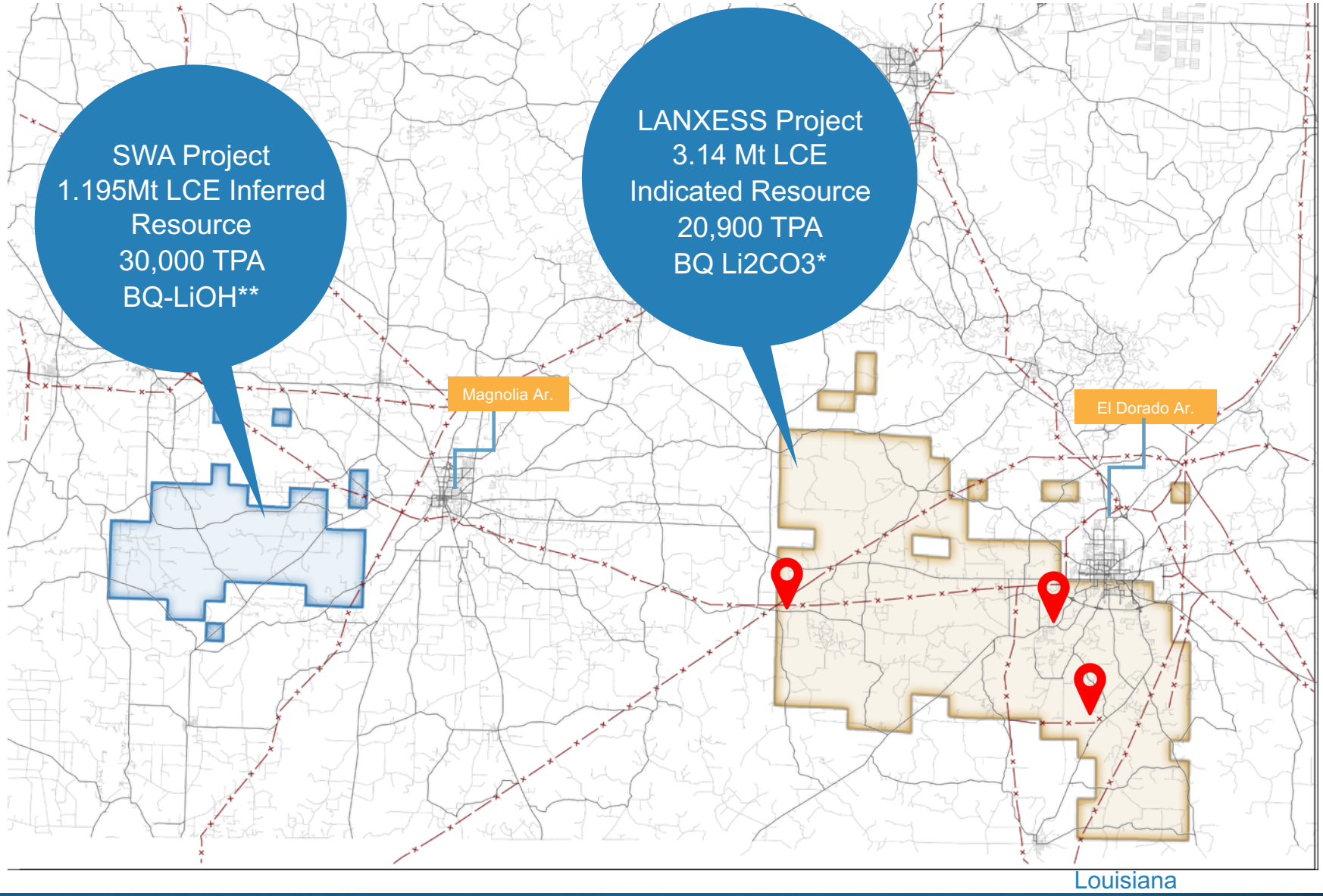
South Arkansas Lithium Project

LANXESS Project:

- 150,000+ acres of operating brine leases
- 3.14 Mt LCE Indicated Resource
- 3 permitted brine processing plants
- 5+ Billion gallons current annual brine production
- Preliminary Economic Assessment targeted 20.9KT per annum Li2CO3*
- Operating costs of US$4,319 per tonne BQ* Li2CO3
- CAPEX $437MM including 25% contingency*

SOUTH-WEST ARKANSAS Project:

- 36,172 acres of unitized brine leases
- 1.195Mt LCE Inferred Resource
- Preliminary Economic Assessment targeted 30,000 tonne per annum BQ LiOH**
- Operating costs of US$2,599 per tonne of BQ LiOH**
- CAPEX $870MM including 25% contingency**



*Source: LANXESS Preliminary Economic Assessment August 2019
** Source: SWA Preliminary Economic Assessment November 2021

Preliminary Economic Assessment
LANXESS Project

	Unit	Value
Production[1][2] (ramped up to full capacity over 5 years)	Tonnes/year Li2CO3	20,900
Project Life	Years	25
Average Selling Price[3]	USD/tonne Li2CO3	13,500
Average Annual Operating Costs[4] (OPEX)	Million USD/year	90,259
Cash Operating Costs[4]	USD/tonne Li2CO3	4,319
Total Capital Cost[5](CAPEX)	Million USD	437
Average Annual Revenue	Million USD	283
Pre-Tax NPV$_{8\%\ Discount}$	Million USD	1,304
After-Tax NPV$_{8\%\ Discount}$	Million USD	989
Pre-Tax IRR $_{8\%\ Discount}$	%	41.8
After-Tax IRR $_{8\%\ Discount}$	%	36

Notes:
All model outputs are expressed on a 100% project ownership basis
[1] Total production, using existing brine supply rates at the completion of Phase 3
[2] Plant operation commences upon completion of Phase 1
[3] Selling prices ranging between US$10,840-16,260/tonne were modelled as part of sensitivity analysis
[4] Includes all operating expenditures, including sustaining capital and allowance for mine closure
[5] Includes 25% contingency of both direct and indirect capital costs

$1.304 Billion NPV 8%
(Pre-Tax) 41.8% IRR

$989 Million NPV 8%
(After-Tax) 36% IRR

$437 Million CAPEX

$4,319 All-In OPEX BQ Li2CO3

*Source: LANXESS Preliminary Economic Assessment August 2019

* Initial 70/30 JV in favor of LXS with option for SLL to achieve 40% subject to certain milestones
Subject to certain conditions - See news release Nov 12, 2018 -

Preliminary Economic Assessment
SOUTHWEST ARKANSAS Project

	Unit	Value
Production	Tonnes/year LHM[1]	30,000[2]
Project Life	Years	20
Cash Operating Costs	USD/tonne LHM	2,599
Total Capital Cost (CAPEX)	Million USD	870[3]
Average Annual Operating Costs (OPEX)	Million USD/year	77,972[4]
Average Selling Price	USD/tonne LHM	14,500[5]
Average Annual Revenue	Million USD	570[6]
Pre-Tax $NPV_{8\%}$	Million USD	2,820
After-Tax $NPV_{8\%}$	Million USD	1,965
Pre-Tax IRR	%	40.5
After-Tax IRR	%	32.1

All model outputs are expressed on a 100% project ownership basis with no adjustments for project financing assumptions
[1] Metric tonnes (1,000 kg) per annum
[2] Total production for years 1 to 15 is 30,666 tpa LHM and 28,000 tpa LHM for years 16 to 20
[3] AACE Class 5 estimate includes 25% contingency on direct capital costs
[4] Includes all operating expenditures, ongoing land costs, established Royalties, sustaining capital and allowance for mine closure. All costs are escalated at 2% per annum
[5] Selling price of battery quality lithium hydroxide monohydrate based on an initial price of $14,500/t in 2021, adjusted for inflation at 2% per annum. Sensitivity analysis modelled the starting price between US$12,500-US$16,500/t.
[6] Average annual revenue over projected 20 year mine-life.

$2.82 Billion NPV 8%
(Pre-Tax) 40.5% IRR

$1.965 Billion NPV 8%
(After-Tax) 32.1% IRR

$870 Million Capex

$2599 All-In Opex BQ LIOH

** Source: HGA, Apex Geoscience Preliminary Economic Assessment November 2021

LEVERAGING EXISTING INFRASTRUCTURE FOR PHASED BUILD-OUT

LANXESS Project Target – 20,900 tonnes/year BQ Li_2CO_3 from existing brine stream*

South-West Arkansas Project - 30,000+ tonnes/year BQ LiOH**

DEMONSTRATION PLANT	PHASE 1: SOUTH PLANT	PHASE 2: WEST PLANT	PHASE 3: CENTRAL PLANT	SWA PROJECT EXPANSION
				
100-150 TPA Li_2CO_3	9,700 TPA BQ Li_2CO_3	8,300 TPA BQ Li_2CO_3	3,000 TPA BQ Li_2CO_3	30,000+ TPA LiOH

*Source: LANXESS Preliminary Economic Assessment August 2019 ** Source: SWA Preliminary Economic Assessment November 2021

Arkansas Advantage

Business friendly environment

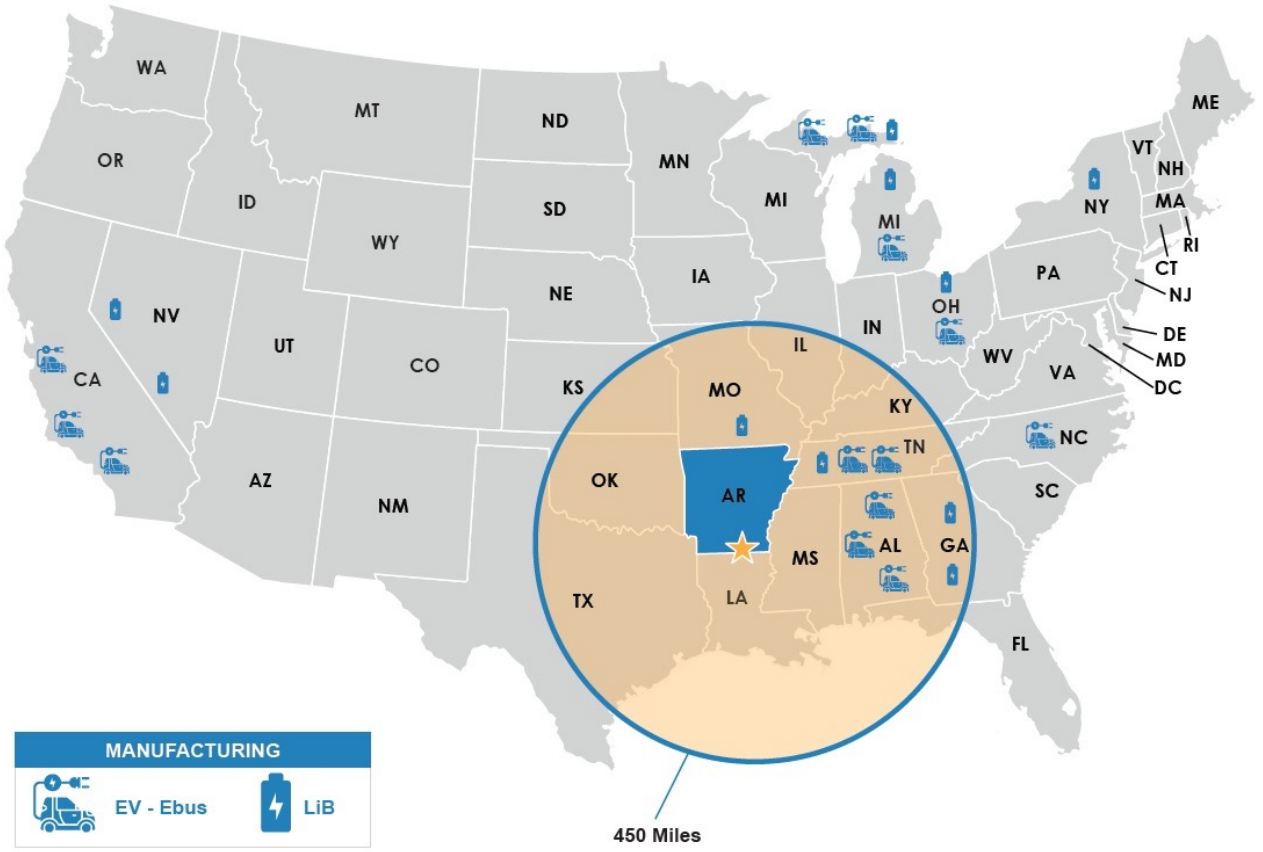
- Unparalleled infrastructure – road, rail, brine feed and disposal system on site
- Secure, low-cost power and water resources
- Most chemical reagents produced locally
- Established permitting regime
- Social license, stakeholder support for extractive industries

Deep talent pool

- 60+ years of brine processing experience
- Gulf coast is among the world's premier chemical processing regions

Proximity to major markets

- Less than a day's drive to Gulf coast for export to global markets
- Southern region is home to the burgeoning U.S. EV & battery manufacturing industry



Strong Partners Matter

LANXESS
Energizing Chemistry

Expertise & Capital

- LANXESS is a global specialty chemical company (Bayer spinoff)
- 60+ chemical production sites globally
- +15,000 employees
- 21 North American sites with
- USD $7B revenue 2020

Fast-track to Production

- LANXESS brings expertise in specialty chemicals, sales & marketing
- Operational and human resources skills
- Existing, permitted, Arkansas brine operations are the largest in North America
- Multi-phase Joint Venture development contemplated*

* Initial 70/30 JV in favor of LXS with option for SLL to achieve 40% subject to certain milestones
Subject to certain conditions - See news release Nov 12, 2018 -

Strong Partners Matter

$100MM Koch Strategic Platforms Direct Investment

Significant Investment Indicating Confidence in Extraction & Process Technologies

Expertise & Capital

- Subsidiary of Koch Investments Group within Koch Industries
- Seeks to be the preferred investment partner with growth-focused companies innovating in the ”New Economy” industries

Proceed Objectives:

- Rapidly advance Lanxess project
- Accelerate & expand development of SWA project
- Continue to develop & commercialize modern extraction & processing technologies
- Allow for strategic project expansion

Transaction Details:

- $100MM USD direct private placement
- Alignment with several Koch Industries business units:
  - Provide key industrial technology & process solutions for commercialization
  - Engineering, procurement & other construction services
  - Raw material supply agreement & assistance with off-take agreements

Standard Lithium Carbon Capture Program

Pilot project with Aqualung & Mission Creek Resources

Partners

MISSION CREEK RESOURCES, LLC → aqualung → Standard LITHIUM

LNG processing site	Carbon capture	Utilization of C02 in lithium battery production

About

- **Pilot project between Standard Lithium and Aqualung**
- **Aqualung's carbon capture solution will be installed at a natural gas processing site owned by Mission Creek**
- **The captured carbon will be used in Standard Lithium's ongoing R&D activities to investigate the utilization of CO2 for process and reagent optimization**

Objective

- **Objective to minimize CO2 emissions from future operations and related supply-chain activities**
- **Regionally sourced CO2 may be utilized to optimize the flowsheet, reduce reagent costs, as well as potential sequestration**
- **Aligns with recent White House Carbon Capture, Utilization and Sequestration announcement**
- **Aims to make the Gulf Coast region an industry leading producer of sustainable lithium chemicals**

Announcement

Standard Lithium Initiates Arkansas Carbon Capture Project

"..The future of the lithium industry rests on being able to produce sustainable battery-quality chemicals with the lowest carbon footprint in jurisdictions where their production is wanted and needed"

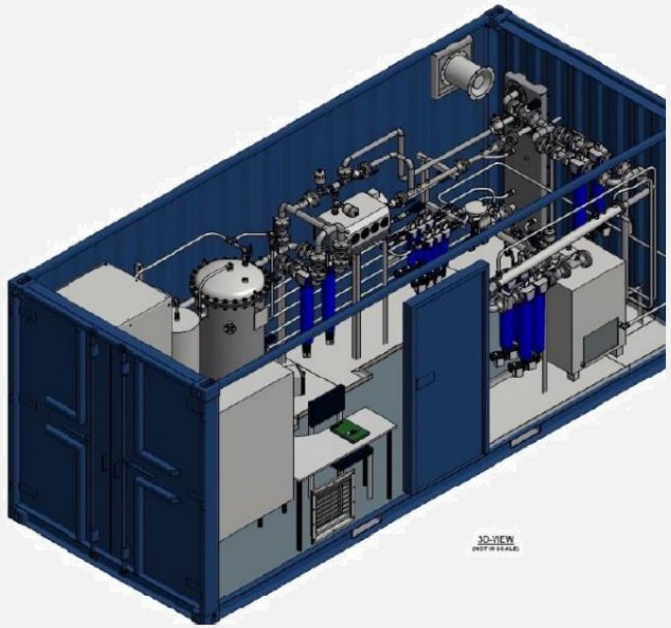
"The new pilot project builds on and aligns with the White House's Carbon Capture, Utilization and Sequestration (CCUS) announcement June 30"

Andy Robinson, President and COO of Standard Lithium

Standard Lithium Carbon Capture Program

About the technology

Low complexity and environmentally friendly	▪ No toxins or absorbents used means significantly lower operating risk and lower maintenance costs over time. This also avoids the logistics and costs of sourcing highly specialized absorbents.
Highly efficient	▪ The use of specialized coatings ensures a remarkably more efficient membrane than the current standard, tested as a market leader for permeance and selectivity.
Highly favourable energy balance	▪ The integrated system saves significant energy costs compared to other membrane or absorbent-based systems as it requires zero amines or associated desorption energy, with the coatings ensuring substantially reduced driving force.
Fully scalable	▪ The modular “Lego technology” can cost-effectively capture carbon even at small scale (<100,000 TPA) and at low CO2-concentration. This unlocks whole new markets for Carbon Capture representing 85% of emitters.
Highly compact	▪ With down to 5% of the footprint of a spray tower, the Aqualung can fit into existing plants where space is at a premium, and without major modifications to the exhaust structure or power plant.



The Aqualung unit will fit in a standard container unit providing significant installation and opex savings

Management / Directors

ROBERT MINTAK
CEO, DIRECTOR
20+ years experience in corporate management, with a specific emphasis on strategic development. He has a global network of lithium industry contacts and is a pioneer in the rapidly evolving lithium space

KARA NORMAN
CFO
A Chartered Professional Accountant with extensive experience in financial reporting for resource development and technology companies.

DR. ANDY ROBINSON
PRESIDENT, COO, DIRECTOR
An experienced geoscientist with a PhD in Geochemistry from the University of Bristol, UK, and has worked on a wide range of projects in the resource, power and energy sectors in Europe, Africa, and North and South America.

ANTHONY ALVARO
DIRECTOR
Co-founder of Standard Lithium with over two decades capital markets experience. Anthony Alvaro has raised in excess of $500 million in for both public and private companies.

ROBERT CROSS
NON-EXEC CHAIRMAN
An engineer with 25 years of experience as a company builder. He co-founded and serves as Chairman of B2Gold, which will achieve almost one million ounces of low-cost gold production in 2019. Mr. Cross has an Engineering Degree from the University of Waterloo (1982) and received an MBA from Harvard.

JEFF BARBER
INDEPENDENT DIRECTOR
Jeff is a CFA charter holder and holds a masters degree in Finance and Economics from the University of Alberta. He extensive capital market experience as an investment banker with both Canaccord Genuity and Raymond James and an economist at Deloitte.

VOLKER BERL
INDEPENDENT DIRECTOR
Was Head of a Process Development Laboratory at BASF AG, Germany where he teamed up to build the Fine Chemical Division's pharmaceutical contract manufacturing business. He holds an M.B.A. from Concordia University and completed a postdoctoral chemistry fellowship at Stanford University. Before earning his Ph.D. in Strasbourg.

TECHNICAL TEAM – SCIENTIFIC ADVISERS

ROSS LEWIS

SENIOR PROJECT MANAGEMENT

Ross has over 45 years of experience in process engineering, mechanical engineering, materials handling systems design, project management, procurement and construction in projects around the globe.

STEVE ROSS P.GEO

PROJECT MANAGEMENT

Steve is an environmental and water resource professional. His water resources background includes hydrogeology, water quality, groundwater modeling, regulatory strategy, and water resources evaluation and he is licensed as a Professional Geologist in California and Alberta.

PROF. JASON HEIN

LITHIUM CRYSTALLIZATION

Jason is a recognized global expert on the application of A.I. and robotics on reaction optimization. Jason's work integrates machine learning and newly developed robotic tools to visualize and control reactions as they happen in real time.

DR. RON MOLNAR

LITHIUM EXTRACTION

Dr. Molnar is a chemical engineer with over 35 years experience in hydrometallurgical bench and pilot plant testing. He has successfully built and operated more than 60 pilot plants around the globe.

PROF. BARRY SHARPLESS

LITHIUM CRYSTALLIZATION

Prof. Sharpless received the **Nobel Prize** for Chemistry in 2001 for his work on chirally catalyzed oxidation reactions. Prof. Sharpless received the Priestley Medal, the American Chemical Society's highest honor, in 2019.

CRAIG BROWN

LITHIUM EXTRACTION

Craig Brown is a hydrometallurgical expert with over 45 years experience in developing processes for separating a wide range of chemicals from aqueous solutions. He was a central figure in the development and application of ion exchange technology, which is now well established and utilized in over 50 countries in dozens of different applications

STANDARD LITHIUM LTD Effective date: January 7th, 2022	
Co-Listed/Quoted	**NYSE American: SLI** **TSX.V: SLI** **FSE:S5L**
Shares Outstanding	**161,032,217**
52 Week Range CDN$** **52 Week Range USD$	**$2.85 / $15.92** **$2.25/ $12.92**
AUDITOR	Manning Elliot
LEGAL COUNSEL CANADA USA	Cassells Brock Skadden
TRANSFER AGENT	AST Trust Company
YEAR END	June 30

CONTACT INFORMATION

STANDARD LITHIUM LTD.
375 Water Street – Suite 110
Vancouver, BC, Canada V6B 5C6
1-604-409-8154
investors@standardlithium.com

Standard LITHIUM

NYSE: SLI - TSXv: SLI - FSE: S5L