

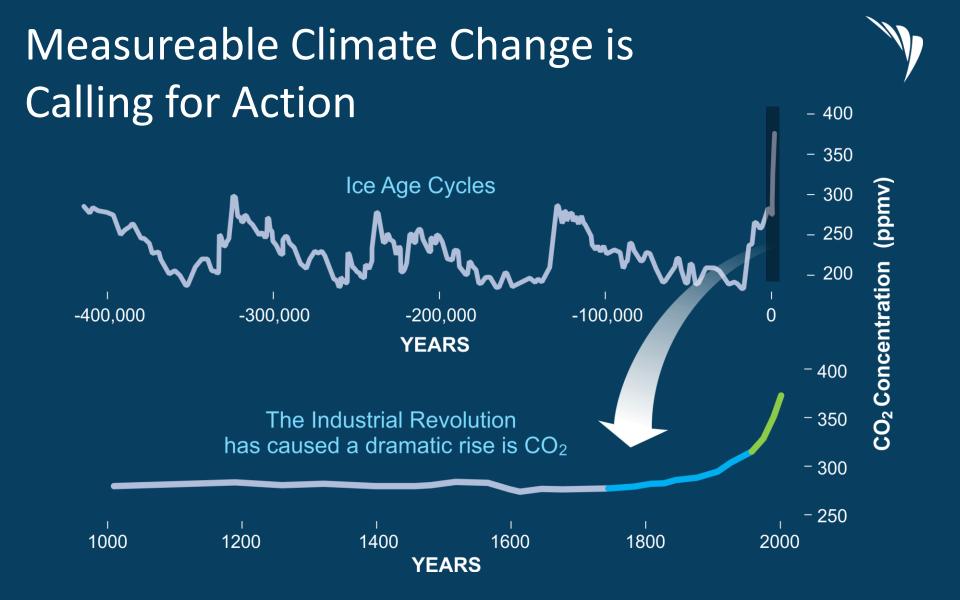
Sourcing the raw materials of the future

# Beyond the Authier PFS

**Expanding the Resource and Enhancing the Project Economics** 

March 2017 ASX: SYA







Rupert Murdoch



Climate change poses clear, catastrophic threats. We may not agree on the extent, but we certainly can't afford the risk of inaction.

#### Lithium-ion Batteries...

#### A Critical Part of the Solution





What if
I Told You....
Lithium is the
New Gasoline

Dec 2015

Lithium is now considered a key, strategic energy metal in the clean technology economy that is being fuelled by advances in electric vehicles, energy storage and electronics





Energy Storage –

The economic value of energy storage over a 10-year period in the US could reach \$228 billion, 21% of the \$1 trillion global economic benefit

Disruptive Innovations II, 2014

The Economist

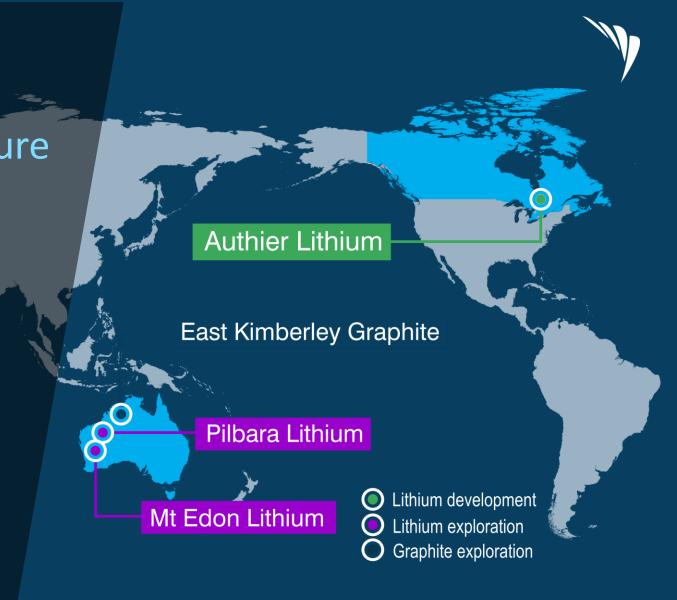
An
Increasingly
Precious
Metal

Jan 2016

Sayona Mining's strategy is to power the future

by sourcing and developing the raw materials essential for

lithium-ion battery production



# Authier PFS Demonstrates

### **Base Case Economics**



Pre-tax **NPV** C\$140m

Pre-tax IRR 39%

Capital Pay-back 2.2 years

Ave Annual EBITDA C\$31m



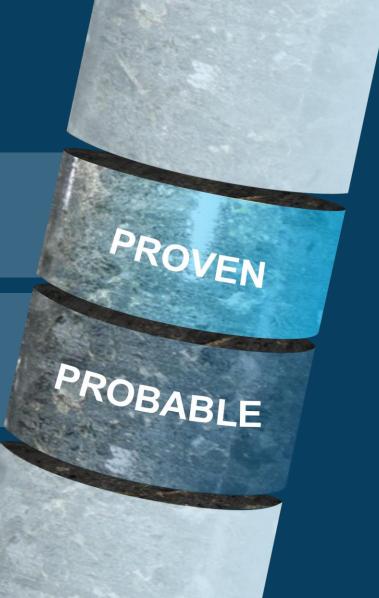
#### **Key Assumptions**

Start-up <b>Capex</b>	C\$66m
Life-of-mine Capex	C\$113m
Concentrate <b>Price</b>	US\$515/t
Operating <b>Costs</b>	C\$367/t
Ore <b>Throughput</b>	<b>700,000</b> tpa
Concentrate <b>Production</b>	98,000 tpa
US\$/C\$ Exchange Rate	0.76
OSY/ CY Exchange hate	0.76

### Maiden JORC Ore Reserve

Contained **Tonnes** Grades (Mt) (Li20) (Li20) 47,821 4.9 0.97% 5.3 55,904 1.06% 1.02 102,725 10.2 **TOTAL Contained Li20** %Li20 Mt

The Ore Reserve has been estimated and reported in accordance with the guidelines of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). 0.45% Li<sub>2</sub>0 cut-off grade.



### Simple, Open-Cut Mining Operation



Competitive Mining Costs - \$2.90/tonne average LOM

Low Capex – Mining Fleet **Leased** 

Simple Mining Method – Truck and shovel operation

Conservative geotechnical assumptions – **45°** pit slope on the hanging wall

Life-of-Mine – 13 years

Large, thick tabular body – LOM waste to ore ratio **6:1** 





Conventional process flow-sheet – crush, grind and flotation

Ave Cash Operating Costs – \$20 / tonne life-of-mine

**80**% recovery to a **5.75**% Li2O concentrate

**700**,000 tpa processing capacity to produce

98 Kt/yr Li2O concentrate

Mica flotation incorporated into the process circuit

### World-class Infrastructure



5km
Low cost hydro power and gas

**5**km Sealed road access

**20**km **Rail** access to export port

Experienced local mining workforce

Major new hub of lithium carbonate production

Electricity **5**¢ kWh

Gas < \$**3** /GJ

### **PFS Pricing Assumptions Conservative**











Renewable grid storage

>30%

**CAGR** 

Transportation

**20-30**% CAGR

electric and hybrid vehicles

Consumer

8-10%

**electronics** CAGR

- Slow ramp-up of new hardrock projects
- Funding constraints capex typically higher than market cap for most new entrants
- Environmental & permitting constraints
- New technology typically longer-lead times and higher capex than scoping/PFS studies forecast. High-risk, difficult to fund

Lithium
Pricing has
Remained
Robust
Reflecting
Positive
Outlook

# **Authier Project Highlights**





Extensively drilled and well understood geology



Pre-Feasibility Study price assumptions well below current



traded market price for concentrates



Simple, truck and shovel mining operation



Proven process for recovery of spodumene into a saleable concentrate – **no technology risk** 



World-class infrastructure and Quebec Government



support



Low capital hurdle and attractive operating costs

### Beyond the PFS – Improving the Returns



#### **Work Program**

Phase II drilling - 4,000m

**Geotechnical** Study

**Dilution** Study

**Metallurgical** Testing

**Hydrometallurgical** Testing

**Off-take Agreements** 

#### **Objective**

Resource and Ore Reserve expansion

Steeper pit walls – lower waste movement

Increase the Ore Reserve grade

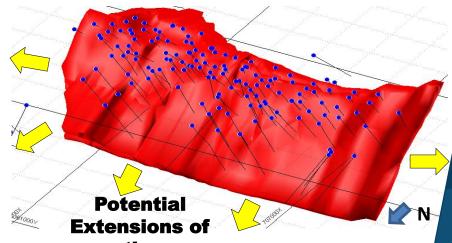
Improving recoveries and costs

Potential to produce high-value Li<sub>2</sub>O products

Optimise project returns

### Authier Phase 2 Drilling Program





#### **DIAMOND DRILLING PROGRAM**

**4,000** metres

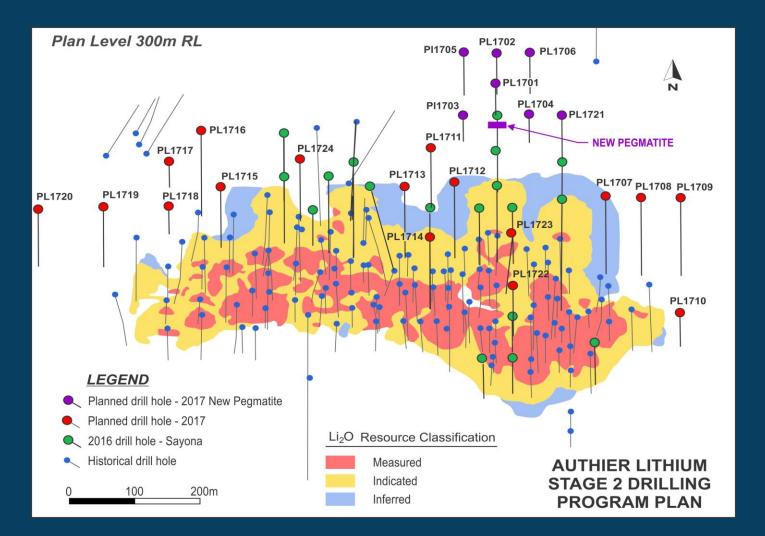
**Drilling Program Objectives** 

- Upgrading the Mineral Resources categories
- ✓ Drilling the new pegmatite
- ✓ Convert mineral resources to reserves
- Exploring for extensions to the mineralisation
- ✓ Collecting geotechnical data for Feasibility Studies
- ✓ Metallurgical testing



### Authier Phase 2 Drilling Program Program





### Assessing Value Adding Opportunities

Lower-value Concentrates







Sell **lower-value concentrates** to battery converters in Canada or China

Concentrate sell at >US\$750/t

Benefits from value-adding concentrates

Reduces transport costs

Hydroxide key feed-stock to new revolution lithium-ion batteries

Low processing technology risk

Significant price premium paid for value-added products

Value-Added Lithium







Sell value-added lithium products to battery manufacturers across the world Lithium hydroxide sells for >US\$20,000/t

Quebec location advantages

Leverages low-cost energy

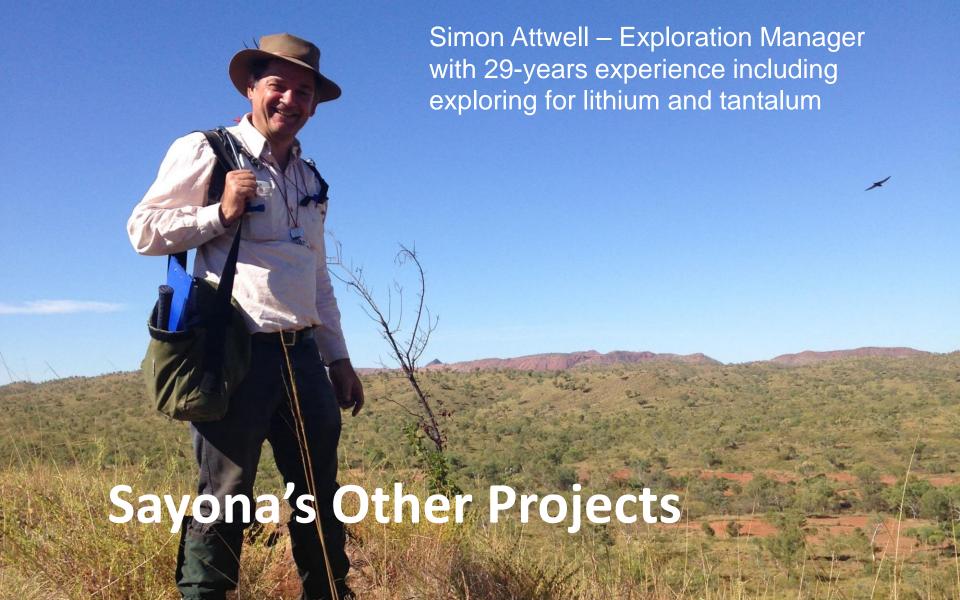
Skilled low-cost, workforce

Close to the US battery markets

Favourable taxation regime

Acid for processing readily available

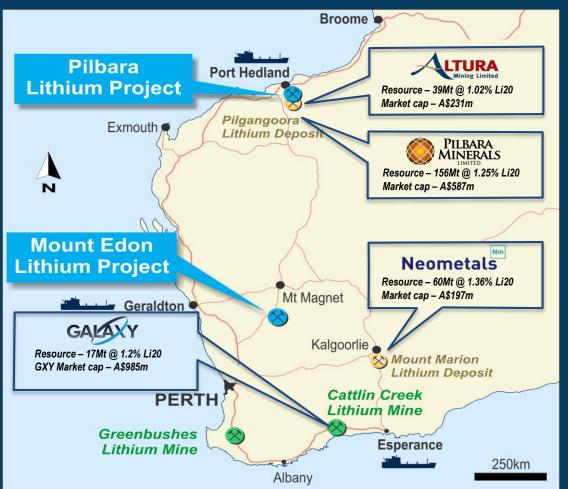




#### Western Australia Lithium Portfolio



A globally significant region for production of Lithium



Low-cost entry with

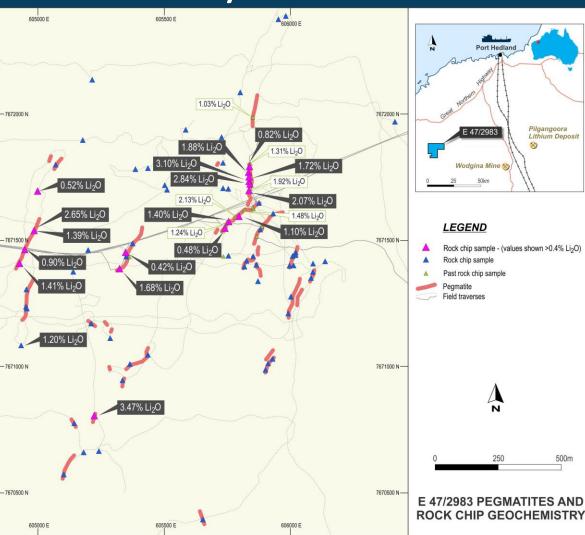
1,997 km<sup>2</sup>

tenement holding, including granted tenure

Western Australia

a dominant global producer of
Lithium from
high-grade, hard-rock
PEGMATITES

Great Sandy Joint Venture – Mallina Project



140 km<sup>2</sup> tenement holding

High-grade rock chips up to

3.47% Li<sub>2</sub>0



### Sayona Value Proposition





**Developing an advanced, de-risked project.** Pre-Feasibility Study completed. Optimisation program in progress



Located in a first world country with access to worldclass, low-cost infrastructure



Executing a plan to get into **production and generate** cash flow – low capital hurdle

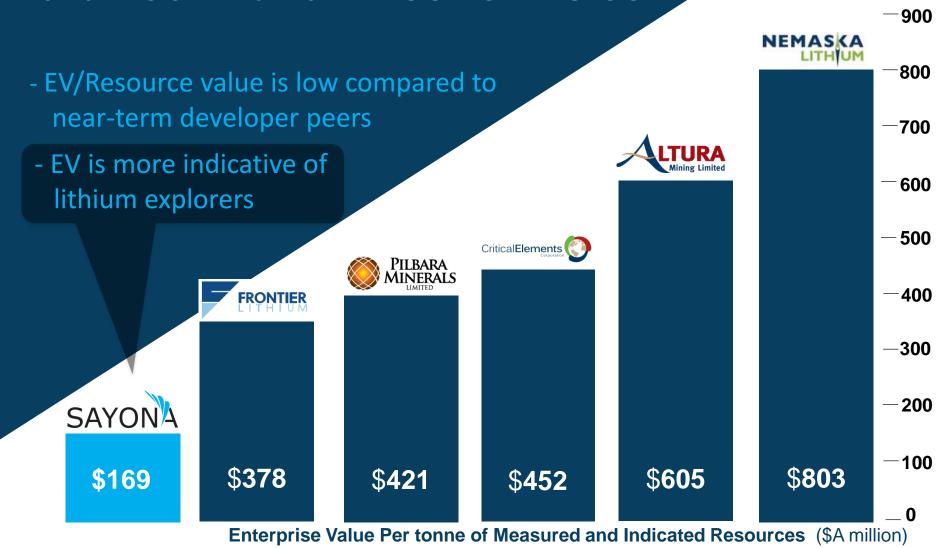


Low enterprise value (\$21m) compared to industry peers

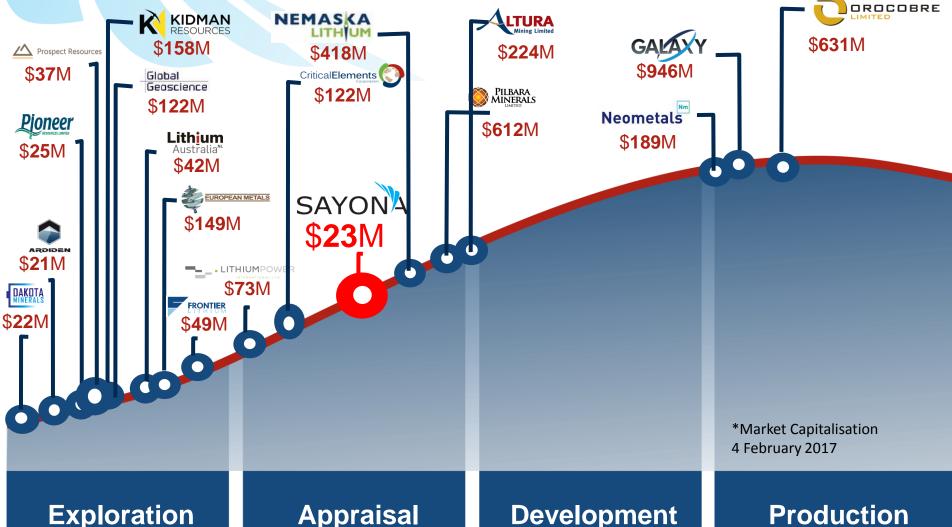


Board and management team have track record of delivering projects

#### Hard Rock Lithium Peer Universe



## Sayona Significantly Undervalued\*



### **Corporate Summary**



### TRADING EXCHANGE

ASX: SYA

#### **SHARES**

**875** Million shares

#### SHAREHOLDERS

30% DIRECTORS

**62%** TOP 20

#### **CAPITALISATION**

Price

As at 3 MAR 2017

2.6¢

Market cap

\$23M

Cash

\$1.3M



### Strong Team With Track Record of Success



- Expertise and experience in exploration, development and mining
- ✓ Strong skill set in Lithium exploration and development

#### **Executive Team**

Corey Nolan Chief Executive Officer Simon Atwell Exploration Manager

#### **Directors**

Dan O'Neill Paul Crawford Allan Buckler James Brown

## Consultants









#### JORC Mineral Resource

JONE Milleral Nesource		
Tonnes (Mt)	<b>Grades</b> (Li20)	Contained (Li20)
4.72	1.03%	48,519
7.13	1.10%	78,280
1.90	1.05%	19,901
TOTAL 13.74 Mt The resource has been estimated and re-	1.06 %Li20 eported in accordance with the g	146,700 Contained Li20 guidelines of the Australasian

MEASURED

INDICATED

INFERRED

The resource has been estimated and reported in accordance with the guidelines of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012) at a 0.5% Li<sub>2</sub>0 cut-off grade.

### Quebec, Canada – A Major Mining Centre





ola project, Quebet's largest open-tut mine, 25 km jrom Autmer

#### **Strong Government Support –**

Investment Partners in Mining





Canada's **largest** iron and zinc producer, and 2<sup>nd</sup> largest gold producer

25 mines in production

\$8.7bn of mineral exports

TOP rated mining jurisdiction by Fraser Institute

– No.6 in world

Stable taxes and **no royalties** 

Well established permitting regime

Modern, efficient infrastructure

#### Disclaimer



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#### Reference to Previous ASX Releases

This presentation refers to the following previous ASX releases:

- Authier JORC Resource Expanded, 23 November 2016
- Authier Maiden JORC Ore Reserve, 17 February 2017
- Authier PFS, 17 February 2017

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