

## **GALAXY RESOURCES LIMITED**

## **Investor Presentation**

May 2017 ASX: GXY

## **Company Highlights**



- One of the premier **global lithium opportunities** with existing production and a world class asset development pipeline
- **Operations restarted at Mt Cattlin with expanded capacity** to generate substantial, 100%-owned cash flows in 2017, positioning Galaxy as a **major global supplier of high quality lithium**
- Diversified project portfolio with hard rock and brine based lithium assets across Australia, Argentina and Canada
- **Revised DFS at flagship Sal de Vida Project in Argentina** supports low cost, long life project with robust economics; Development Team confirmed
- James Bay in Canada, is a top quality development asset, providing a valuable option for Galaxy to supply North American and European markets
- Highly credentialed Management and Board with a strong network of downstream and end-user customers in the global lithium markets
- Robust lithium macro trends with surging demand from lithium ion battery applications and a lagged supply-side response

Mt Cattlin Operations – Australia



En route to Sal de Vida lithium project – Argentina



## **Corporate Snapshot**



## A leading global lithium business with prominent institutional shareholders, and one of the strongest performing S&P/ASX 200 companies in CY2016

Financial Information (2017.04.28)

Share price	A\$0.425
52 week high / low	A\$0.285 / A\$0.695
Number of shares (undiluted) <sup>1,2</sup>	1,976m
Market Capitalisation	A\$839.7m
Cash (31-Mar-17)	A\$40.1m
Debt (31-Mar-17)	A\$13.1m
Net cash (31-Mar-17)	A\$27.0m
Enterprise Value	A\$812.7m

Source: IRESS

Notes:

Excludes 25.8m unlisted options on issue at various vesting and expiry dates with exercise prices between A\$0.047 and A\$1.16 and 25m unlisted warrants with various expiry dates and exercise prices of between A\$0.3436 and A\$0.415

Excludes 24.8m share appreciation rights and 13.9m exchangeable and special voting shares

#### **Broker research coverage**

CANACCORD Reg Spencer (Sydney) Baillieu Holst Warren Edney (Melbourne)

**BELL POTTER** 

Peter Arden (Melbourne)



Trent Barnett (Perth)



Top Shareholders (2016.12.31)

Board and Management	5.5%
Top 20 shareholders	33.8%

%

## **Diverse Asset Portfolio**



# With a portfolio of both hard rock and brine based lithium assets, Galaxy is also well networked with key customers in the Asian lithium market

#### James Bay, Quebec, Canada – Hard Rock

- 100% owned
- Lithium hard rock development
- 23Mt at 1.2% Li<sub>2</sub>O
- New exploration and development program, DFS underway

#### Sal de Vida, Salta & Catamarca, Argentina – Brine

- 100% owned
- Lithium and potash brine project, 1.1Mt LCE, 4.2Mt KCI
- Formal revision of DFS completed in Q3 2016
- Development Team confirmed, preliminary site works commenced in 1Q 2017 and offtake discussions ongoing

Mt Cattlin, WA, Australia – Hard Rock

- 100% owned
- 16Mt at 1.08% Li<sub>2</sub>O and 5.7Mlbs Ta<sub>2</sub>O<sub>5</sub>
- Throughput capacity expanded to 1.6Mtpa
- Production of recommissioned / expanded operation recommenced in 4Q CY2016
- CY2017 planned production of 160kt of spodumene

## Lithium value-adding production heavily concentrated in Asia

- 88% of global capacity based in Asia
- China produces >50% of global lithium cathodes
- Galaxy is uniquely positioned with existing relationships with lithium converters, material manufacturers and battery end users



## Current and future capacity dominated by North-East Asia

Source: CEMAC 2015

## Lithium Supply & Demand Balance



# Significant further supply side expansion required to meet continued rapid growth in demand from battery and energy storage applications

- Continued strength in lithium carbonate and lithium hydroxide prices is a clear indication that demand growth is sufficiently strong to cater for increased supply output
- Mt Cattlin, Mt Marion, La Negra 2 and Tianqi's Kwinana are the only new supply pipeline projects that are fully funded to date to support expected 120-150kt LCE incremental annual demand by 2020
  - Further supply response expected to be slow as development pipeline is undercapitalised and projects have the potential for delays and budget overruns
- Therefore supply and demand balance expected to remain tight until at least 2020, encouraging a robust pricing outlook



Lithium Carbonate Demand (kt LCE)

Source: Broker consensus

#### Lithium Carbonate Price Comparison (RMB/t)



1. BG Li<sub>2</sub>CO<sub>3</sub> and LiOH prices are current as at April 2017

## Lithium Supply Outlook Remains Tight



## Galaxy is well positioned to meet expected demand deficit with production from Mt Cattlin to generate cashflow to support development for Sal de Vida

#### Demand strong, but investment currently failing to provide adequate supply response

- Lithium sector has been undercapitalised to date, estimated only A\$640m<sup>1</sup> of equity capital raised in the last 18 months to fund pipeline supply projects
  - This compares to a total capital expenditure requirement of c. A\$2.3bn for the nearest lithium development projects listed below
  - With potential delays in development and production ramp up, expect to experience tight supply and continued robust pricing outlook
- Galaxy's market capitalisation, operational expertise and existing cash flows will de-risk Sal de Vida development plans relative to smaller peers
  - Significant lithium production expertise (hard rock and brine) from Mt Cattlin experience and experienced Sal de Vida Development Team
  - Proven ability to attract project funding (debt and equity), supplemented by significant free cash flow generation from production at Mt Cattlin

#### **Development projects pipeline contributing to incremental supply**

	Developmen	it projects pipelin	e contribu	ating to increment	Targeted first	Nameplate prod.	Capex	Market cap	Capex/	Existing production/cash
60	Project	Ownership	Туре	Development stage	production <sup>2</sup>	cap. (kt LCE)	(A\$m)³	(A\$m) <sup>3,4</sup>	market cap (x) <sup>8</sup>	flow
	Mt Cattlin	Galaxy (100%)	Hard rock	Ramp-up	Producing	20	Funded	840	N/A	$\checkmark$
	Mt Marion	Neometals (14%)	Hard rock	Ramp-up	Producing	50	Funded	172	N/A	$\checkmark$
$\overline{\bigcirc}$	La Negra 2	Albemarle (100%)	Brine	Evaporating brine	Q4 2017	20	Funded	16,028	N/A	$\checkmark$
	Pilgangoora	Altura (100%)	Hard rock	DFS released	4Q 2017	36	140 <sup>5</sup>	208	0.67	×
	Pilgangoora	Pilbara Minerals (100%)	Hard rock	DFS released	1Q 2018	44	214	434	0.49	×
$\bigcirc$	Whabouchi	Nemaska (100%)	Hard rock	DFS released	3Q 2018	28	549	371	1.48	×
	Sal de Vida	Galaxy (100%)	Brine	Team confirmed, site works commencing	2H 2019	25	501	840	0.60	$\checkmark$
	Cauchari-Olaroz	Lithium Americas (50%)	Brine	Stage 1 partially funded	2019	50	900 <sup>6,7</sup>	296	1.52	×
	Total						2,304			

Source: Company disclosure, IRESS

Notes:

1. Excludes A\$85m ORE placement in Jan 2016 as ORE production considered in existing output; 2. Subject to financing being put in place; 3. AUD:USD = 0.75, AUD:CAD = 1.00; 4. As at close 28 April 2017; 5. Includes sustaining capital of A\$7.64m, does not include a contingency assumption; 6. As per guidance from SQM for expanded 2 stage project; 7. A\$381m of capex to be funded through US\$174m investment agreement (debt and equity) with Ganfeng and US\$112m investment agreement (debt and equity) with Bangchak Petroleum; 8. Capex adjusted for project ownership

## The China Market For Lithium



## China is currently the major producer and consumer of lithium chemicals with a focus on lithium-ion battery applications (c. 70% of total output)

- China continues policy push in renewable energy expansion of generation capacity, electrification of transportation, and the like
  - Record breaking year in 2016 with China producing 517k new energy vehicles, made up of 417k pure electric vehicles (64% growth YoY) and 99k hybrids (16% growth YoY), over 80% of all NEVs are pure electric versus c. 20% in markets outside China
  - Total passenger vehicles produced of 344k (electric/hybrid 263k/81k, YoY growth of 73%/30%); total commercial vehicles produced of 172k (electric/hybrid – 154k/18k, YoY growth 50%/23%), passenger vehicles representing 67% of all NEVs produced in the China market
- Historically over 70% of LCE production in China is reliant on spodumene supply from Talison, limited availability of feedstock from domestic production and imports from South America
  - Tiangi and Albemarle (co-owners of Talison) have expressed that no spodumene will be made available for third parties
  - Mt Cattlin is the only new independent supplier of spodumene (Mt Marion offtake 100% secured by Ganfeng) to other lithium converters in China; offtake signed for 120kt volume in 2017, at US\$830/t for 5.5% grade product, representing a 38.3% increase over 2016 pricing



#### 2015 supply of lithium chemicals (kt LCE)

70kt

## Mt Cattlin – Overview



# Mining and processing operations have come online in a robust pricing and demand environment for lithium Mt Cattlin is a spodumene (lithium concentrate) and tantalum mining operation, located in Ravensthorpe, Western Australia

- 100% owned by Galaxy
- Only new independent producer and supplier of lithium concentrate in the market globally, since the recent large and sustained increases in lithium prices
- Improved flow sheet design and upgraded process equipment driving substantial efficiency gains and higher product quality
  - Expanded throughput capacity of 1.6Mtpa
  - Low mica content (<5% of total concentrate mass)
  - Initial target of 50% production yield
- Significant expected cash flows to Galaxy from Mt Cattlin
- Third shipment completed, payment due from Mitsubishi 14 days FOB (from ship departure)
- 2017 production guidance c. 160kt spodumene
- High margin operation with current operating costs
- Further revenue upside from tantalite production



#### **Resource and production capacity<sup>1</sup>**

Resource category	Tonnes	Li <sub>2</sub> O %	Ta <sub>2</sub> O <sub>5</sub> ppm
Measured	2,540,000	1.20	152
Indicated	9,534,000	1.06	170
Inferred	4,343,000	1.07	132
Total	16,416,000	1.08	157
Production capacity	1.6Mtpa		

Source: General Mining Announcement (2015.08.04) Note:

Galaxy understands that all material assumptions underpinning the production target and financial information set out in the General Mining announcement released continue to apply and have not materially changed

## Mt Cattlin – Offtake and Production



# Total of 34,000 dry metric tonnes of lithium concentrate produced since restart of production, throughput nameplate capacity achieved in early April

#### **Mt Cattlin Production Update**

- Commissioning and ramp-up of processing plant continuing, throughput nameplate capacity achieved in early April
- Following recommissioning of processing plant in December 2016, **production has totalled 34,000 dmt of lithium concentrate** 
  - Production of 23,467 tonnes of lithium concentrate in 1Q CY2017, which was in line with ramp up forecasts
  - Sale of 23,455 tonnes at an average realised price of A\$719 (U\$\$542) per tonne<sup>1</sup>
- Current production cash costs of A\$514<sup>1</sup> (US\$389) per dry metric tonne of concentrate
  - Production unit costs expected to reduce in coming quarters, as operations continue to increase production rates

Production Statistics	1Q CY2017	YTD CY2017	March 2017
Ore mined (wmt)	233,193	233,193	138,346
Grade (%)	0.96	0.96	0.93
Input Grade (%)	1.02	1.02	1.03
Spodumene produced (dmt)	23,467	23,467	9,695
Spodumene sold (dmt)	23,455	23,455	13,700

#### **Existing Offtake Agreements**

- Major Chinese customers established for spodumene offtake which is the preferred feedstock for lithium converters
  - ✓ Signed binding agreements for the sale of 120,000 tonnes of lithium concentrate in 2017 at US\$830/t (FOB, minimum 5.5% Li<sub>2</sub>O)
  - ✓ Customers will pay an additional US\$15/t for every 0.1% improvement in grade of Li₂O delivered, resulting in an agreed price of up to US\$905/t for 6% lithium concentrate
- 2016 offtake supply obligations (45,000 tonnes at US\$600/t) wholly fulfilled as part of the 3rd concentrate shipment in April

#### **Mt Cattlin Operations**



#### Note:

1. Excluding royalties and marketing fees

## Mt Cattlin – Operations Ramping Up



# With recommissioning complete the operational focus has shifted to plant optimisation, as well as an extensive exploration drilling program



First delivery and 2017 contracting



- Recommencement of spodumene production in 4Q 2016
- 120kt of lithium concentrate sold at US\$830/t (FOB, 5.5% Li<sub>2</sub>O, pricing of US\$905/t at 6.0% Li<sub>2</sub>O) for delivery in 2017
- First shipment in January 2017 from Esperance Port



- Second shipment completed on 1 March 2017
- Plant throughput nameplate of 210tph achieved
- Third shipment complete fulfilling 2016 offtake obligations
- Production ramp-up to meet targeted run-rate of 160kt
- Optimisation studies to improve recoveries above the initial 50% targets
- Extensive brownfield and greenfield exploration drilling campaign
- Refurbishment of the mine's fixed crushing circuit to re-start in 3Q 2017

#### Mt Cattlin mining operational ramp-up



**Fig. 1:** Recommencement of mining operations following engagement of Piacentini & Sons as mining contractor

**Fig. 2**: Lithium Concentrate loading at Mt Cattlin for transport to the Esperance Port

Fig. 3: Mt Cattlin operations





exploration

## Sal de Vida – Overview



# One of the world's largest and highest quality undeveloped brine deposits with significant expansion potential

- A premier lithium and potash brine development project
  - 100% owned by Galaxy and fully permitted
  - Located between Salta and Catamarca Province in Argentina, in an area that is known as the 'Lithium Triangle'
- Lithium triangle home to >60% of global annual lithium production
  - Sal de Vida located on the same salar as FMC's Fenix operations
- Revised DFS reaffirms the technical superiority of Sal de Vida and potential for a highly profitable operation
  - Estimated post-tax NPV<sub>8% real</sub> of US\$1.4bn
  - Potential to generate average annual revenues of US\$354m
  - Potential to generate average operating cash flow of US\$273m pre-tax (US\$182m post-tax)
- Large mineral reserves to support annual production of 25ktpa of battery grade lithium carbonate and 95ktpa of potash
- Brine projects have the advantages of lower operational costs and greater ability to expand production facilities
- Discussions underway with offtakers and potential strategic partners



#### Sal de Vida reserve estimates

Reserve category	Time period	Tonnes Li total mass	Tonnes equivalent Li <sub>2</sub> CO <sub>3</sub>	Tonnes K total mass	Tonnes equivalent KCl
Proven	1-6	34,000	181,000	332,000	633,000
Probable	7-40	180,000	958,000	1,869,000	3,564,000
Total	40 years	214,000	1,139,000	2,201,000	4,197,000

Source: Revised Sal de Vida DFS – August 2016. Assumes 500mg/L Li cut off

## Sal de Vida – Development Update



# Completing drilling for first two production wells, extensive topographic surveys to support construction of initial evaporation ponds

#### Sal de Vida Corporate

- Confirmation of Development Team for the Sal de Vida Project
- Renewal of Environmental Permit from Catamarca

#### Site Works and Drilling



- Relocation of existing camp facilities to facilitate earthworks
- First 150m deep drill hole for planned production wells to supply brine to the new evaporation ponds
- Earthworks for second drill pad and existing access road improvement
- Second 150m deep drill hole for planned production well
  - Construction of initial evaporation ponds

#### **Project Studies**

- 3,000 Ha topographic studies to facilitate the construction of an initial evaporation pond, and full scale commercial ponds
- Hydraulic studies around primary drill hole locations to better understand localised brine flow rates

#### Demo Plant Program

- Relocation/upgrade of existing pilot plant equipment in May 2017
- Resumption of pilot scale testing



**Project** 

studies and

demo plant

## Sal de Vida – World Class Development



# Revised DFS confirms low cost, long life and economically robust operation, with substantially improved economics compared to original study

- There were a number of catalysts for the revised DFS that have culminated in substantially improved project economics
- Improved lithium carbonate pricing environment
  - Base case price range of US\$11,000/t to US\$13,911/t, compared, to US\$5,895/t to US\$6,895/t in 2013 DFS
- Recent macro-economic/policy changes in Argentina
  - Elimination of export duties
  - Annual incentive rebate equivalent to 5% of  $Li_2CO_3$ export revenues due to operating in the Puna region
- Revised operating costs include updated prices and transportation costs for reagents, reduction of manpower and revision of transportation strategies for personnel and product/material onsite and out of the plant
  - Revised operating costs estimated to be US\$3,369/t before potash credits and US\$2,959/t after credits
- Option to defer capital investment on potash pant and related infrastructure, potential saving of US\$34m

#### **Definitive Feasibility Study Financials Comparison**

Item	August 2016 <sup>1</sup>	April 2013 <sup>2</sup>	Change (%)
Lithium Carbonate Production	25,000tpa	25,000tpa	-
Potash Production	95,000tpa	95,000tpa	-
Project Life	> 40 years	> 40 years	-
Capital Costs <sup>3</sup>	US\$376m	US\$369m	+2%
Operating Costs	US\$3,369/t LC	US\$2,889/t LC	+17%
Internal Rate Of Return (post-tax)	34.6%	19%	+16% (absolute) +82% (relative)
Payback Period (post-tax)	2 years 10 months	4 years 7 months	Less 1 year 9 months
Average Annual Revenues <sup>4</sup>	US\$354m	US\$160m	+121%
NPV <sub>8% real</sub> (post-tax)	US\$1,416m	US\$565m	+151%
NPV <sub>10% real</sub> (post-tax)	US\$1,043m	US\$380m	+174%
NPV <sub>8% real</sub> (post tax) @ AUD/USD 0.75	A\$1,888m	A\$753m	+151%
NPV <sub>10% real</sub> (post-tax) @ AUD/USD 0.75	A\$1,391m	A\$506m	+174%

Notes:

- 1. Original DFS released 12 April 2013
- 2. Revised DFS released 22 August 2016
- 3. Inclusive of capital costs associated with the potash production facility
- 4. Pricing scenarios assume the following ranges throughput the life of the project for battery grade lithium carbonate and potash: Li2CO3 US\$11,000 to US\$13,911 and KCI US\$220 flat

## Sal de Vida – Competitive Cost Position



# The premier lithium development globally, with a competitive cost position and one of the world's best brine chemistry and impurity profiles

- Leading brine chemistry that will produce 100% battery quality lithium carbonate
  - Low magnesium (Mg), a low Mg/Li ratio reduces costs and yields higher quality end product
- Very competitive positioning on the lithium producer cost curve, even with no potash credits assumed
  - High potassium yields significant potash credits, reducing operating costs
- Sal de Vida will adopt a conventional approach with evaporation ponds and processing
- SQM produces lithium as a by-product and thus some brine costs are charged to potash
- The processing of brine at Sal de Vida, SQM and ALB is similar with some adjustments in processing steps due to different brine composition
  - FMC has a different brine processing technology

Estimate of Sal de Vida operating costs vs. currently producing brine and hard rock projects (US\$/kg)<sup>1</sup>



Source: Company estimates

#### Sal de Vida resource and brine chemistry

Resource	7.2Mt LCE (lithium carbonate) 28.8Mt KCI (potassium chloride)	oride) Potassium/lithium ratio	
Reserve	1.1Mt LCE 4.2Mt KCl	provides for potash credits	
Grade/Chemistry	810mg/l Li 9,100mg/l K 11.2 K/Li ratio 12.1 SO₄/Li ratio 2.4 Mg/Li ratio	Low magnesium/lithium ratio yields higher quality end product	

Notes:

1. China Spodumene (low) assumes cash cost of Talison, plus transportation and best China conversion costs

## James Bay – Overview



# 

# The project provides a valuable option for capitalising on long term lithium demand growth, and the potential to supply the North American market

- Lithium pegmatite project located in James Bay, Québec, Canada and 100% owned by Galaxy
  - Strategically located in a mining friendly jurisdiction with a low cost of energy and good infrastructure
- Total indicated and inferred resources are 22.2Mt at 1.28% Li<sub>2</sub>O
- Extensive A\$3.5m exploration and development program commenced in 1Q CY2017
  - New diamond drill program will almost triple the aggregate 14,000m drilled so far on the project
  - Drilling expected to upgrade existing ore resources to reserves, explore identified pegmatites not previously drilled and to further understand resource geology
- Revised DFS, building on suspended 2012 study, to commence shortly
  - DFS work will take advantage of Mt Cattlin experience to draw synergies for engineering and process flow sheet design
  - Upon commencement, ongoing study work expected to be completed in 6 to 9 months
  - DFS work will include pilot-plant scale metallurgical testing
  - Metallurgical test work conducted in 2012 produced spodumene grades of 6.53% Li<sub>2</sub>O at a 75% lithium recovery rate
  - Site evaluation study for potential downstream conversion facility in Québec



#### James Bay resource estimate

Resource category	Tonnes	Li <sub>2</sub> O %
Indicated	11,750,000	1.30
Inferred	10,470,000	1.20
Total	22,220,000	1.28

Refer Galaxy Resources Announcement (2012.07.05)



## Multiple catalysts should support a sustained market re-rating

MT CATTLIN Production & ramp up	<ul> <li>Focus on production ramp up and processing optimisation to meet 2017 production guidance of 160kt of lithium concentrate</li> <li>Commencing extensive brownfield and greenfield exploration to targeting mine life extension</li> </ul>
SAL DE VIDA Field work, offtake & project financing	<ul> <li>Development Team confirmed, discussions ongoing with offtaker and strategic partners</li> <li>Site works commencing, including commencement of demo plant program</li> <li>Commencing project financing evaluation and discussions</li> </ul>
JAMES BAY Project development	<ul> <li>Exploration and development program, including comprehensive diamond drill program to upgrade existing resource to reserves</li> <li>Revised DFS expected to commence shortly, drawing on Mt Cattlin experience for study acceleration</li> </ul>
MACRO Robust lithium demand	<ul> <li>Continued strong growth in demand for lithium, led by increase in NEV sales and adoption rates in China, as well as robust growth other markets</li> <li>Lagged response from supply side of both lithium compounds and concentrate feedstock, increased pricing levels being sustained</li> </ul>



## APPENDIX

## Galaxy Board, Sal de Vida Development Team and Lithium Market

## **Board & Management**



# New Board and Management appointments further strengthen the quality of the leadership team as Galaxy positions itself to be a leading lithium producer

- Galaxy's Chairman is a respected leader in the global mining industry and a co-founder of First Quantum (TSX: FM)
- Anthony Tse (Managing Director) appointed in 2013, successfully led Galaxy turnaround and restructuring
- Team brings strong financial acumen to Galaxy; meaning that over A\$500m of debt restructuring, M&A and financing has been able to be completed by Galaxy within the last 4 years without external advisors
- Importantly, the current management and key employees have successfully developed lithium projects into production and have established customer relationships in key Asian markets
- Recently appointed Mark Pensabene (formerly General Manager of Monadelphous) as Chief Operating Officer and Alan Rule (formerly CFO of Sundance Resources, Paladin Energy and Mt Gibson Iron Ore) as Chief Financial Officer

#### Martin Rowley – Independent Non-Executive Chairman

- Co-founder and Executive Director of First Quantum
- First Quantum is among the largest copper production companies in the world with a market cap of C\$9bn
- Non-Executive Chairman of Forsys Metal Corp (TSX: FSY)
- Previously Non-Executive Chairman of Lithium One Inc. (acquired by Galaxy in July 2012)

#### Jian-Nan Zhang – Non-Executive Director

 Deputy General Manager of Fengli Group, a subsidiary of a leading private Chinese industrial group

#### John Turner – Independent Non-Executive Director

 Leader of Fasken Martineau's Global Mining Group, a leading international law and litigation firm that has been ranked #1 globally 8 times since 2005 (including 2016)

#### Anthony Tse – Managing Director

- 20+ years corporate experience in high growth industries, including technology, media and resources
- Extensive senior management experience in corporate strategy and development, M&A, capital markets
- Former Director Corporate Development at Hutchison Whampoa's TOM Group (HKSE:2383), Deputy General Manager of TOM Online (NASDAQ:TOMO), President of CETV and CEO of CSN Corp.

#### Peter Bacchus – Independent Non-Executive Director

- Chairman and CEO of Bacchus Capital Advisors, a M&A and merchant banking boutique based in London
- 20+ years' investment banking experience, as former Head of Investment Banking at Jefferies, Global Head of Metals & Mining at Morgan Stanley and Head of Investment Banking, Industrials and Natural Resources at Citigroup
- Current Non-Executive Director of NordGold (LSE: NORD), and Gold Fields (JSE: GFI)

## Sal de Vida – Development Update



# Development Team made up of highly credentialed industry consultants with a proven ability to develop lithium brine projects within the lithium triangle

#### **Galaxy Confirms Development Team Leaders**

- Significant technical and geographical expertise with 200 years of combined industry experience, including substantial experience with the leading global lithium producers, such as SQM, FMC and Rockwood
- Team members cover the multiple disciplines required to advance the project to the next stage engineering and construction, process and operations, and hydrogeology

#### **Process and operations**

Mr Vijay Mehta (P.Chem, PhD)	Over 40 years of experience working for a variety of specialty chemicals companies, including 26 years at FMC as head of Product and Process Development, producing a number of lithium products (e.g. Li <sub>2</sub> CO <sub>3</sub> , LiOH and Li <sub>3</sub> O <sub>4</sub> P)
Mr Marcelo Bravo Veas (P.Eng)	16 years of experience, with 12 years at <b>SQM's Salar de Atacama as Chief of Process Engineering</b> , overseeing evaporation ponds construction and operation, as well as providing process engineering advisory to several listed companies
Mr Daniel Chavez Diaz (P.Eng)	25 years of experience in lithium brine operations, including <b>Plant Manager, Managing Director at FMC's operations in the Salar del</b> Hombre Muerto, as well as President of Minera de Altiplano, the FMC subsidiary in Argentina
Mr Pedro Pavlovic Zuvic (P.Eng)	Over 40 years of experience as a process expert in lithium and potassium extraction, working for a number of global lithium majors, including Rockwood, SQM and FMC. Formerly Managing Director of CORFO's mixed salt program, developing the lithium and potassium resources at the Salar de Atacama
Engineering and construction	
Mr Mario Portillo (P.Eng)	40 years of experience building large scale industrial projects for <b>Technit as a Project Engineering Manager</b> – Technit was the lead construction and engineering consultant for <b>FMC's lithium carbonate plant at Salar del Hombre Muerto</b> and their lithium chloride plant at General Guemes in Salta
Hydro geology and brine	
Mr Rodolfo Garcia (P.Geo, PhD)	28 years of experience modelling geology and hydrogeology of numerous projects in the region. Mr. Garcia assisted in the development of several brine projects, including FMC's West Hombre Muerto, Lithium America's Cauchari, Orocobre's Olaroz, and Enirgi's Rincon

## EV Uptake Driving Growth in Demand



# Total government target stock of 17.8m EVs by 2020 across 14 countries, supported by subsidies and significant investment in charging infrastructure

#### Announced 2020 EV Stock Targets (m)



Source: International Energy Agency – Global EV Outlook 2016

#### Lithium requirement to meet increased stock targets

1	Scenario 1	Scenario 2
2015 global EV stock (millions vehicles)	1.2	1.2
2020 global EV stock (millions vehicles)	17.8	17.8
Increase in EV global stock (millions vehicles)	16.6	16.6
Average LCE requirement (kg per EV)	241	32 <sup>2</sup>
Additional LCE demand (kt)	398	531

#### Notes:

- 1. Assumed average size of lithium ion battery of 30kWh and LCE demand per EV of 0.8kg/kWh
- 2. Assumed average size of lithium ion battery of 40kWh and LCE demand per EV of 0.8kg/kWh

#### Stated government clean energy policies

- 5m EV deployment target including 4.3m cars, 0.3m taxis, 0.2m buses and 0.2m special vehicles
- Aiming for carbon neutrality by 2050
- Deploy 7 million charging outlets over the national territory by 2030
- Initiative to make a leading market for electric mobility, with 1 million EVs on the street by 2020
- Target of 10% for all vehicles on Irish roads to be electric by 2020





- Deploy 1,400 countrywide publicly accessible fast chargers, with the aim of making all parts of the country accessible with an electric vehicle
- EVs enjoy federal tax credits capped at US\$7,500
- Federal funding programme that contributed to 36,500 publicly accessible charging outlets in place in 2015

Source: Media releases

## **Electrification Of China's Transport Sector**



# China is becoming the global leader in the electrification of transport lithium battery demand across multiple segments

- Chinese demand will dwarf the increased demand from new lithium battery gigafactories
- The future of electric vehicles will be driven by adoption across a number of industries and applications including:
  - Light personnel transportation: two-wheel motorbikes, scooters, three-wheel hybrid vehicles, light EVs (Smart-size electric cars)
  - Heavy transportation applications: including public trains and buses
  - Logistics industry: high torque requirement areas including forklifts, scissor lifts, transport buggies
- China is at the forefront of the electric vehicle revolution:
  - Targeting 5 million electric vehicles by 2020
  - Aiming for up to 50% of government fleet vehicles to be new energy vehicles
- Push for green technology, targeting 4.8 million charging stations and city transportation fleets of 200,000 electric buses
- Continued conversion of 200m+ population of electric bikes to switch over from lead acid to lithium batteries

Annual electric drive bus sales by region (000s)



Source: Pike Research

#### World consumption of lithium by end use (2012 - 2017)



Source: Roskill – Lithium Market Outlook to 2017

## Disclaimer



This document contains forward looking statements concerning the projects owned by Galaxy. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forwardlooking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward looking statements in this document are based on Galaxy's beliefs, opinions and estimates of Galaxy as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments. There can be no assurance that Galaxy's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that Galaxy will be able to confirm the presence of additional mineral deposits, that any mineralization will prove to be economic or that a mine will successfully be developed on any of Galaxy's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements. Data and amounts shown in this document relating to capital costs, operating costs, potential or estimated cashflow and project timelines are internally generated best estimates only. All such information and data is currently under review as part of Galaxy's ongoing operational, development and feasibility studies. Accordingly, Galaxy makes no representation as to the accuracy and/or completeness of the figures or data included in the document. Not For Release in US This presentation does not constitute an offer of securities for sale in any jurisdiction, including the United States. Any securities described in this presentation may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended, following the preparation of required documents and completion of required processes to permit such offer or sale.

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## **Competent & Qualified Persons' Statement**



#### Sal de Vida

The information in this report that relates to relates to the estimation and reporting of the Sal de Vida Project Mineral Resources and Mineral Reserves is extracted from the report entitled "Sal de Vida: Revised Definitive Feasibility Study Confirms Low Cost, Long Life and Economically Robust Operation " created on 22 August 2016 which is available to view on <u>www.galaxylithium.com</u> and <u>www.asx.com.au</u>. 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 and that all material assumptions and technical parameters underpinning the Mineral Resources and Mineral Reserves estimates in the relevant market announcement continue to apply and have not materially changed . 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.

#### James Bay

The information in this report that relates to Mineral Resources at the James Bay Project is based on work completed by Mr James McCann, who is a Member of a Recognised Overseas Professional Organisation. Mr McCann is a full time employee of McCann Geosciences, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr McCann consents to the inclusion in the report of the matters based on his information in the form and context it appears. This information was prepared and first disclosed under the JORC Code 2004 it has not been updated since to comply with JORC code 2012 on the basis that the information has not materially changed since it was last reported.

#### Mt Cattlin

The information in this report that relates to relates to the estimation and reporting of the Mt Cattlin Project Mineral Resources and Mineral Reserves is extracted from the report entitled "Mt Cattlin Update: Revised Resource & Reserve Statement" created on 4 August 2015 published by General Mining Limited (ASX: GMM) which is available to view on <u>www.asx.com.au</u>. 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 made by GMM. The Company understands that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

#### **Production Targets and Financial Information**

Information in relation to the Sal de Vida Revised Definitive Feasibility Study, including production targets and financial information, included in this report is extracted from the report entitled "Sal de Vida: Revised Definitive Feasibility Study Confirms Low Cost, Long Life and Economically Robust Operation" created on 22 August 2016 which is available to view on <a href="http://www.galaxylithium.com">www.galaxylithium.com</a> and <a href="http://www.asx.com.au">www.asx.com.au</a>. The Company confirms that all material assumptions underpinning the production target and financial information set out in the announcement dated 22 August 2016 continue to apply and have not materially changed.