# **Lithium** Royalty Corp

## 2018 Update

### Dear Investor,

Lithium Royalty Corp ("LRC") was formed on the investment thesis of a once in a hundred year opportunity, the electrification of transportation. Since our launch, May 2018, our conviction level in this investment thesis has only grown. The electrification of transportation is happening. The Tesla Model S became the number one selling luxury vehicle in the world and the Tesla Model 3 is now the best-selling sedan in North America. Other auto OEMs are noticing. Volkswagen recently announced that the next generation of internal combustion engines will be its last. Starting in 2019 VW will begin to roll out electric vehicles across its 12 automotive brands as part of its plans to spend €72 billion on electric vehicles by 2030, €44 billion of that between 2019 and 2023. Chevy, Renault, Volvo, Mercedes, Porsche, Audi, Honda, BMW, NIO, Xiao Peng, Weltmeiter, MG Motor and Changan are all introducing electric vehicles in 2019 (Daimler announced on December 11, 2018 that it will purchase in excess of \$23 billion of battery cells to support its EV strategy). Outside of the early consumer adoption of Tesla the catalyst for electrification has been regulatory driven demand. China and Europe have introduced onerous emissions standards which are forcing auto companies to transform 10% to 30% of their fleets to all electric by 2025 or otherwise face daunting financial penalties. More recently the EU Environmental Committee voted to further cut emissions which Morgan Stanley states (page 14 Disruption Decoded: Global Autos 2.0, November 21, 2018) implies EV penetration rates of up to 50% by 2030. India has mandated 30% of all passenger vehicles be EVs by 2030.

The transition to electrification will be a bumpy one. We expect one or more of the existing global auto companies will fail and new ones will take their place (BYD, BAIC, Geely, Great Wall, Nio and Dyson). The entire auto eco-system is being up-ended as internal combustion engines and traditional powertrains are replaced with electric motors and battery systems. Underlying this change is a transition from Hydrocarbons to Energy Metals, most noticeably Lithium and Nickel. LRC is positioning itself in the upstream area of the value chain through the acquisition of revenue royalties on Lithium assets globally. The basis for our thesis was and remains that the supply response to this surge in demand for battery materials and specifically Lithium will "Take Longer," "Cost More" and will result in "Less Production" than forecasted (see Figure 1: Project delays and cost increases).

If you were to look at the share prices of Lithium stocks you would conclude that something is wrong. 2018 share price declines have been 20% to 50% (but two year price moves are still up 100%). The sell-off was sparked by a negative report out of Morgan Stanley which predicted a coming supply imbalance in Lithium will pressure price. The supply imbalance has not yet occurred, in fact signs of the opposite are emerging but, nonetheless, the price of Lithium has declined. Contract prices, which are the basis for most Lithium transactions are unchanged at \$14,000 to \$15,000 USD per tonne, but spot prices in Asia have declined from \$26,000 to \$11,000 per tonne. As a reminder, we use \$10,000 pricing in our financial models

and our estimates show that if prices were to decline permanently to \$6,000 USD per tonne we would still earn an internal rate of return of 15% on the portfolio.

Turning to new supply, SQM's plans to take production from 48,000 tonnes of Lithium Carbonate ("LCE") to 180,000 tonnes is off to a slow start, in fact they will likely end the year at production levels below your ago levels (see Figure 2: Supply update from Galaxy Resources). Sales volumes for the third quarter 2018 were 15% below Q2 levels due to technical and operating issues. We expect SQM's expansion plans will continue to be plagued by operational issues and eventually will face water restrictions leading to ultimate production levels well below publicly announced targets. Contrary to Morgan Stanley's recent report "SQM: More Lithium capacity and earlier than expected", in SQM's recent third quarter update management stated: "...Lithium expansion has been more challenging than expected but we have been positively surprised by demand growth...".

Australian emerging concentrate and Lithium hydroxide producer, Kidman Resources, has been delayed for several months due to title compliance issues with the Government. More recently total capital expenditures were announced at \$745 million which was higher than expectations. Capex for their concentrate production was revised from \$154 million to \$319 million and operating cost per tonne was revised from \$205 per tonne to \$293 per tonne, increases of 107% and 43%, respectively.

Orocobre, the company behind the first material greenfield Lithium brine project in twenty years, continues to be challenged to meet nameplate production capacity. Four years after first production they reported run-rate production of 9,000 tonnes of LCE, as compared to 17,500 tonnes planned.

Figure 1 below shows 484,000 tonnes of future LCE production which is either coming on line at higher costs than estimated and or facing material delays. Galaxy Resources recently published a similar analysis (see Figure 2).

Figure 1: Project Delays and Cost Increases

Name	Country	Company	Status	Capex	Opex	Op Cost	Op Cost	% Change	MS Start	LRC Start	Est. Nameplate
				Change	Change	Current	Expected		Date	Date	Capacity (LCE)
Cauchari - Phase 1	Argentina	Lithium Americas	Delay: +1 Year	No Change	No Change	\$2,495/t	\$2,900/t	16%	2019	2020	25,000
Cauchari - Phase 2	Argentina	Lithium Americas	Delay: +1-2 Years	No Change	No Change	\$2,495/t	\$2,900/t	16%	2020	2022	25,000
Sal de Vida	Argentina	Galaxy	Delay: +1 Year	Increase: +26%	Increase: +1%	\$3,410/t	\$3,760/t	10%	2020	2022	25,000
Salar de los Angeles	Argentina	NextView	Delay: +1-2 Years	No Change	No Change	-	-	-	2020	2022+	20,000
Olaroz Expansion	Argentina	Orocobre	Delay: +6 Months	No Change	Increase: +25%	\$4,640/t	\$4,500/t	-3%	2019	2020	25,000
Salar del Rincon	Argentina	Rincon	Delay: +1-2 Years	Increase: +81%	Increase: +93%	\$4,000/t	\$5,500/t	38%	2021	2022+	25,000
Bald Hill	Australia	Tawana	Producing: 6 Months Delayed	No Change	Increase: +50%	\$660/t	\$600/t	-9%	2018	2018	20,000
Mt. Holland	Australia	Kidman	Delay: + 3-6 Months	Increase: +107%	Increase: +43%	\$293/t	\$365/t	25%	N/A	2021	45,000
Pilgangoora - Phase 1	Australia	Altura	Producing: 1 Year Delayed	Increase: +17%	Increase: +20%	\$330/t	\$350/t	6%	2018	2018	27,500
Pilgangoora - Phase 1	Australia	Pilbara	Producing: 9 Months Delayed	Increase: +54%	No Change	\$205/t	\$350/t	71%	2018	2018	39,000
Wodgina - Phase 1	Australia	Mineral Resources	Delay: +3-6 Months	No Change	No Change	\$296/t	\$375/t	27%	2018	2019	31,000
Whabouchi	Canada	Nemaska	Delay: +1 Year	Increase: +40%	Increase: +25%	\$245/t	\$295/t	20%	2020	2021	33,000
Authier	Canada	Sayona	Delay: + 6 Months	Increase: +36%	No Change	\$350/t	\$375/t	7%	N/A	2021	11,000
Rose	Canada	Critical Elements	Delay: Environmental Permit Issues	No Change	No Change	\$373/t	\$390/t	5%	N/A	2022+	30,000
Atacama Expansion	Chile	SQM	Delay: +1 Year	No Change	No Change	\$2,500/t	\$6,000/t	140%	2018	2019	20,000
Atacama Yield Expansion	Chile	Albemarle	In Question	No Change	No Change	\$2,500/t	\$5,300/t	112%	-	-	65,000
Sonora	Mexico	Bacanora	Delay: Failed Equity Financing	Increase: +91%	Increase: +46%	\$3,930/t	\$4,900/t	25%	2020	2021	17,500
,							Average	32%		Total	484,000

Figure 2: Supply update from Galaxy Resources

# Supply – The Rhetoric Vs. Reality



## Supply side response continues to lag - delays in project construction, commissioning and capacity expansions, as well as product quality issues remain a challenge

- · Supply growth continues to disappoint
  - Combination of operational, execution and financing challenges
- Development assets coming online late and are facing continued ramp-up and commissioning challenges
  - Operating costs higher than anticipated in study work
- Environmental, licensing and execution challenges have led to delays in several greenfield project expansions
- · Highly leveraged balance sheets and expensive cost of capital pose high risk in a lower commodity price environment
- Australian concentrate or DSO out of the ground does not necessarily translate to effective chemical LCE's supplied into the China market

Delays in Key Project Constructions and Expansions

Project	First Production Guidance	Actual First Shipment	2018E Sales (LCE)	2018TD Sales <sup>1</sup> (LCE)	
Atacama	na	na	55kt	30.5kt	
Pilgangoora <sup>3</sup>	Q1 2018	Q4 2018	11kt	1.1kt²	
Pilgangoora <sup>3</sup>	Q4 2017	Q4 2018	16kt	0.7kt²	
Bald Hill <sup>3</sup>	Q1 2018	Q2 2018	17kt	4.7kt <sup>2</sup>	
Olaroz	na	na	17kt	8.9kt	
La Negra 24	2016	2017	14kt	Est. 6kt	
Wodgina <sup>3,4</sup>	Q4 2018	na	85kt DSO 6kt	22kt DSO	

- es: As at 30 September 2018 Includes shipments completed in early October Assumes 8 tonnes of lithium concentrate per 1 tonne of LCE Analyst estimates

Galaxy Resources Limited (ASX:GXY) —

## **LRC Portfolio Update**

Publicly undisclosed.

### **Closing Remarks**

Our plan to acquire a diversified portfolio of top quality upstream/resource revenue royalties as a way to participate in a risk-adjusted way in the global electrification of transportation thematic is well underway. The royalties acquired to-date in aggregate represent an expected 24% cash on cash yield. LRC is actively working on several additional royalty opportunities which represent attractive low risk high return opportunities that will both further diversify and complement our existing portfolio. We expect to have fully deployed our initial capital within the first quarter of 2019 at which time we will draw on existing committed but undrawn funds and look to new and existing investors for additional capital. Our future pipeline looks strong in terms of quality of asset, position on the global cost curve and nexus to commercial production. In keeping with our original plan, once we have appropriately scaled up and diversified the portfolio we will look to either start paying dividends and/or monetize the portfolio by way of sale or initial public offering.

Please find enclosed an updated copy of our confidential presentation and recent related news stories. Audited financials and account statements will follow in early 2019. As a reminder the information in this letter and related enclosures are confidential and subject to Confidentiality Agreements.

Sincerely,

**Lithium** Royalty Corp