

ASX:INF

# FRA: 3PM nnoEnergy Knowledge Innovation Community InnoEnergy is supported by the EIT, a body of the European Union





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#### **Competent Persons Statement**

The information in this report that relates to Exploration Targets and Mineral Resources is based on the information compiled by Mr Patrick Adams, of Cube Consulting Pty Ltd (Perth). Mr Adams has sufficient relevant professional experience with open pit and underground mining, exploration and development of mineral deposits similar 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 2012 Edition of JORC Code He has visited the project area and observed drilling, logging and sampling techniques used by Infinity Lithium in collection of data used in the preparation of this report. Mr Adams is an employee of Cube Consulting Pty Ltd and consents to be named in this release and the report as it is presented.

The information in this report that relates to Exploration Results is based on the information compiled or reviewed by Mr Adrian Byass, B.Sc Hons (Geol), B.Econ, FSEG, MAIG and an employee of Infinity Lithium. Mr Byass has sufficient experience 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 2012 Edition of the JORC Code. Mr Byass consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

#### Pre-Feasibility Study – Cautionary Statement

The Study referred to in this announcement is a preliminary technical and economic investigation of the potential viability of the San José Lithium Project. It is based on low accuracy technical and economic assessments, (+/- 25% accuracy) however is sufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage; or to provide certainty that the conclusions of the Study will be realised. Infinity is in Joint Venture ('JV') with Valoriza Mineria SA, a subsidiary of SACYR S.A. Infinity have independently engaged the services of Wave International Pty Ltd ('Wave') to assess the technical and economic viability with regards to producing battery grade lithium hydroxide under the San José Lithium Project. Whilst the Pre-Feasibility Study has yielded robust outcomes and provided independent perspective on the opportunity to produce battery grade lithium hydroxide, there is no guarantee that the JV will choose to adopt the outcomes of the study.

The Production Target referred to in this presentation is based on 100% Probable Reserves for the life of mine life covered under the Study. In accordance with the thirty (30) year mine plan incorporated into the Study, the first three (3) years of production (covering payback period) will come 100% from Probable Reserves.

The Study is based on the material assumptions outlined below and include assumptions about the availability of funding. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Study will be achieved. To achieve the potential mine development outcomes indicated in the Study, additional funding will be required. Investors should note that there is no certainty that the Company will be able to raise funding when needed however the Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the San José lithium deposit.

To achieve the outcomes indicated in this Study, initial funding in the order of US\$309m (which includes a 15.3% contingency) will likely be required, and US\$318m (including a 15.3% contingency) over the life of the Project. Investors should note that there is no certainty that Infinity will be able to raise funding when needed. Infinity holds a total of 75% interest in the San Jose Lithium Project, with Valoriza Mineria holding the balance of 25% interest. It is also possible that Infinity can pursue a range of funding strategies to provide funding options. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Infinity's existing shares. It is also possible that Infinity could pursue other value realisation strategies such as sale, partial sale, or joint venture of the Project. If it does, this could materially reduce Infinity's proportionate ownership of the Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this Pre-Feasibility Study.



# **Infinity Lithium: Investment Highlights**





**European Funding Deal** 

Direct investment of up to €800K

Support fundraising activities:

Phase II: Pilot plant up to €2.4m

Project financing up to €300m

Direct European financial endorsement

Fully integrated & sustainable EU project

Strategic development aligned to EU policy

Long life and low cost lithium chemical production

The European Commission led
European Battery Alliance is
developing an EU strategic
lithium-ion battery value chain
& is focused on the critical
deficiency in lithium chemicals
supply

endorsement for the development of the fully integrated and sustainable San Jose Lithium Hydroxide Project highlights urgent EU response to imminent burgeoning demand for lithium chemicals



# San Jose Lithium Hydroxide Project Overview





# San Jose Lithium Hydroxide Project



San Jose is a fully integrated and sustainable project in Spain



Producing 15Kt¹ of Lithium Hydroxide per year, able to power >10M Electric Vehicles



30-year production: total revenues **US\$6 Billion**Pre-tax NPV at **US\$860M**Pre-tax IRR at **42**%



OPEX before by-product credit of **US\$5,434/t¹** LiOH at the bottom of the global cost curve



Creating a new industry for Europe, generating employment and supporting the community



# **Infinity Lithium: InnoEnergy**



### Infinity: The 1<sup>st</sup> Project To Secure EU Funding Through EIT InnoEnergy



#### **Direct Investment**

InnoEnergy to fund up to €800,000 (A\$1.3m)

- InnoEnergy direct investment in Infinity Lithium under Project Agreement
- Funds used for **phase one pilot plant test work** with Project Partner Dorfner Anzaplan
- The test work forms essential component for class 3 Feasibility Study
- Production of battery grade lithium hydroxide samples for offtake verification



Fundraising Support InnoEnergy to support and facilitate investment for up to €2.4m (A\$4.0m)

- Funds used for **phase two pilot plant test work** with Project Partner Dorfner Anzaplan
- Production of battery grade lithium hydroxide samples for offtake verification



#### **Project Financing**

InnoEnergy to assist Infinity in securing full project financing for up to €300m (A\$500m)

- Final investment decision: assist securing full project financing including both debt & equity
- Track record of facilitating and participation in funding other major EU lithium-ion battery projects



# Infinity Lithium: InnoEnergy



#### **EIT InnoEnergy Services & Support**



#### Offtake

 Through the European Battery Alliance network, InnoEnergy will support and facilitate negotiations with European offtakers



#### **Licensing & IP**

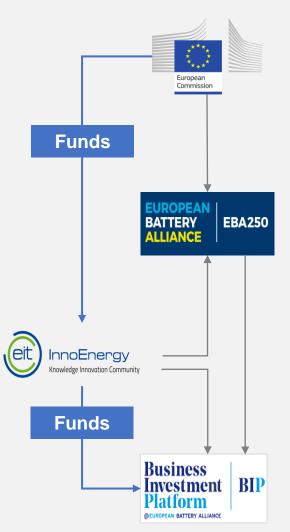
Participate in license scheme for technology developed and applicable to other EU mica lithium deposits



#### **Advisory & Support**

 Advisor appointed to utilise EBA network and provide services in project advancement

### Who Is EIT InnoEnergy?



European Commission launched EBA in Oct 2017 to create competitive and fully integrated battery manufacturing chain in Europe

EBA250: Annual market value is estimated at €250 billion from 2025 onwards

**EIT InnoEnergy** manages EBA industrial development programme **EBA250** 

**EBA** launched **BIP** in Sept 2019: **€70bn** investment in batteries is required in the EU by **2023** 



# The EU's Push For Battery Raw Materials Self-Sufficiency ASX: INF



#### Maros Šefčovič **VP European Commission & EBA**







"Unless we develop our own mining & refining capacity, the EU will continue to be in great part dependent on foreign supplies"

#### **Andrew McDowell VP European Investment Bank**







The EIB identified the significant gap in the market, reinforcing their focus on "raw materials and refining facilities"

### The EU is focused on requirement to extract raw materials, process and retain critical battery materials that are urgently required for the European lithium-ion battery supply chain

"Infinity Lithium is planning on producing lithium hydroxide in Spain [...] Automakers should be very interested in this project"

Šefčovič said new EU rules will include sustainability guidelines, regarding the responsible sourcing of raw materials, a low carbon footprint and reduced waste during production. It will also apply to Chinese suppliers to EU automakers.

Šefčovič notes the critical need to "Develop a strategic value chain for manufacturing EV lithium-ion batteries inside Europe" - "Secure access to raw materials such as lithium"

European Commission will propose new environmental standards for batteries: an effort to outgreen China & offer local producers a way to differentiate their production from Asian competitors.

EIB Vice President McDowell expects to set aside at least €1 billion a year in loans for battery projects within the 27-country bloc over the next four years.

The EIB has changed their energy lending policy in November and included mining operation for critical raw materials such as lithium



# **EU Policy Driving Mass EV Adoption**



# COVID-19 has highlighted 'deglobalization' trend in the lithium supply chain



**EU's Green Deal** was announced in the midst of this COVID crisis:

- EU's economic recovery aligned to transforming the EU's economy for a sustainable future through investment in digital, renewable energy and environmentally sustainable projects.
- The mass adoption of electric vehicles is essential as part of their strategy



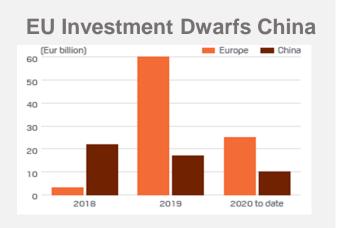
### The EU is committed to a target Net Zero Carbon 2050 target



Strict **regulations on emissions** are driving EU companies to be at the **forefront of lithium-ion battery value cain investments** 



Auto manufacturers in the EU are not expected to meet the new 95g/km CO<sub>2</sub> target and could face fines amounting to more than €20 billion<sup>(1)</sup> in both 2021\* and 2022.



Source: S&P Global



# **EU Lithium-ion Battery Value Chain**





#### **Hard Rock Resource**







#### **Chemical Conversion**









**Lithium-ion Battery Cell Production & Assembly** 





**Electric Vehicles** 



### European Automakers want to de-risk their supply chain

- Concerns over limited availability of critical battery metals and concentration in a small number of countries such as China
- Europe will be the 2nd largest lithium chemical consumer in the world, but **no lithium** plants have been built yet























































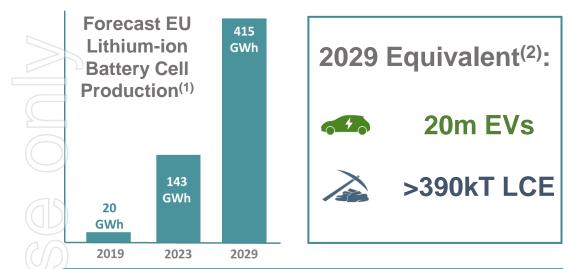


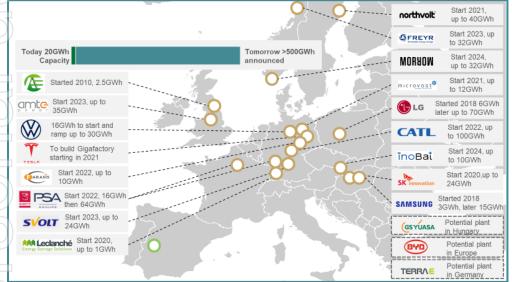
# Infinity Lithium: Lithium Market & EU Focus



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### Forecast EU Lithium-ion Battery Cell Production: 2<sup>nd</sup> Largest Global Market





EU policy is accelerating demand for EVs

A fully integrated European Lithium-ion battery supply chain will require more than the global production of lithium today

**Lithium hydroxide** is required in high nickel content cathodes used in EVs

Europe is forecast be the 2<sup>nd</sup> largest producer of

- Electric vehicles
- Lithium-ion batteries
- Cathodes

Europe currently produces no lithium hydroxide – the EV industry remains at risk with China producing more than 80% of lithium hydroxide globally in 2019

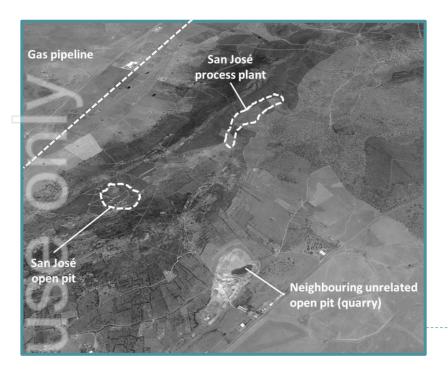
(1) Source: Benchmark Mineral Intelligence





# San Jose Lithium Hydroxide Project





### Lithium hydroxide chemicals production in the EU

Fully integrated and sustainable project in Spain

#### Second largest hard rock lithium resource in the EU

JORC Resource 111.2Mt (Ind. 59Mt, Inf. 52.2Mt), Probable Reserves 37.2Mt

#### Strategically important long life and low cost project

30 years production of battery grade lithium hydroxide – 15ktpa<sup>(1)</sup> 19 year mine and stockpile activity – depleting <50% JORC Resource

### Sustainable project focus aligned to EU policy and funding

European Battery Alliance developing an EU strategic lithium-ion battery value chain and unlocking financial support

#### Transport



Mining





Upgrade (Beneficiation)



Roasting



Leaching



**Purification** 



Refining

Alunite Stage



Lithium **Sulphate** 



**Purification** 



LiOH **Battery** Grade





# **PFS Validates Strong Economics**



#### INFINITY LITHIUM PROJECT LITHIUM HYDROXIDE PRE-FEASIBILITY STUDY



NPV <sub>10</sub> Pre-tax	\$	US\$860M	IRR Pre-tax	42.3%
Total Revenue From Lithium Hydroxide		US\$6Bn	CAPEX <sup>2</sup> (Pre-production)	US\$268M
OPEX <sup>1,3</sup>		US\$5,434/t	Capital Intensity	\$US16K/t
Annual Production <sup>3</sup> of lithium hydroxide	<b>P</b>	15,000t/y	Project Life Mine Life	30 years 19 years
2 <sup>nd</sup> Largest Lithium Resource in the EU		1.6Mt LCE	Strip Ratio	0.43:1

#### 100% Project Ownership Basis

- 1) Average C1 cost over 10 years of production including ramp-up and C1 cost at nameplate capacity is US\$5,043/t, without by-product credits. Potential tin and boron credits are available and are being assessed in the ongoing optimization studies.
- 2) Excludes contingency. Total pre-production CAPEX including contingencies US\$309m
- 3) First 10 years of production







# **Test Work: Phase One Underway to Produce Samples**























LiOH Batterv Grade



**Production of Lithium Sulphate** 

Same process for both Li<sub>2</sub>CO<sub>3</sub> or LiOH



**Production of tech grade** lithium hydroxide

Same process for both technical & battery grade LiOH



2017: Scoping Study Battery grade Li<sub>2</sub>CO<sub>3</sub>



2019: PFS Tech grade LiOH





Bench scale optimization & production of battery grade samples



## Funded by EIT InnoEnergy:

Total funding commitment €800,000; tranche 1 payment received



Test work underway at Dorfner Anzaplan facilities in Germany: Infinity on site in July 2020: optimisation and production of samples underway



#### **Next Steps:**

Engagement with EU technology & off-takers to verify battery grade LiOH



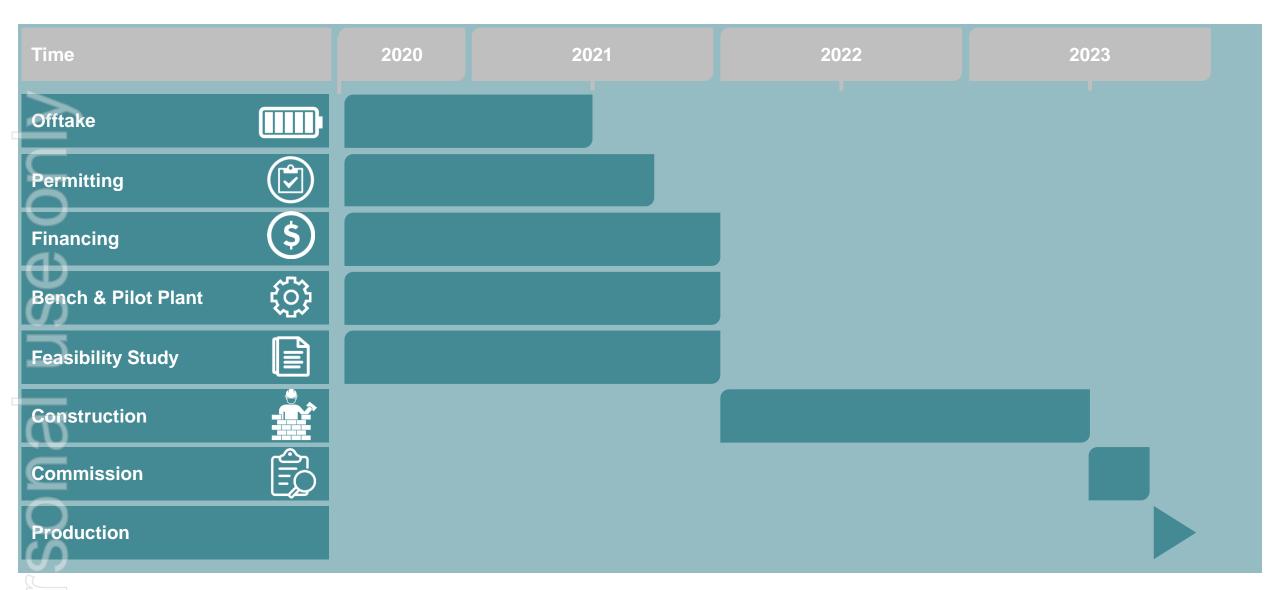


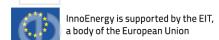




# San Jose Project Timeline: PFS 2019







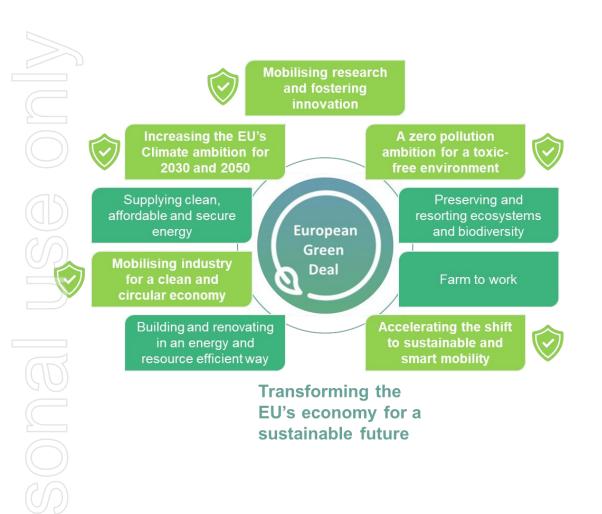




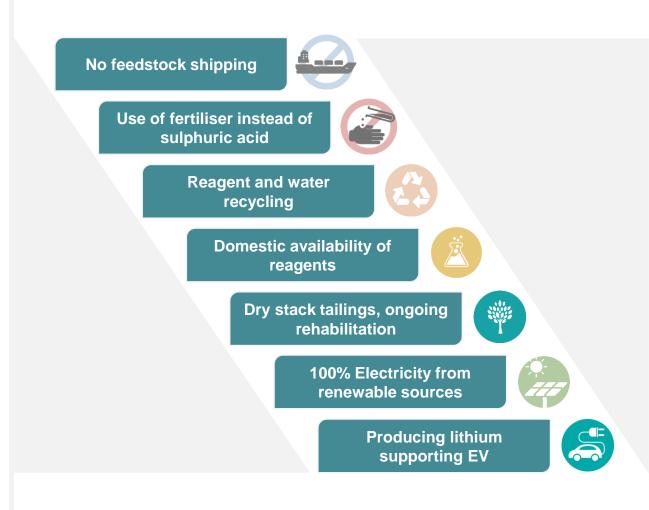
# **Project Alignment to EU Strategic Objectives**



#### **Ticking Many Boxes - The European Green Deal**



#### **Linking To The Green Deal Across The Entire Process**





# **Summary**





First Project To Sign Binding European Funding Deal with InnoEnergy



Infinity is Strategically Located to Support Strong Demand Outlook For Lithium In Europe



A Large And Long-Term Asset Supporting EV Growth



**A Uniquely Fully Integrated Lithium Project** 



San Jose Lithium Project Supported by Strong Economics



Sustainable, Low Carbon Footprint Operation Project Aligned to EU Strategic Objectives





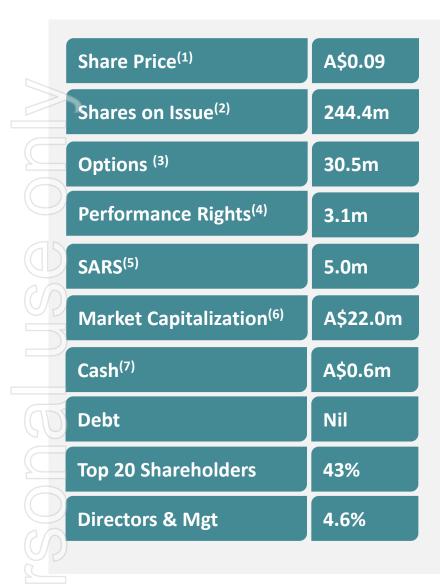


www.infinitylithium.com



# **Appendix 1: Corporate**









# **Appendix 2: Board of Directors & Management**



Adrian Byass
Non-Executive Chairman



BSc Geol Hons, B. Econ

- +20 years in the mining industry both in listed and unlisted entities globally, Non-Executive and Executive Director of various listed and unlisted mining entities, which have successfully transitioned to production in bulk, precious and specialty metals
- Currently on Boards of ASX phosphate, zinc and nickel companies
- ASX and AIM Board experience

Ryan Parkin Managing Director/CEO



CA ANZ

- BComm Accounting & Finance
- +15 years experience in corporate development, accounting and finance in both listed and unlisted companies
- Currently on Board of non-listed mining industry entity

Remy Welschinger Non-Executive Director



Cass Business school

- Experienced finance and European commodities executive with more than 13 years experience in leading major global bank European office commodities and fixed income
- Currently on Board of AIM company and unlisted companies

Jonathan Whyte Company Secretary



Chartered Accountant

Extensive corporate, company secretarial and financial accounting experience, predominantly for listed resource companies.
 Previously worked in the investment banking

David Valls Technical Manager - Spain



BSc Geology

+10 years in the mining and exploration industry in Europe and Africa as technical manager in the development of base and energy metals projects



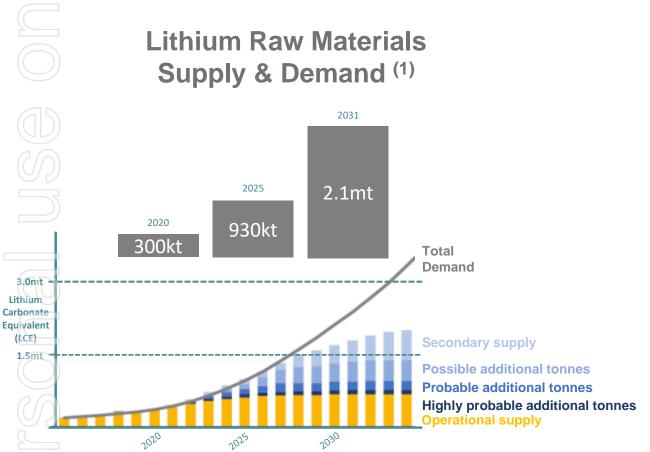




# **Appendix 3: Global Lithium Market Outlook**



- Global lithium supply imbalance forecast by 2025 sooner for the EU
- Europe currently produces no lithium hydroxide the EV industry remains at risk with China producing more than 80% of lithium hydroxide globally in 2019



(1) Source: Benchmark Mineral Intelligence





# **Appendix 4: Large And Long-Term Asset**



# San Jose Mineral Resource, Reported Above 0.1% Li Cut-off

Parameter	Amount Mt	Li%	Li2O (%)	Sn ppm
Resource:				
Indicated	59.0	0.29%	0.63	217
Inferred	52.2	0.27%	0.59	193
TOTAL	111.3	0.28%	0.61	206

Estimated using Ordinary Kriging methodology.

#### Note:

Small discrepancies may occur due to rounding.

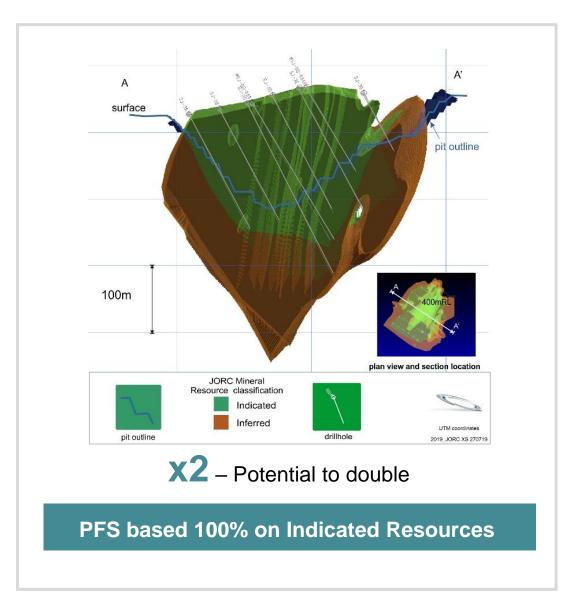
JORC Table 1 included in an announcement to the ASX released on 23 May 2018: "Lithium Resource and Open Pit Upgrade". Infinity confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates 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.

Lithium (Li) mineralisation is commonly expressed as either lithium oxide (Li<sub>2</sub>O) or lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) or Lithium Carbonate Equivalent (LCE). Lithium Conversion:

 $1.0\% \text{ Li} = 2.153\% \text{ Li}_2\text{O}$ 

 $1.0\% \text{ Li} = 5.32\% \text{ Li}_2\text{CO}_3$ 

 $1.0\% \text{ Li}_2\text{CO}_3 = 0.880\% \text{ LiOH.H}_2\text{O}$ 





# **Appendix 5: Lithium Production From Mica**





**Germany** was the first country to convert mica into lithium chemicals back in the 50's



Today, there are at least 4 conversion sites in **China** converting mica into lithium chemicals, and they all have plans to increase capacity.

In 2018, production was 9,000t of LCE and grew to 25,000t of LCE in 2019 (+166%yoy)



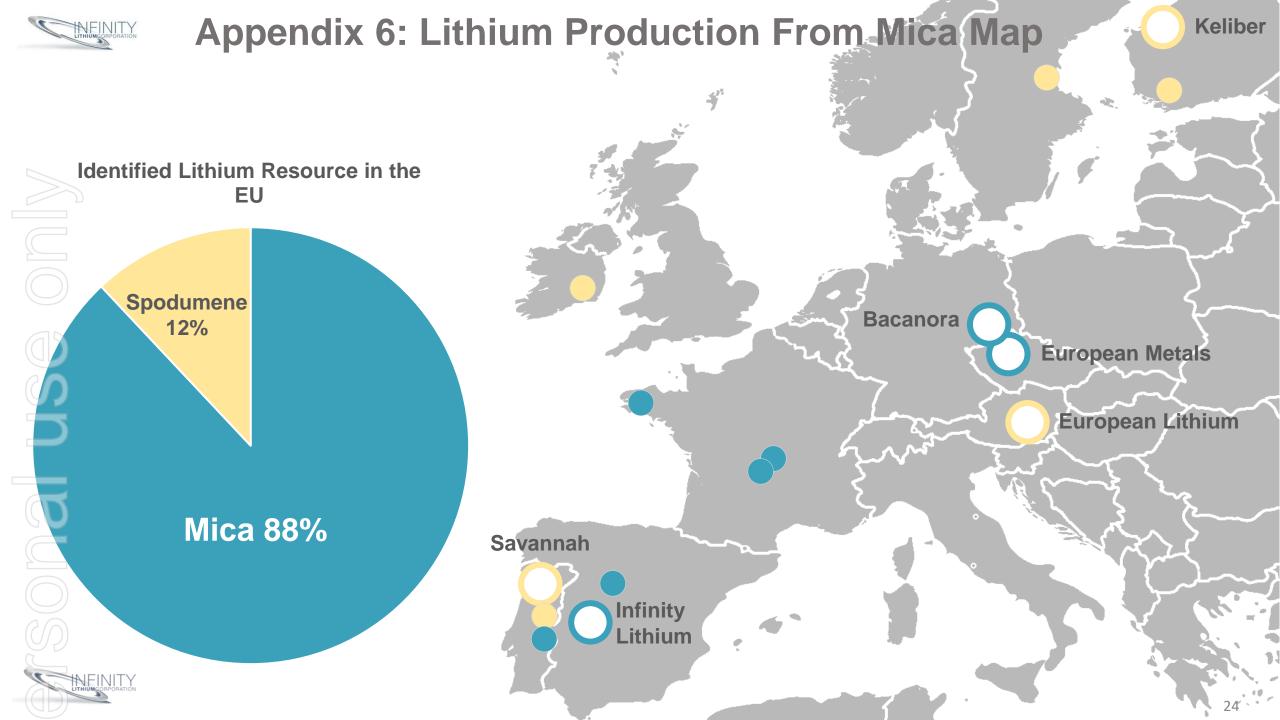
**BASF**, the largest chemical producer in the world, has concluded an MOU for an offtake of lithium hydroxide with **Desert Lion** who will be processing Mica into lithium chemicals



**Fortescue** Metals Group, the fourth largest iron ore producer in the world with AUD9Bn revenues in 2018, has applied for tenements in Portugal for potential lithium extraction, most likely from Mica



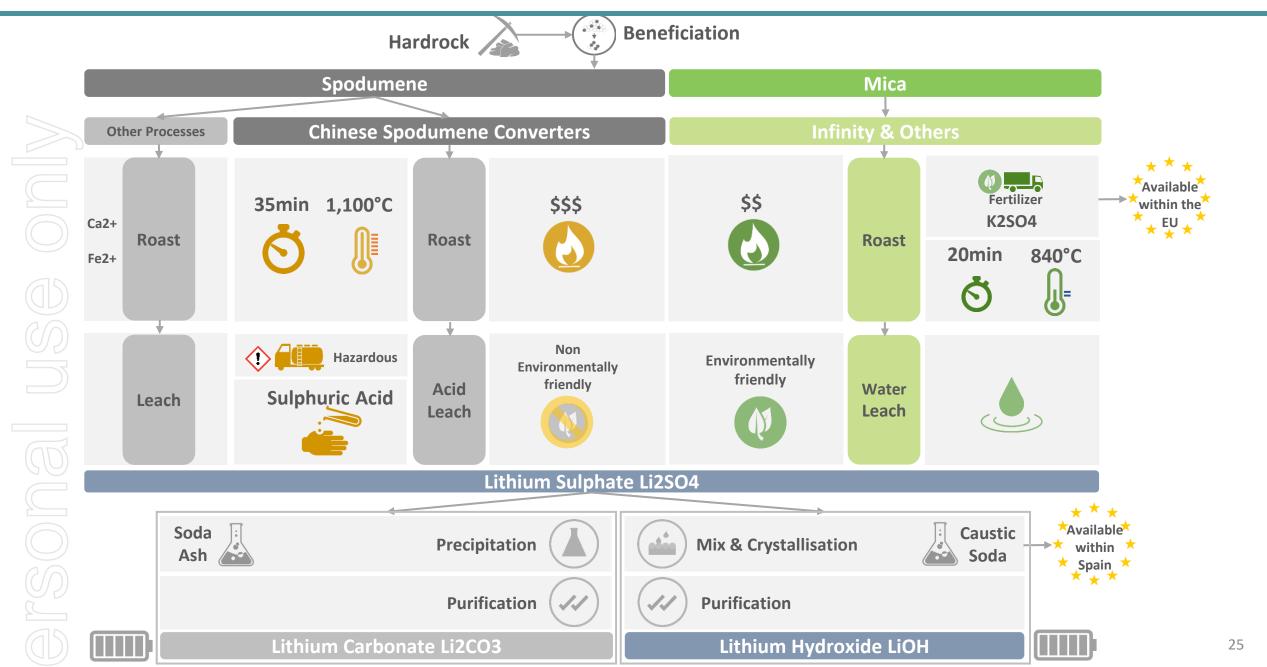
A large majority of **EU**'s lithium resource are mica based.





# **Appendix 7: Sustainable, Low Carbon Footprint**







# **Appendix 8: Sustainable, Low Carbon Footprint**





Spodumene mines have strip ratio over 4-10:1 More waste

Very low strip

Minimum waste

ratio 0.43:1

 Chemical plant <8,000km away in China

Chemical plant <3km

away from the mine

 Future chemical plants in Australia will still be 200-400km away from mine

· Very small water requirement and most

of the water is recycled

Roasting process uses safe reagents such as potassium sulphate

> · Leaching process uses water which is almost entirely recycled

Low temperature process (840C) and short (20min) requiring less energy



Spodumene roasting is energy intensive (1,100C) and longer (35min)

> Roasting in China involves large volumes of sulfuric acid, a hazardous and polluting chemical

> Leaching also involves sulfuric acid

All reagents available domestically

Able to supply end-users regionally, only a few hundred kilometers away

Light footprint



• The lithium inside your car can travel more than 50,000km before you even start driving

Heavy footprint



battery industry in Europe a long term, large, and sustainable source of supply.

European

 Brine operations in South America require very large amounts of water in extremely dry locations

Water rights and environmental issues

imported from thousands of kilometers away

Reagents often need to be



San Jose is



