

## Sigma Lithium – Corporate Presentation | January 2021 Sigma Lithium – 公司介绍 | 2021年1月

# **Sigma Lithium Resources Corporation**

TSX-V: SGMA OTC: SGMLF

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#### **Cautionary Note Regarding Forward-Looking Statements**

This presentation contains "forward-looking information" (also referred to herein as "forward-looking statements") under the provisions of applicable Canadian securities legislation regarding Sigma Lithium Resources Corporation ("Sigma"). Generally, these forward-looking statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "believes" or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will", "occur" or "be achieved" or the negative connotation thereof.

Forward-looking statements include, but are not limited to, those in respect of: the economic outlook for the mining industry, including competitors of Sigma; expectations regarding lithium prices, current project exploration and development expectations and plans in respect of Sigma's material property located in Minas Gerais, Brazil (the "Sigma Project"); liquidity, capital resources and expenditures; sustainability; business development strategies and outlook; production forecasts; cash flows, sales and other economic measures; development of mineral resource and mineral reserve estimates; financing opportunities; business partnerships; and economic performance, financial conditions and other expectations.

Forward-looking statements are subject to known and unknown risks, uncertainties and other important factors that may cause the actual results, level of activity, performance or achievements of Sigma and/or the Sigma Project to be materially different from those expressed or implied by such forward-looking statements, including but not limited to, those in respect of: the Sigma Project may not be developed as planned and uncertainty of whether there will ever be production at the Sigma Project; cost overruns; risks associated with Sigma's ability to successfully secure adequate funding; market prices affecting the ability to develop the Sigma Project; risk to the growth of lithium markets; lithium prices; inability to obtain required governmental permits and operations being limited by government-imposed limitations; inability to achieve and manage expected growth; political risk associated with foreign operations, and emerging and developing market risks; risks associated with not having development and production experience; operational risks; changes in government regulation: changes to environmental requirements; insurance risk; receipt and security of mineral property titles and mineral tenure risk; competition; market risk; volatility in global financial conditions; uncertainties associated with estimating mineral resources, including uncertainties relating to the assumptions underlying mineral resource estimates and whether mineral resources will ever be developed into mineral reserves: opposition to development of Sigma's mineral properties; surface access risk; geological, technical, drilling or processing problems; uncertainties in estimating capital and operating costs, cash flows and other project economics; liabilities and risks, including environmental liabilities and risks, inherent in mineral extraction operations; health and safety risks; unanticipated results of exploration activities; unpredictable weather conditions: unanticipated delays in preparing technical studies: an increase in the costs of manufacturing products, including the costs of any raw materials used in the process; inability to generate profitable operations; restrictive covenants in debt instruments; lack of availability of additional financing on terms acceptable to Sigma; shareholder dilution; dependence on key personnel; likelihood of payment of dividends in the future; competition for, amongst other things, capital, undeveloped lands and skilled personnel; fluctuations in currency exchange and interest rates; regulatory risk; conflicts of interest; share price volatility; cyber-security risks and threats; nd risks relating to public health crises, including the COVID-19 virus.

Forward-looking statements also include, but are not limited to, factors and assumptions in respect of: the ability of Sigma to fund, advance and develop the Project, Sigma's ability to operate in a safe and effective manner; the ability to obtain and maintain mining, exploration, environmental and other permits, authorizations and approvals; the results from the pilot plant and laboratory; demand for lithium, including that such demand is supported by growth in the electric vehicle market; the impact of increasing competition in the lithium business, and Sigma's competitive position in the industry; market position and future financial or operating performance of Sigma; general economic conditions; estimates of, and changes to, the market prices for lithium; exploration, development and construction costs for the Project; estimates of mineral resources and mineral reserves, including whether mineral resources will ever be developed into mineral reserves; reliability of technical data; anticipated timing and results of exploration, development and construction activities; Sigma's ability to obtain additional financing on satisfactory terms, including the financing contemplated in the Mitsui HOA; the ability to develop and achieve production at the Project; successful negotiation of definitive commercial agreements, including off-take agreements; accuracy of current budget and construction estimates; the timing and possible outcome of regulatory and permitting matters; and anticipated trends and effects of the COVID-19 virus.

### www.sigmalithiumresources.com

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### **Cautionary Note Regarding Mineral Resource Estimates**

This presentation uses the terms "mineral resources," "measured mineral resources," "indicated mineral resources", and "inferred mineral resources" to comply with the reporting standards in Canada. SEC Industry Guide 7 does not recognize mineral resources and U.S. companies have not generally been permitted to disclose resources in documents they file with the SEC. Although new reporting classification standards have been adopted in the United States which replace and modernize the standards in SEC Industry Guide 7 and permit the disclosure of estimated mineral resources, the modernized estimation methodologies adopted by the SEC may still differ from those permitted by NI 43-101 and the CIM Definition Standards.

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### **Technical Information**

Scientific and technical information contained in this presentation was reviewed and approved by Marc-Antoine Laporte, P. Geo., M. Sc. of SGS Canada Inc. Mr. Laporte is a "qualified person" as defined by National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101").

Certain technical information in this presentation was derived from the technical report entitled "Grota do Cirilo Lithium Project, Araçuaí and Itinga Regions, Minas Gerais, Brazil, NI 43-101 Technical Report on Feasibility Study, Final Report" prepared by Fred Claridge, P. Eng, Lucas Duarte, P. Eng, Ara Erzingatzian, P. Eng, Kiedock Kim, P. Eng, Marc-Antoine Laporte, P. Geo, and Porifrio Cabaleiro Rodriguez, MEng, which is dated October 18, 2019 and effective September 16, 2019 (the "Feasibility Study"). The Feasibility Study is available on the SEDAR profile of Sigma at <u>www.sedar.com</u>. Mineral resources in the Feasibility Study are reported inclusive of mineral reserves. Readers are advised that mineral resources that are not mineral reserves do not have demonstrated economic viability. Some figures herein have been rounded for presentation purposes. This presentation and the Feasibility Study contain certain non-GAAP measures. The non-GAAP measures do not have any standardized meaning within IFRS and therefore may not be comparable to similar measures presented by other companies. These measures provide information that is customary in the mining industry and that is useful in evaluating the Sigma Project. This data should not be considered as a substitute for measures of performance prepared in accordance with IFRS.

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### The Rise of European EV Market in Post-COVID 19 World 后新冠肺炎疫情时代的欧洲电动汽车市场崛起

- Decarbonization as one of the main messages for the post-pandemic economy 脱碳是后疫情时代下的一个主要经济主题
- Europe is expected to overcome China as the leading market for Evs 4 欧洲有望超越中国成为领先的电动汽车市场



World EV sales 全球电动汽车销量 ('000 千辆)

Substantial Amount of Environmentally Sustainable Lithium Will Be Required to Enable the Energy Transition in Transportation 为实现交通领域的能源转型,将需要大量的环境可持续发展的锂



Sigma is a Unique Company: Sigma与众不同之处在于: Green & Sustainable 绿色和可持续发展 Low Cost 低成本 High Quality 高质量 Large Scale 大规模 Strategic Backing by Mitsui 得到三井公司的战略支持



# Strategic Location & Benefitting From Existing Mining Infrastructure in Brazil 战略位置以及受益于巴西现有的采矿基础设施



### High Quality Mineral Resources: Sigma Has One of the Highest-Grade Lithium Ore Deposits in the World

优质的矿产资源: Sigma拥有全球品位最高的锂矿床之一 Sigma Mineral Resources<sup>(1)</sup> Lithium Oxide Grade vs. Hard Rock Peers

Sigma矿产资源量中氧化锂品位与硬岩锂同行比较



Source: Company reports and Sigma's Feasibility Study. 资料来源:公司报告和Sigma的可行性研究报告。 (1) Measured and Indicated 测定和指示资源量; (2) Phase 1 Production 第一阶段生产; (3) Phase 2 Production 第二阶段生产; (4) Galaxy includes Mt. Cattlin only. / Galaxy只包括Mt. Cattlin。

# High Quality Mineral Resources: Superiority of Lithium Concentrate is Visible to The Naked Eye 优质的矿产资源: 锂精矿的优势肉眼可见

Sigma's Dry Coarse / Sigma的干式粗粒



Sigma's Dry Control Sample / Sigma的干式控制样品



Australian Wet Fines – Example 2 澳大利亚湿细料 \_例2



Pilot Beneficiation Plant Installed in the Valley: Enabled Production of Samples to Capture Market for Brazil 中试选矿厂就安置在山谷中:能够使生产出来的样品为巴西占领市场

- Becoming a Global Reference in Clean Lithium Production Process 成为全球 清洁锂生产工艺的参考
  - Plant With Clean Technology: No Tailings Dams, Without Chemical Reagents, 100% Clean Energy (Hydroelectric), 90% Water Reuse.
  - 《采用清洁技术的工厂:没有尾矿坝、不使用化学试剂、100%清洁能源 (水电)、90%水回用

Size Matters: Large Long-Term Contracts in 2020/2021 Awarded ONLY to Companies with Proven Scalability Until 2025/2026 规模很重要: 2020/2021年的大型长期合同只授予在2025/2026年之前经证明生产能力具有可扩展性的公司



Source: Company information and Sigma's Feasibility Study and estimates. 资料来源:公司资料和Sigma的可行性研究报告和估计。

# Unexpected Demand for 2023 Determined Anticipation of Production Profile / 2023年的意外需求决定了预期生产情况

▲ Large Scale and Robust Production Profile - Commercial production from 1Q22 @ 220,000 tpa of 6% lithium ore rising to 440,000 tpa in 2023, and 660,000 tpa in 2025 / 大规模和稳健的生产概况 -2022年第一季度开始商业生产,每年生产22万吨6%的锂矿石,到2023年上升到44万吨,2025年上 升到66万吨



Source: Feasibility Study (Xuxa), Plano de Aproveitamento Econômico (Barreiro) and Sigma's estimates (Nezinho do Xicão).资料 来源:可行性研究(Xuxa)、Plano de Aproveitamento Econômico (Barreiro)和Sigma的估计(Nezinho do Xicão) 
 Sigma Has Scale of Proven & Probable Reserves and Resources: Strategic

 Source to Lead Supply of "Low Carbon" Lithium / Sigma拥有一定规模的已探

 922%

 明和基本探明储量和资源量:引领 "低碳 "锂供应的战略来源



(1) Mt Cattlin and James Bay only. 仅指Mt Cattlin 和James Bay。

## Benchmark Cost Curve: Sigmas' Low Cost Validated By Its Former Mine 'Cachoeira" Ranking Second to Greenbushes 基准成本曲线: Sigma的低成本在之前的矿山 "Cachoeira "排名中得 到验证,仅次于Greenbushes



Low-Cost Producer: Premium Pricing, Financial Robustness And Ability to Deliver Irrespective of Commodity Cycle / 低成本生产商:溢价定价、 财务稳健性和不受大宗商品价格周期影响的交付能力

Premium price as a result of Sigma's ability to deliver LiOH in a strategic alliance with Mitsui / Sigma 与三并公司结成战略联盟使其有能力提供溢价的氢氧化锂



Source: Shanghai Metals Market and Sigma internal information 资料来源: 上海金属市场和Sigma内部资料 Notes: (1) Source: Market Reports; (2) Average FX Rate of BRL / USD 4.85 LOM 注释: (1) 资料来源: 市场报告; (2)巴西雷亚尔/美元平均汇率: 4.85 LOM

# Sigma & Mitsui Achieved Significant Commercial Success for High Purity and Sustainable Lithium in 2022 and 2023 / Sigma和三井在2022 年和2023年取得高纯度和可持续生产锂的重大商业成功

April 2019 Offtake and Pre-Payment Agreement 2019年4月签订承购和预付款协议

- Pre-Payment for 45k tpa (and up to 55k tpa) over 6 years of U\$ 30 million 预付4.5万吨/年(最高 5.5万吨/年),为期6年,金额为3000万美元
- Repayment Discount: U\$ 151/t (45k tpa) 预付折 扣: 151美元/吨(每年4.5万吨)
- Offtake Rigths of 25k tpa over 6 years / 6年内每年2.5万吨的承购权

### Enhanced Agreement 强化协议<sup>(1)</sup>

- Offtake Quantity of up to 220k tpa 承购数量 高达每年22万吨<sup>(2)</sup>
- Profit sharing of Lithium Hydroxide sales 氢氧 化锂销售利润分享



(1) Agreement under discussion and the terms are subject to change. 协议正在讨论中, 条款可能会发生变化。
(2) Includes quantities of the April 2019 Offtake and Pre-Payment Agreement. 包括2019年4月承购和预付款协议的数量。

We Have Purpose: We Use 100% Green Power, are ESG Compliant & Driving Transformative Social Impact 我们有目标:我们使用100%的绿色能源,符合ESG规范,并推动变革性社会影响



- "E" STATE-OF-THE-ART ENVIRONMENTAL 最先进的环保措施
- 100% green-powered by hydro electricity / 100%绿色水电
- Dry stacking tailings & low residue mining 干 法堆放尾矿和低残渣开采
- DMS plant does not use chemicals / DMS加工 厂不使用化学品
- Water recycling of 90% / 90%的水回收利用



### "S" – SOCIALLY TRANSFORMATIONAL 社会变革

- Sigma: Largest investor in the region by a factor of 20x / Sigma是该地区最大的投资者,投资额为20倍
- 300 direct jobs and 200 indirect jobs 带来300个直接工作岗位和200个间接工作岗位
- About U\$ 50 million to be paid in royalties over 14 years / 14年内将支付约5000万美元的权利金
- Workforce training programs in partnership with SENAI <sup>(1)</sup>; in line with UN development goals 与巴 西国家工业培训局(SENAI)合作开展劳动力培训方案; 符合联合国发展目标

Significant Impact: Vale do Jequitinhonha Region's Human Development Index (HDI) is Among the Lowest in the World 重大影响: 热基蒂尼奥尼亚地区的人类发展指数是世界上最低的地区之一<sup>(2)</sup>



### "G" – CANADIAN GOVERNANCE 加拿大治理

- 2 out of 6 Board members are independent: Canadian Standards / 6名董事中有2名独立董事 加拿大标准
- Canadian corporation listed in the TSX 多伦多证 券交易所上市的加拿大公司
- Diverse Board with 50% women and LGBT 多样 化的董事会,50%是女性和LGBT
- Audited by KPMG and SGS 由毕马威和SGS审计

(1) Serviço Nacional de Aprendizagem Industrial.(2) World Bank.

ESG-Centric Strategy: Practices are Measured as per the UN Sustainable Development Goals 以ESG为中心的战略: 根据联合国可持续发展目标衡量实践



# Sigma was Invited to Present its Sustainable Mining Case Study at the World Climate Summit (United Nations Climate Conference COP25) Sigma应邀在世界气候峰会(联合国气候大会COP25)上介绍其可持续采矿案例研究

World Climate Summit - The Investment COP

December 8 Madrid

#### Speaking at

Mitigating the Impacts of Resource Extraction -Leadership in Responsible Mining Chief Strategy Officer Sigma Lithium Resources



Ana Cabral-Gardner



### Ana Cabral (CSO and Co-Chairman首席战略官和董事会联合主

席) - "Sigma produces environmentally sustainable high-quality lithium concentrate from its pilot plant on site in Brazil... the Company has some of the world's largest and richest deposits of spodumene ore... and we set out to develop it since the very beginning six years ago as an ESG green mining case study, pioneering amongst lithium companies ... and we did that by focusing 15% of the capex towards always keeping up with best environmental practices [management and rehabilitation] and obviously focusing on the way [electric] power was sourced to beneficiate the material [lithium]." "Sigma在巴西的中试工厂生产环境可持续的高品质 锂精矿.........我们拥有世界上最大和最丰富的锂辉石矿藏......我们从六年前 一开始就将其作为ESG绿色采矿案例进行开发,在锂业公司中属于先行 者......我们的做法是将15%的资本支出用于始终保持最佳环境实践[管理 和恢复],并明显关注[电]力的来源方式,进行选矿[锂]。"



"Examples of actions include dry-stacking tailings management from inception at the pilot plant and investing in water recirculation equipment that would lead the company to recycle 90% of the water...so there is an enormous focus on water efficiency. And then there is energy efficiency, 100% of the energy is green, power is sourced from hydro (...) But why? Because being in battery materials... the purpose of that value chain is to decarbonize at the "mobility-end" of the value chain. So, if we did not behave accordingly by being 100% green and by powering the energy with 100% green energy and enforcing those practices all along, we would not be a sustainable member of that [EV] value chain." "具体的做法包括:在中试厂从一开始就进行干堆尾矿管理,并投资水循环设备,使公司90%的水都能循环使用......所以非常注重用水效率。还有就是能源效率,我们现在100%的能源都是绿色的,电力全部来自水电 (......)因为作为电池材料生产商......这个价值链的目的就是在价值链的 "移动端 "实现低碳化。所以,如果我们没有相应的行为,做到100%的绿色环保,用 100%的绿色能源发电,并一直践行这些做法,我们就无法成为电动汽车价值链中可持续发展的一员"

Fully Funded to Construction: High Quality and ESG Attributes Key to Achieve Low Cost, Long Term Funding 建设资金全部到位: 高质量和ESG是实现低成本、长期资金支持的关键







# DFS Modular Design for Plant: Contemplated Barreiro Expansion DFS加工厂的模块化设计: 计划对Barreiro进行扩建







(1) RK Equity estimates for Tesla lithium demand by 2030.

## A Sigma Inseriu o Brasil No Cenário Mundial De Países Produtores De Lítio / Sigma使巴西跻身锂生产国行列



### Transformação para Região

Colocou o Vale do Jequitinhonha e o próprio Brasil no cenário mundial de países produtores de lítio

### Brasil na cadeia global do Lítio

Aumento em 8% da participação do Brasil nas reservas mundiais de lítio, produção de prequímico de alta pureza

# Sus dire SIGMA LITHIUM

### Mineração Verde

Sigma se tornou Exemplo no mundo de mineração ambientalmente e socialmente sustentável e tem conseguido reconhecimento mundial



### Brasil Exemplo na ONU

Sigma adotou os 17 Objetivos do Desenvolvimento Sustentável – ODS, para direcionar suas ações

### **Diferencial Competitivo**

O concentrado de lítio a ser produzido pela Sigma tem grandes vantagens competitivas no mercado internacional

# Timeline and Ongoing Workstreams 时间表和正在进行的工作流程

Proximity of Key Deposits to Bring Economies of Scale to Production Complex: Path to Production Based Driven by Mineralogy and Grade 靠近关键矿床,为综合生产带来规模经济:以矿物学和品位为驱动力的生产之路

Sigma's Grota do Cirilo property encompasses 3 large ore bodies in close proximity with similar high-quality mineralogy / Sigma的Grota do Cirilo项目区包括3个相邻的大 型矿体,具有类似的高质量矿产属性



Source: Sigma's Feasibility Study and estimates. 资料来源: Sigma的可行性研究报告和估计。

Sigma Current Feasibility Study Incorporates the Modular Plant Layout for Xuxa and Barreiro – Increased Efficiency by Sharing Common Infrastructure Sigma当前的可行性研究纳入了Xuxa和Barreiro的模块化工厂布局—通过共享 共同的基础设施提高效率



# Sigma 6% Lithium Concentrate is Green & Unique Sigma 6% 锂精矿绿色环保,而且独一无二

How to differentiate lithium? Few suppliers can deliver a differentiated product & *"value in use"* 如何在锂行业脱颖而出? 很少有供应商能提供差异化的产品和"使用价值"



Why Does Sigma "Green" Lithium Differs Environmentally? 为什么Sigma的"绿色"锂在环保方面脱颖而出?



## Executing Two Workstreams in Parallel: Detailed Engineering in Xuxa and Doubling Sigma Scale 并列执行两个工作流程:Xuxa的详细工程和Sigma的规模翻番

Execution 执行	Summary Milestones 里程碑摘要	
Original Workstream - Xuxa: Detailed Engineering and EPC 最初的工作流程— Xuxa: 详细的工程 设计和总承包(EPC)	Geotech 土木技术 Geo Hydrola 地质水	Plant Design 加工厂设计 Contract Ready EPC Procurement EPC采购合 同准备就绪
New Workstream: Doubling NAV 新的工作流程:资产 净值翻一番	Environmental Licensing of Barreiro Deposit Barreiro矿床 的环境许可	Drilling Other Deposits 始探其他矿 店 部reiro 海 金- 中试工厂 DMS

Source: Feasibility Study (Xuxa), Plano de Aproveitamento Econômico (Barreiro) and Sigma's estimates (Nezinho do Xicão). 资料来源:可行性研究(Xuxa)、Plano de Aproveitamento Econômico(Barreiro)和Sigma的估计(Nezinho do Xicão)。

## On Track to Deliver Production in 1Q 2022 按计划于2022年第1季度投产



(1) Front End Engineering Design. 注:前端工程设计。

# Execution of Sigma 2.0 Starts in 2020 and Continues Into 2021 2020年开始执行Sigma 2.0,并持续到2021年

