Siviour Battery Anode Material Project

Presentation to Paydirt's 2022 Battery Minerals Conference

Perth, Western Australia
David Christensen
Managing Director
6 April 2022

PAYDIRT'S 2022 BATTERY MINERALS CONFERENCE
6-7 April
Pan Pacific Perth

RENASCOR RESOURCES
Powering Clean Energy

Section 1:

Executive Summary

Ethically-sourced and globally competitive battery anode material

Project Highlights

Electric Vehicle growth is driving *annual increases of 29%* in demand for PSG for use in lithium-ion battery anodes.

Renascor's Competitive Advantages:

- ✓ **Vertically integrated operation to produce PSG located wholly within South Australia.**
- ✓ **World's 2nd largest Proven Graphite Reserve** and **largest Graphite Reserve outside of Africa[1].**
- ✓ The **favourable geology** allowing manufacturing of PSG at costs that are competitive with current Chinese production and **advantaged over developments outside of China.**
- ✓ **Proven eco-friendly, HF-free purification process** endorsed by leading global anode companies.
- ✓ **Tier-1 jurisdiction** with low sovereign risk and access to established infrastructure.

Project Status:

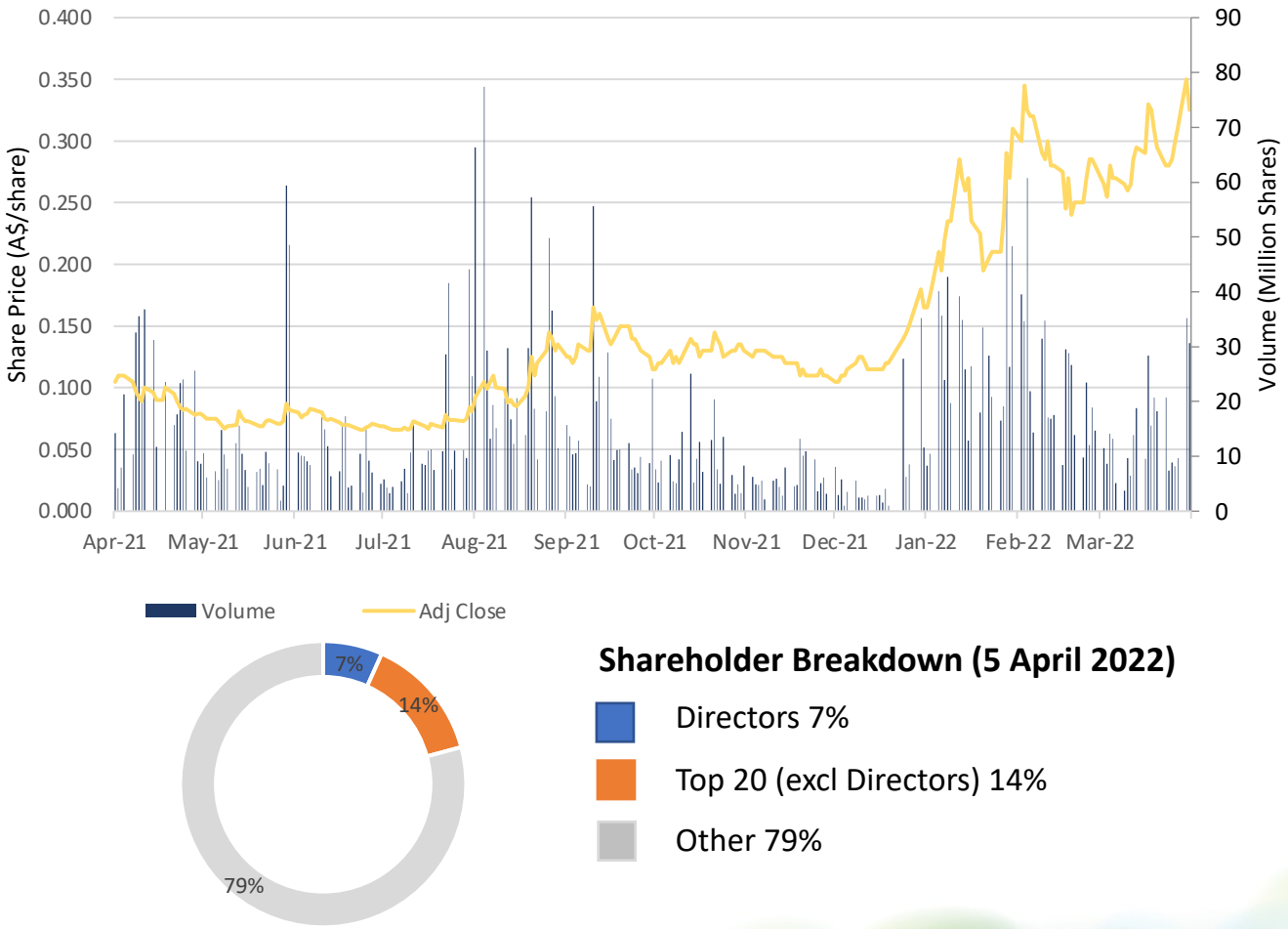
- Siviour Battery Anode Material (BAM) Project Study (June 2020) delivered **NPV_{10} of US$499 million** based on Stage 1 production of 28,000tpa of PSG[2].
- **Non-binding offtake agreements with leading global anode companies**, including POSCO (South Korea), Zeto and Minguang New Material (China), Hanwa Corporation (Japan) covering up to 60,000tpa of PSG (+200% of Stage 1 production rate).
- The Siviour BAM Project has been **granted Major Project Status by the Federal Government.**
- **Conditional approval received for a A$185 million Loan Facility** from Export Finance Australia via the Federal Governments A$ 2 billion Critical Minerals Facility.
- Projected **Final Investment Decision in 2022.**

1. See Slide 28 for Reserve category breakdown

2. Renascor has commenced work to investigate a substantial increase in Stage 1 production capacity beyond the currently planned 28,000tpa of PSG, as well as feasibility work for a Stage 2 expansion.

Renascor Resources: Corporate Overview

Share Chart – ASX code: RNU



Shareholder Breakdown (5 April 2022)

- Directors 7%
- Top 20 (excl Directors) 14%
- Other 79%

Capital Structure

Shares on issue (5 Apr 2022)	1,907M
Listed Options (5 Apr 2022)	137M
Performance rights (5 Apr 2022)	6M
Share price (5 Apr 2022)	A$0.325/sh
Market Cap (at A$0.325/sh)	**A$619M**
Cash (31 Dec 2021)	A$15M
Debt (5 Apr 2022)	Nil
Enterprise Value	**A$604M**

European Capital Markets Exposure with Renascor shares also traded on the Börse Frankfurt (Ticker **RU8**)

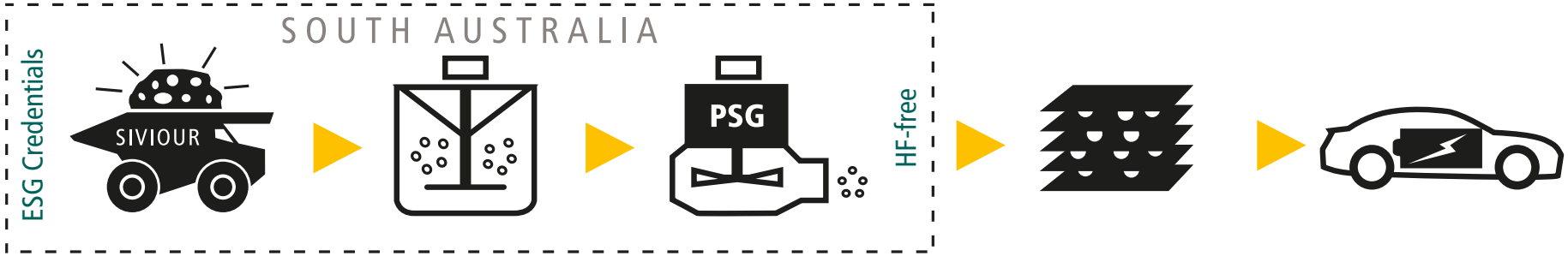
Section 2:

Impact of Lithium-Ion Battery Growth on the Graphite Market

Renascor's Battery Anode Material Project in the Graphite Supply Chain

Renascor is developing a vertically integrated operation within South Australia consisting of a Mine, Concentrator and downstream manufacturing facility **to produce Purified Spherical Graphite (PSG)** via eco-friendly chemical purification route for **sale to anode makers** and use in Li-ion batteries for **Electric Vehicles.**

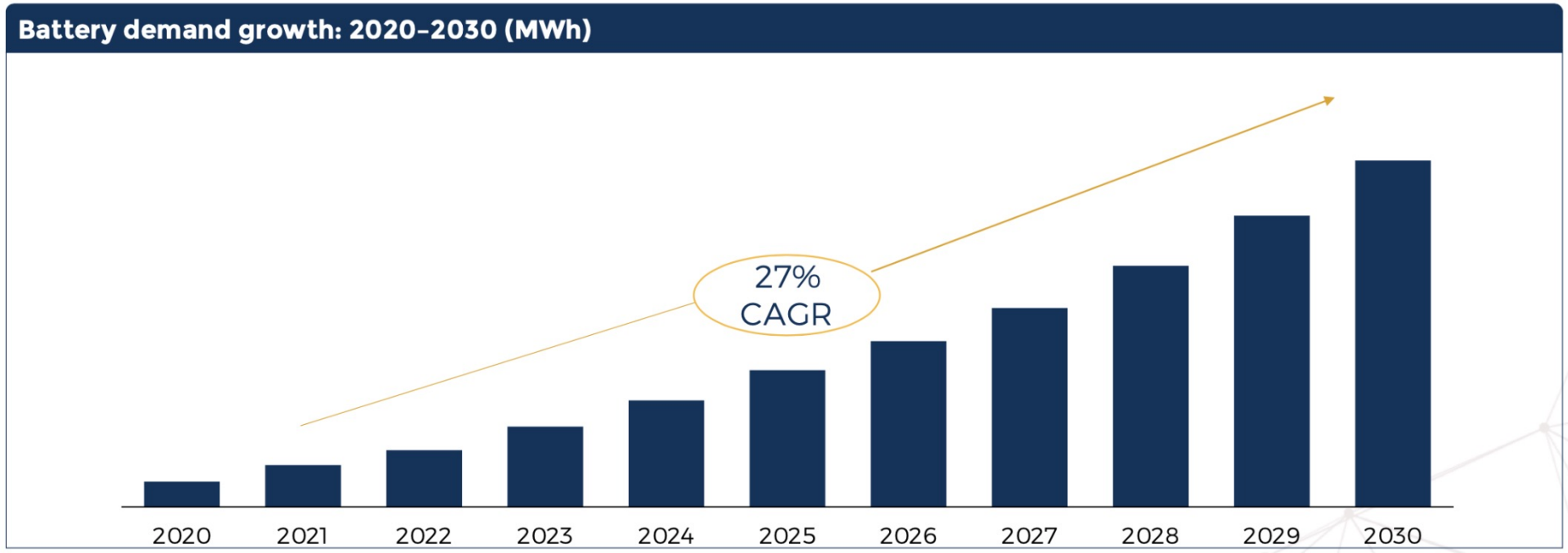
Renascor's Integrated Battery Anode Material Manufacturing Operation



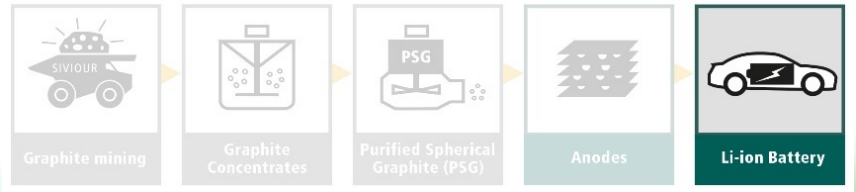
Graphite mining	Graphite Concentrates	Purified Spherical Graphite (PSG)	Anodes	Li-ion Battery
Graphite-containing ore is mined, crushed and processed through flotation to 94-96% total carbon (TC)		Graphite Concentrates are micronised, spheronised and purified to >99.95% TC	China, Japan, South Korea Emerging production in Europe and USA PSG coated and treated to create anode material	China, South Korea, Japan, Europe, USA Anode and other components are assembled into Li-ion cells

Lithium-Ion Battery Growth is Creating a Paradigm-Shifting Event

Electric vehicle adoption is creating unprecedented global demand for batteries.



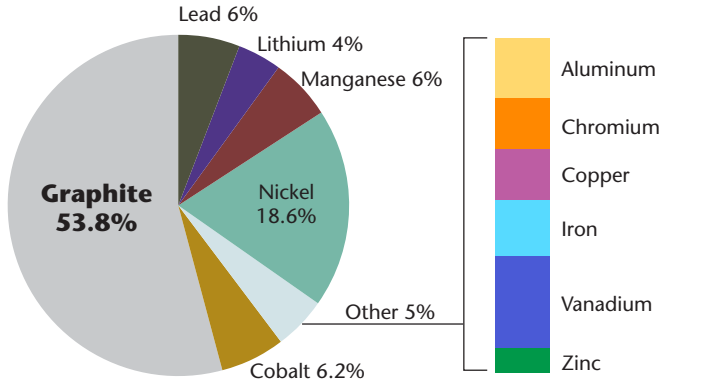
Source: Benchmark Mineral Intelligence



Anode and Graphite Demand are Directly Linked to Battery Growth

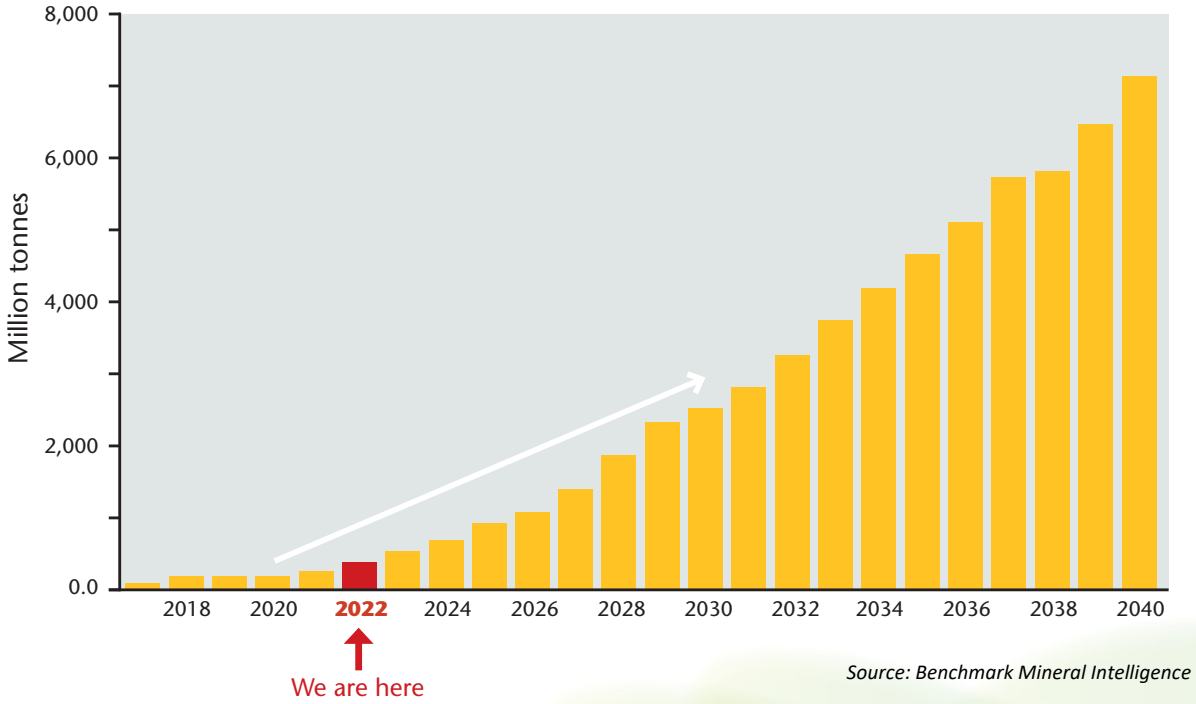
Graphite is the fundamental raw material in lithium-ion battery anodes.

Share of Mineral Demand from Energy Storage

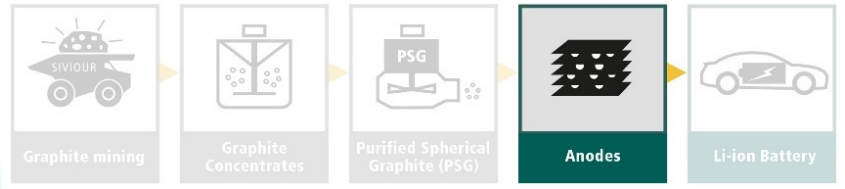


Source: IEA

Anode Demand Forecast 2018 to 2040

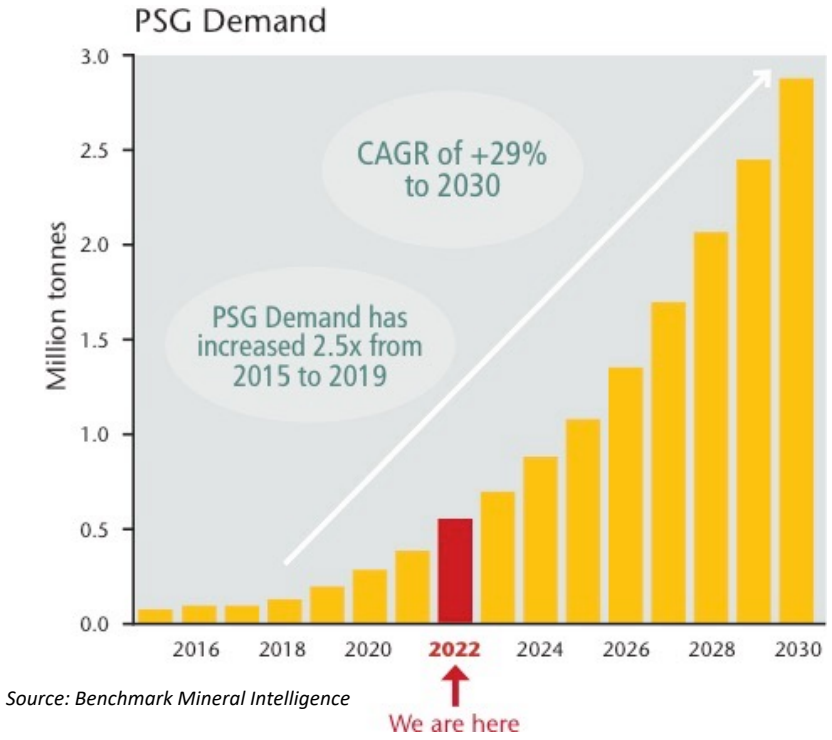


Source: Benchmark Mineral Intelligence



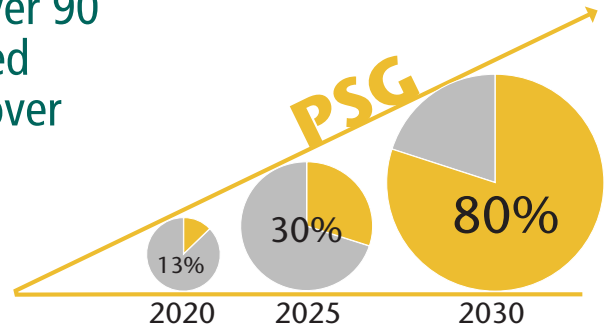
Strong Demand Growth for Purified Spherical Graphite

The projected growth rate in the demand for Purified Spherical Graphite will put graphite mining and graphite refining under increasing pressure to expand supply to meet demand.



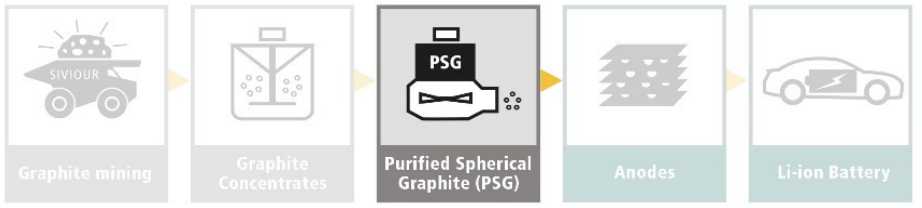
Source: Benchmark Mineral Intelligence

90x Siviour Over 90 new Siviour-sized projects needed over next 10 years



Proportion of graphite concentrates used in production of PSG

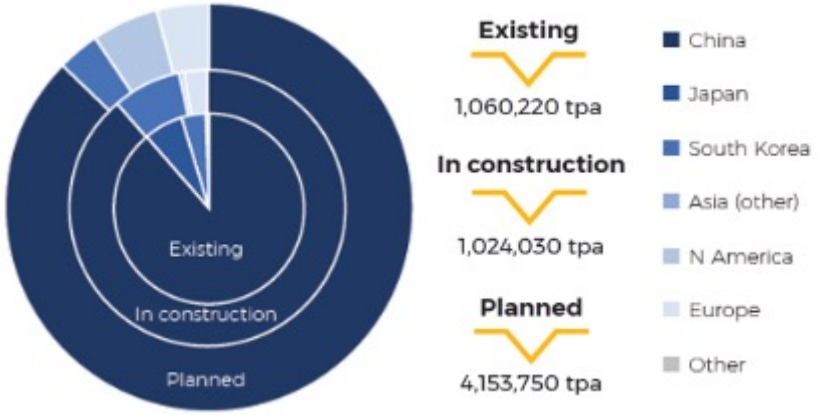
Source: Benchmark Mineral Intelligence



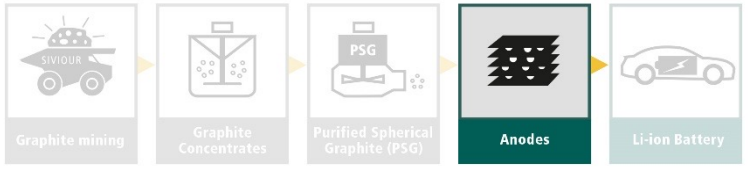
Source: Benchmark Mineral Intelligence

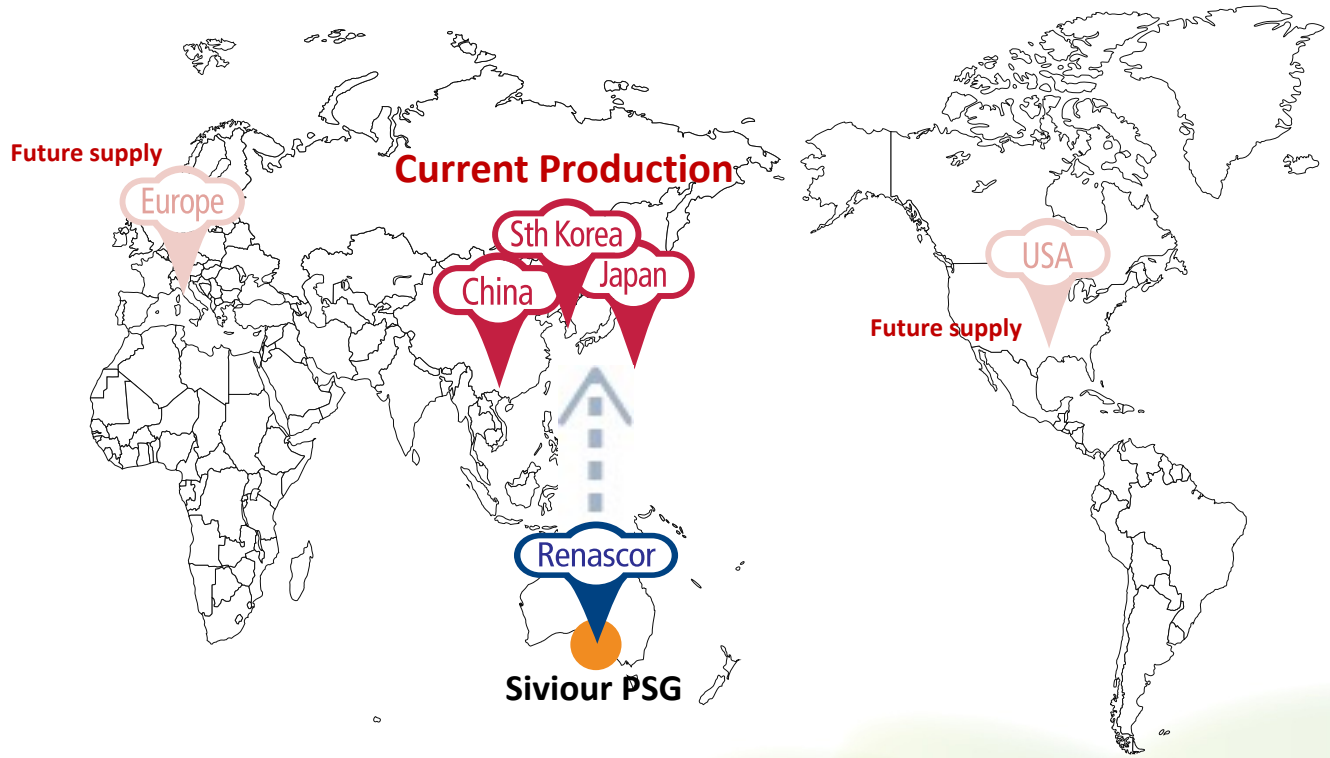
Global Anode Supply is Centered in Northeast Asia

China, Japan and South Korea will remain the center of anode production in the near-term before expanding over time into European, US and other markets.



Source: Benchmark Mineral Intelligence

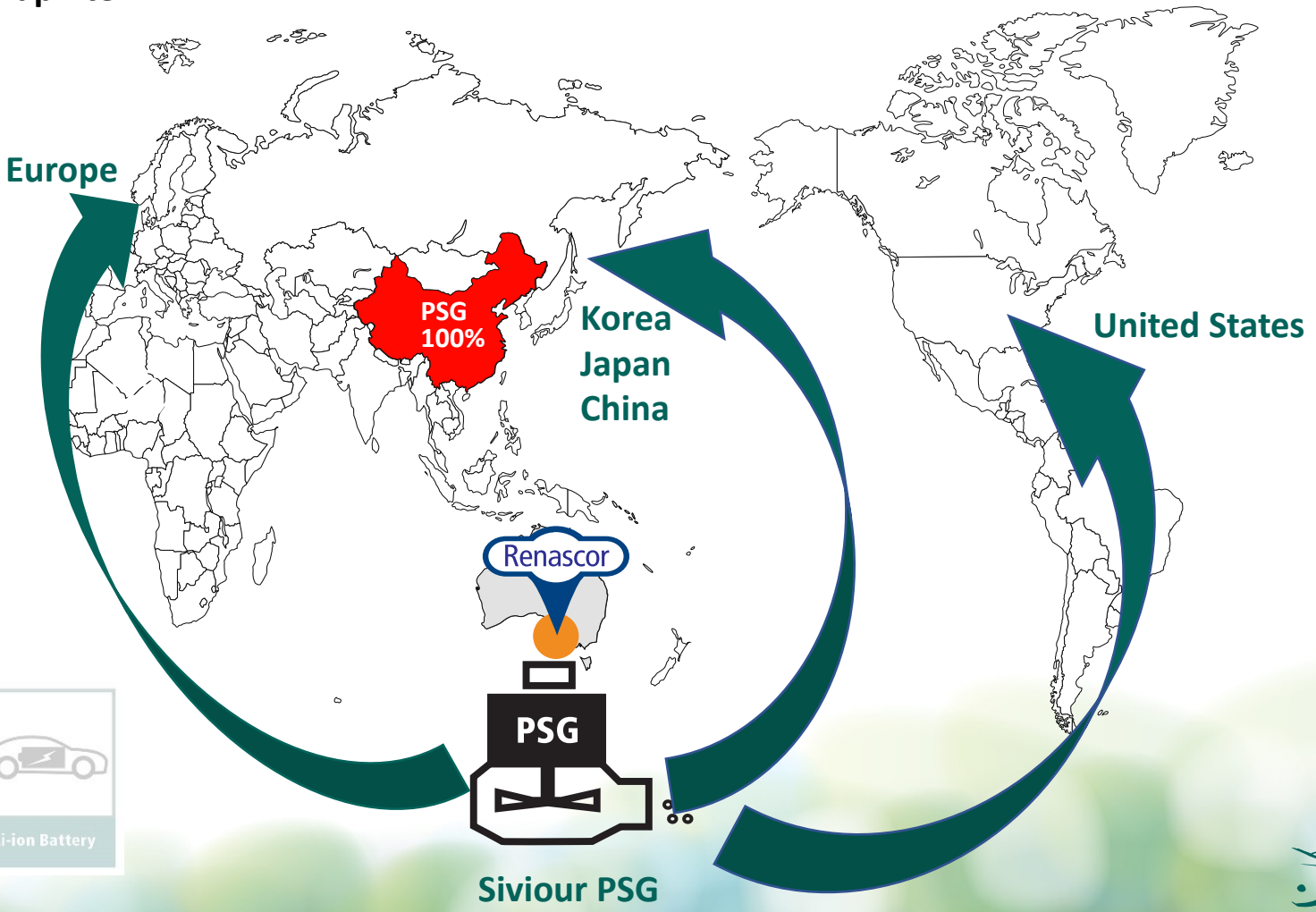


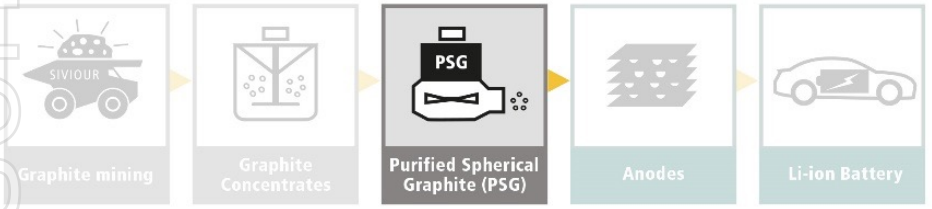


China Currently Controls 100% of the Market for Purified Spherical Graphite

All anode producers (including manufacturers in South Korea and Japan) are currently dependent on China for Purified Spherical Graphite.

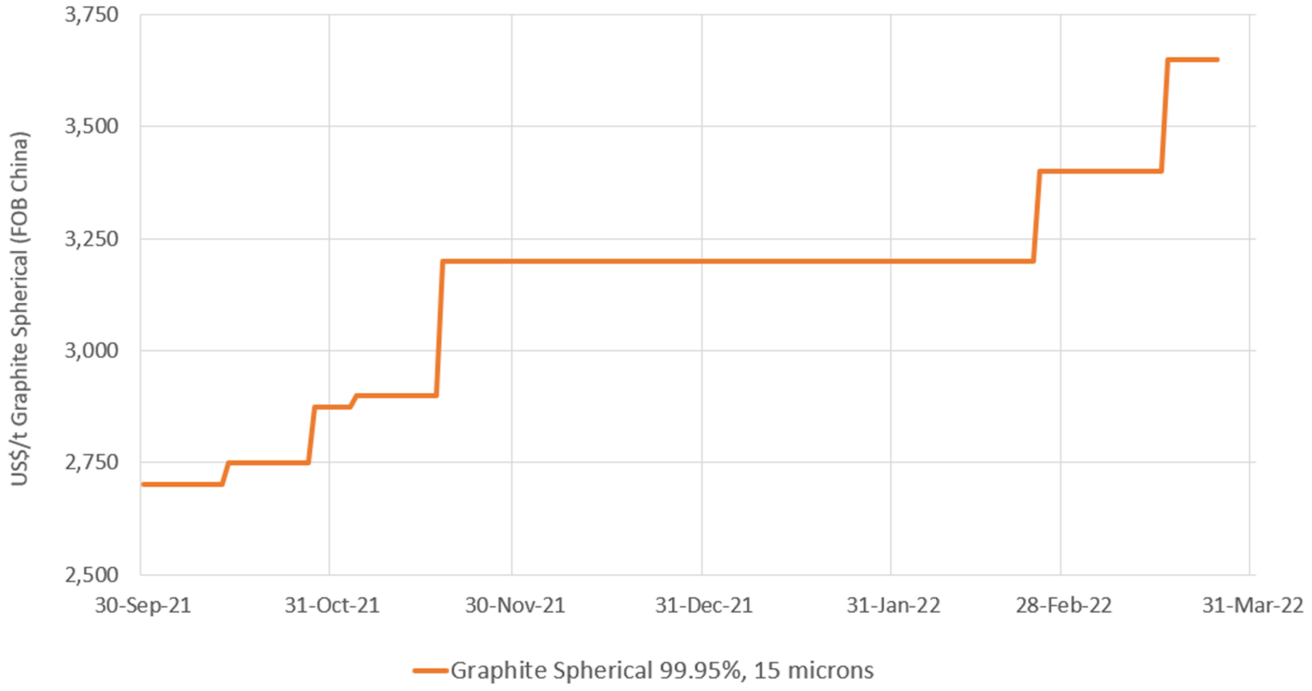
Renascor will provide a reliable source of PSG to a global market, at world competitive prices.





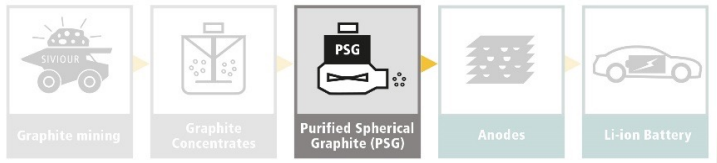
Graphite Prices Are Increasing

The prices of Purified Spherical Graphite and Graphite Concentrates are rising.



40% increase over last six months

Source: Fastmarkets



Section 3:

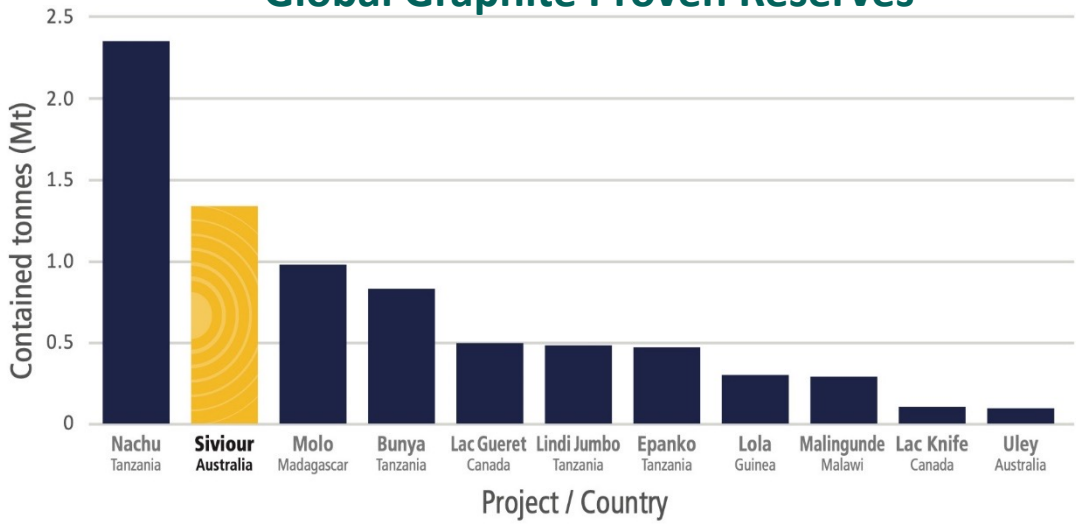
The Siviour Battery Anode Material Project

The Siviour Graphite Deposit is World-Class

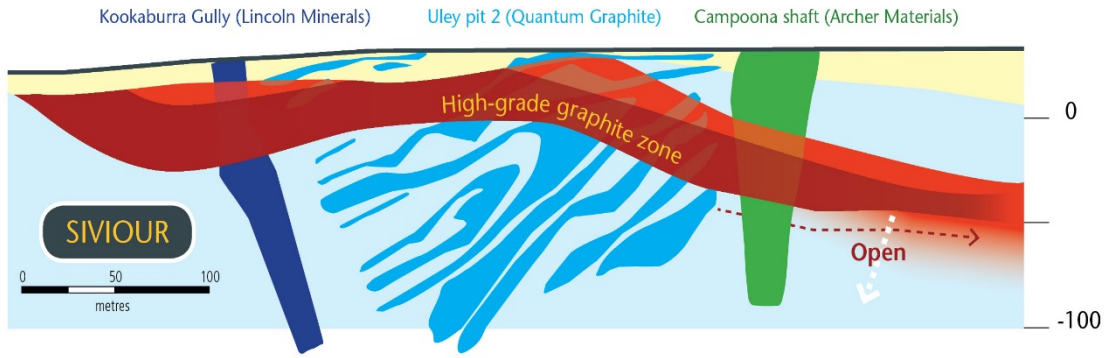
Siviour is unique - in both its near-surface, flat-lying orientation and its scale as <u>the world's largest reported graphite Reserve outside of Africa.</u>

- The deposit is flat, shallow and large, resulting in low-cost mining and consequently low-cost production of Graphite Concentrate.
- Integration of the downstream PSG production facility with the Siviour low-cost graphite concentrate feedstock allows for globally competitive PSG production costs.
- **<u>The Siviour deposit contains the second largest reported Proven Reserve of graphite in the world[1]</u>.**

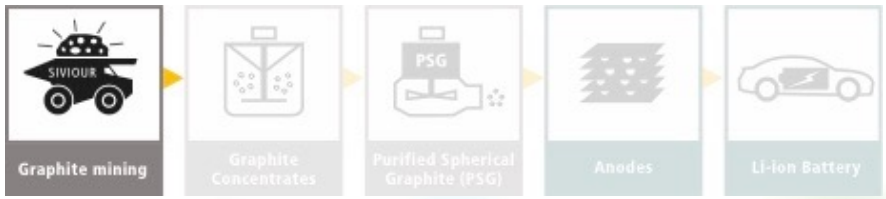
Global Graphite Proven Reserves[1]



[1] See Slide 28 for Reserve category breakdown.

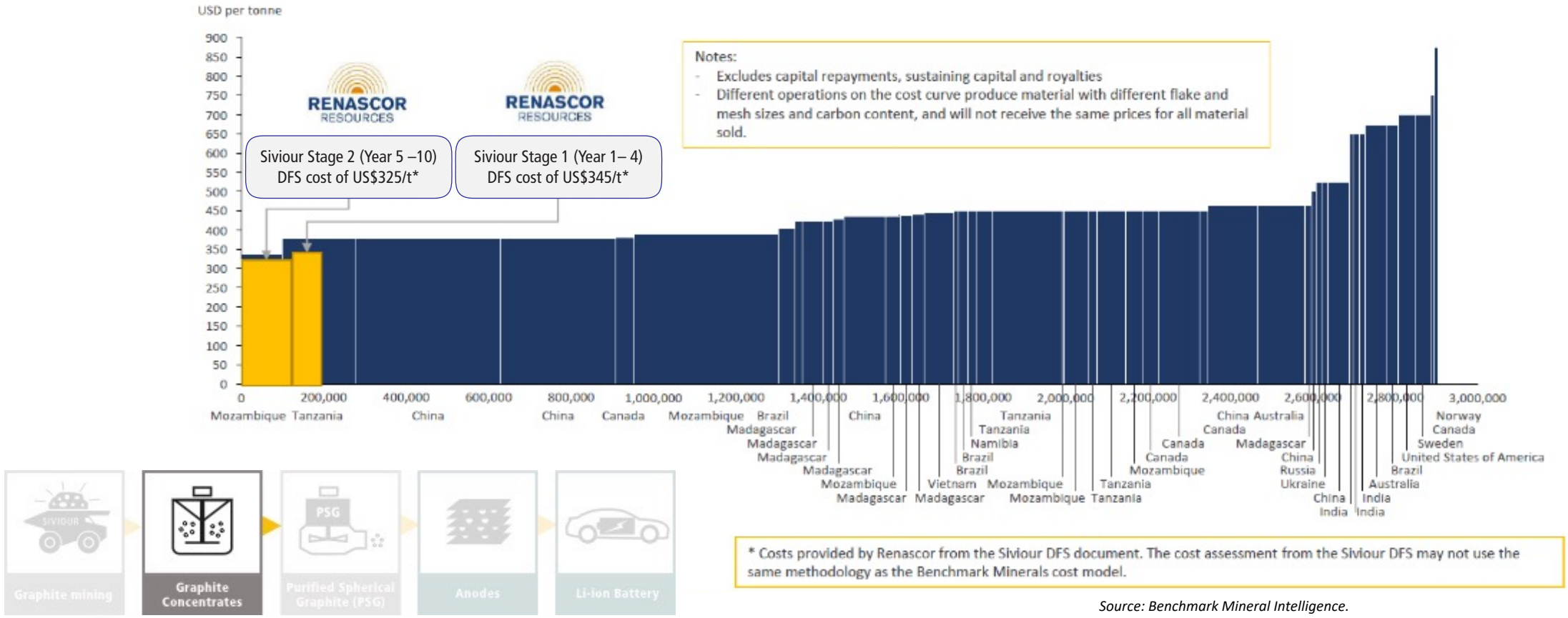


Cross-section of Siviour Deposit (shown in red) compared to other Australian graphite deposits



Siviour Graphite Concentrate: Among the World's Lowest Cost Production

Graphite Concentrate DFS confirms lowest quartile OPEX, underpinning globally competitive PSG production.

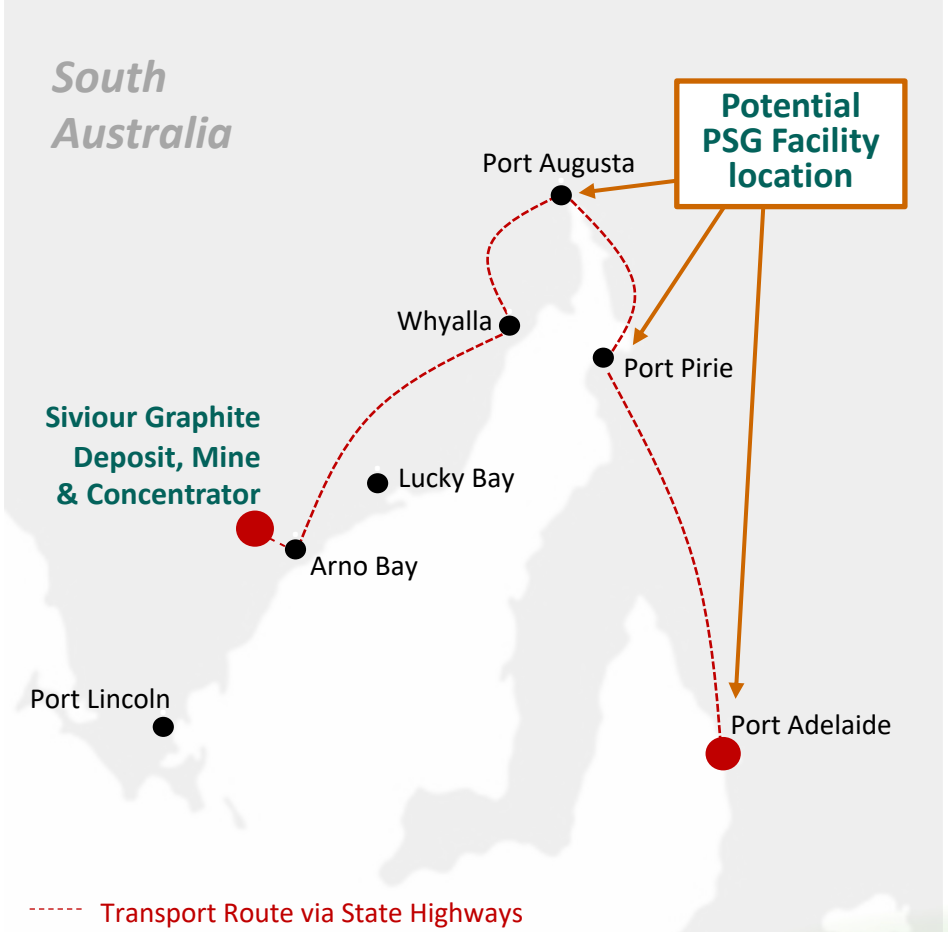


Source: Benchmark Mineral Intelligence.

Mine to Market Supply Chain Security

Mine to Market supply chain located from South Australia lowers lowers logistics costs and ensures security of supply.

- Renascor's vertically integrated operation offers **global supply chain security** from South Australia.
- The Siviour Graphite Deposit, Mine and Concentrator is located on the Eyre Peninsula in South Australia.
- Graphite concentrate produced at Siviour will be transported to a PSG manufacturing facility and then shipped to anode manufacturers around the world.
- The operation benefits from established infrastructure with the logistics supply chain to gain a competitive cost advantage in the production of PSG.

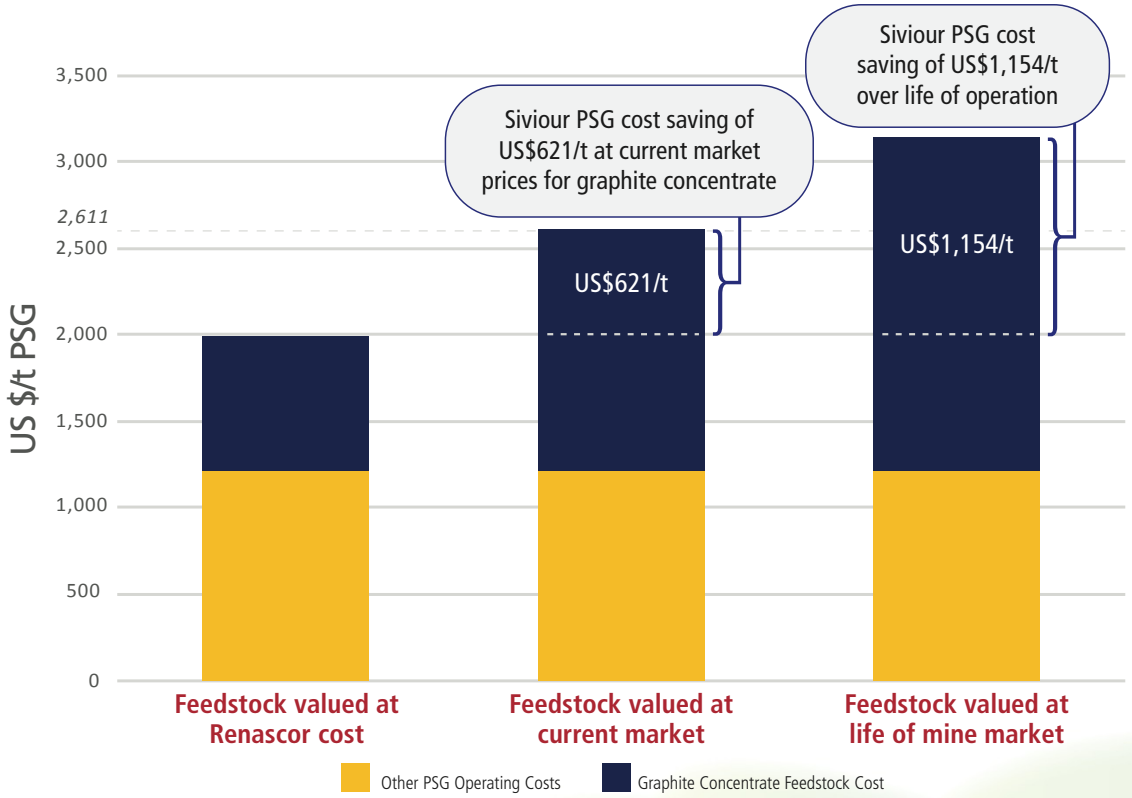


1. Renascor is currently evaluating commercial sites in Port August and Port Pirie.

Strong Comparative Advantage in PSG Production

Vertical integration underpins low-cost PSG production.

- Graphite Concentrate feedstock a significant cost input to the PSG manufacturing process.
- Renascor's PSG operation benefits from obtaining Siviour Graphite Concentrate feedstock at the cost of production rather than buying the feedstock at market price.
- The difference in feedstock price has an exaggerated impact on PSG operating costs because only half of the Graphite Concentrates used as feedstock are spheronised to PSG during the milling process (i.e., PSG production can be at a 50% yield).
- Renascor's market data suggests an average operating costs of ~US$2,000/t PSG for existing PSG market (100% China).
- Renascor's gross operating cost estimate of US$1,989/t PSG is favourable by comparison.



Renascor cost data based on Siviour Battery Anode Material Study (ASX release 1 July 2020 "Renascor Announces Battery Anode Manufacturing Operation"). Graphite price data based on: (i) for current market value: Benchmark Mineral Intelligence January 2022 price report for -195 Graphite Concentrates (US$650 per tonne); and (ii) for life of mine market value: graphite price forecast data sourced from Benchmark Mineral Intelligence for Battery Anode Material Study.

Battery Anode Material Study Results – Stage 1 PSG Production[1]

Low graphite concentrate feedstock costs drives Renascor's low PSG production costs, high margins and strong cash generation.

Item	Value
Average annual LOM production of Graphite Concentrate	105,000t
Average annual LOM production of PSG (Stage 1)	**28,000t**
Life of mine/project	40 years
Start-up capital cost of mine and concentrator	US$79m
Start-up capital cost of battery anode material operation	US$63m
Total start-up capital	**US$142m**
NPV_{10} (after tax) of integrated operation with Stage 1 PSG production	**US$499m**
Cost of Feedstock per tonne PSG production	US$775/t
Cost of Feedstock Conversion to PSG per tonne PSG production	US$1,214/t
Total Cost Project Operating cost per tonne PSG production	**US$1,989/t**
Operating cost (with by-product credit)	US$1,398/t
Projected PSG sales price (first ten years)	US$3,815/t
Net revenue of integrated operation	US$6,686m
EBITDA of integrated operation with Stage 1 PSG production	US$4,387m
Project cashflow of integrated operation with Stage 1 PSG production	**US$2,878m**

1. ASX release 1 July 2020 "Renascor Announces Battery Anode Manufacturing Operation"

- Renascor has commenced work to investigate a substantial increase in Stage 1 production capacity beyond the currently planned 28,000tpa of PSG.
- Renascor has also brought forward feasibility work for additional staged expansions.

Socially responsible investing aims to better mitigate risks and help shape a more sustainable world.

Strong Environment, Social and Governance (ESG) credentials

- South Australia is a Tier-1 jurisdiction with **low sovereign risk** and a **robust and transparent regulatory framework**.
  - South Australia's Minister for Energy and Mining granted a Mineral Lease for Siviour April 2019,[1] the first step in the South Australian government's two-stage assessment and approval process. Second-stage approval submitted in September 2021.
- Renascor's **purification process is eco-friendly.**
  - Over the last five years, Renascor had developed a purification process that avoids the use of Hydrofluoric ("**HF**") acid, offering a cleaner **HF-free** alternative to prevailing process used in China.
  - Renascor's eco-friendly graphite purification technology achieved outstanding results of 99.99% C purity in recently completed locked cycle testing at leading German independent battery mineral consultancy group Dorfner Anzaplan.
- By vertically integrating the mine and downstream processing operation in South Australia, Renascor **optimises the use of local resources** to lessen costly and inefficient transport of raw materials for intermediate processing and ensures strong ESG oversight of entire supply chain.

1. ASX 8 April 2019, "Mineral Lease Granted"

Offtake Strategy: Aligned with Global Leading Battery Anode Manufacturers

Total commitments for up to 200% of current Stage 1 PSG capacity of 28ktpa

- **POSCO**: Non-binding MOU with POSCO for the purchase of 20,000tpa to 30,000tpa of PSG.
  - This potentially represents up to 100% of Renascor's proposed initial production capacity of PSG.
- The MOU provides scope for strategic cooperation between POSCO and Renascor including the potential for equity investment by POSCO International. Discussions with POSCO regarding the nature of the strategic cooperation are ongoing.
- POSCO is one of South Korea's largest conglomerates, and is the largest anode manufacturer outside of China, with existing production capacity of 44,500tpa, and a further 83,500tpa under construction.

Sample qualification and negotiation on binding offtake terms currently underway

Offtake Strategy: Aligned with Global Leading Battery Anode Manufacturers *(cont.)*

Total commitments for up to 200% of current Stage 1 PSG capacity of 28ktpa

- **Minguang:** First stage product qualification achieved with Chinese anode company Minguang as part of non-binding PSG Offtake MOU covering up to 10ktpa for 10 years.
  - Minguang is a subsidiary of Fujian Metallurgical Holding Co. Ltd. - one of China's largest battery material suppliers (total assets ~ US$13 billion).
- **Zeto**: First stage product qualification achieved with Chinese anode company Zeto as part of non-binding PSG Offtake MOU covering up to 10ktpa for 10 years.
  - Zeto is a top-ten anode producers globally and is a major supplier of anodes to the world's largest battery makers, including Hong Kong listed BYD Co. Ltd, the world's second largest manufacturer and retailer of EVs (market cap ~US$100 billion).
- **Hanwa:** Access to Japanese market through non-binding PSG Offtake MOU covering up to 10ktpa for 10 years.
  - Hanwa is a leading Japanese-based global trading company long history of trading with some of the world's largest metal and chemical producers and operates a dedicated Battery Team focussed on supplying graphite and other metals across the global battery value chain.

Increased offtake demand has led Renascor to bring forward feasibility work on potential first stage expansion and larger subsequent stage production.

Conditional Approval for A$185m Loan Facility from the Australian Government

$185 Million Conditional Loan Approval from Australian Government

The Australian Government has conditionally approved a A$185 million loan facility to support the development of the Siviour Graphite Project in South Australia.[1]

- Conditional Approval was announced by Hon Dan Tehan MP (Trade, Tourism and Investment), and Hon Keith Pitt (Resources and Water). *https://www.trademinister.gov.au/minister/dantehan/media-release/growing-australias-critical-minerals-sector-0.*
- This loan is approved under the Australian Government's **$2 billion Critical Minerals Facility**, which was established in September 2021 to assist the development of Australian critical minerals projects and to secure the vital supplies of resources needed to drive the new energy economy and support the resources jobs of the future.
- The Siviour BAM Project has been **granted Major Project Status by the Federal Government**, in recognition of its potential to contribute to Australia's Critical Mineral Strategy and Resource Technology, and Critical Mineral Processing National Manufacturing Priority Roadmap.
- Renascor aims to become **a world leader in the sustainable production of 100% an Australian-made advanced graphite product** for use in the Li-ion batteries.
- **Final Approval** of the Loan Facility is subject to a number of conditions customary for project financings of this nature, or otherwise required under the Critical Minerals Facility. Export Finance Australia (EFA), the Australian Government's Export Credit Agency, will manage this process.
- Satisfaction of all conditions of approval, and completion of full form documentation, is projected to coincide with a **Final Investment Decision in 2022.**

1. ASX 2 Feb 2022, "Australian Government conditionally approves A$185 million Loan Facility to Fund the Development of the Siviour Graphite Project"

Renascor's Strategy

We aim to become a global leader in the supply of sustainable, 100% Australian-made battery anode material

Stage 1

PSG

Commence PSG Operation

- Initial production of Graphite Concentrates and Purified Spherical Graphite
- Continue to build valuable offtake relationships with leading anode suppliers
- Develop markets for other specialty graphite products
- Increase Resource / Reserve
- Plan future growth

Stage 2

PSG

Expand Manufacturing of PSG

- Expand Purified Spherical Graphite production
- Staged approach to minimise upfront shareholder dilution
- Anode product development with current and next-generation anode suppliers
- Increased sales of specialty graphite products in traditional industrial, battery and emerging graphite end-user sectors

Stage 3

PSG

Full Renascor Potential

- Further expansion of mine and Purified Spherical Graphite manufacturing capacity
- Establish further downstream processing expertise (and partnerships, as appropriate) to support development of fully integrated anode production
- Utilise expertise in graphite materials, engineering and applications to become industry leading manufacturer of high value graphite products and solutions

Renascor Resources: Multiple Near-Term Value Drivers

- **Siviour Battery Anode Material Project:**
  - Progressive satisfaction of terms of $185 Million conditional loan approval.
  - Advancing to binding offtakes with existing offtake and potential new offtake partners.
  - Increasing demand has led Renascor to bring forward feasibility work on potential Stage 1 expansion and additional staged expansions.
  - Completion of technical studies to capture synergies of the integrated Battery Anode Material Project.
  - Final environmental and regulatory approvals.
  - Execution of binding credit approved terms sheets and Final Investment Decision.

Powering Clean Energy

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ASX Code: **RNU**

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EUROPEAN BATTERY ALLIANCE | EBA250

EUROPEAN RAW MATERIALS ALLIANCE | ERMA

RENASCOR RESOURCES

Powering Clean Energy

Appendix

Siviour Mineral Resources and Ore Reserves

Mineral Resource Estimate (April 2019)[1]

Category	Tonnes (Mt)	Grade (% TGC)	Graphite (Mt)
Measured	15.8	8.8%	1.4
Indicated	39.5	7.2%	2.8
Inferred	32.1	7.2%	2.6
Total	**87.4**	**7.5%**	**6.6**

Ore Reserve Estimate (July 2020)[2]

Category	Tonnes (Mt)	Grade (% TGC)	Graphite (Mt)
Proven	15.8	8.4%	1.3
Probable	35.8	6.9%	2.5
Total	**51.5**	**7.4%**	**3.8**

1. ASX release 30 April 2019 "High-Grade Measured Resource in Upgraded JORC Resource", 2. ASX release 21 July 2020 "Updated Mineral Ore Reserve Estimate"

Forward Looking Statements

This Presentation may include statements that could be deemed "forward-looking" statements. Although Renascor Resources Limited (the "Company") believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those expected in the forward-looking statements or may not take place at all.

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Competent Persons Statement

The results reported herein, insofar as they relate to exploration activities and exploration results, are based on information provided to and reviewed by Mr G.W. McConachy (Fellow of the Australasian Institute of Mining and Metallurgy) who is a director of the Company. Mr McConachy has sufficient experience relevant to the style of mineralisation and type of deposits being considered to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition). Mr McConachy consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears.

Bibliography

Renascor confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements noted below and referenced in this presentation and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Renascor 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.

1. Renascor ASX announcement dated 10 April 2019, "In Principle Project Finance Support from Dutch ECA"
2. Renascor ASX announcement dated 30 April 2019, "High-Grade Measured Resource in Upgraded JORC Resource"
3. Renascor ASX announcement dated 11 November 2019, "Siviour Definitive Feasibility Study"
4. Renascor ASX announcement dated 3 March 2020, "In Principle Finance Support from Australian ECA"
5. Renascor ASX announcement dated 24 June 2020, "Siviour Graphite Project Financing Update"
6. Renascor ASX announcement dated 1 July 2020, "Renascor Announces Battery Anode Manufacturing Operation"
7. Renascor ASX announcement dated 21 July 2020, "Updated Mineral Ore Reserve Estimate"
8. Renascor ASX announcement dated 29 September 2020, "MOU with one of China's largest battery material suppliers"
9. Renascor ASX announcement dated 12 January 2021, "First Stage Product Qualification with Offtake Partner"
10. Renascor ASX announcement dated 27 January 2021, "Further Offtake MOU with Leading Battery Anode Manufacturer"
11. Renascor ASX announcement dated 11 February 2021, "First Stage Offtake Qualification of 2/3 of PSG Production"
12. Renascor ASX announcement dated 15 February 2021, "SA Govt. Grants Reduced Royalty Rate for Siviour"
13. Renascor ASX announcement dated 22 February 2021, "Renascor's Eco-Friendly Graphite Purification Technology Achieves Outstanding Results"
14. Renascor ASX announcement dated 15 September 2021, "Major Project Status Awarded by Australian Government"
15. Renascor ASX announcement dated 2 February 2022, "Australian Government conditionally approves A$185 million Loan Facility to Fund the Development of the Siviour Graphite Project"