Renascor Resources

The Siviour Graphite Project: The first integrated in-country mine and battery anode material operation outside of China

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Presentation to the Eyre Peninsula Local Government Association Annual Conference
25-26 February 2021

84th ANNUAL EPLGA CONFERENCE

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Critical minerals for a secure future

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Section 1:

Executive Summary

Renascor Resources: Corporate Overview

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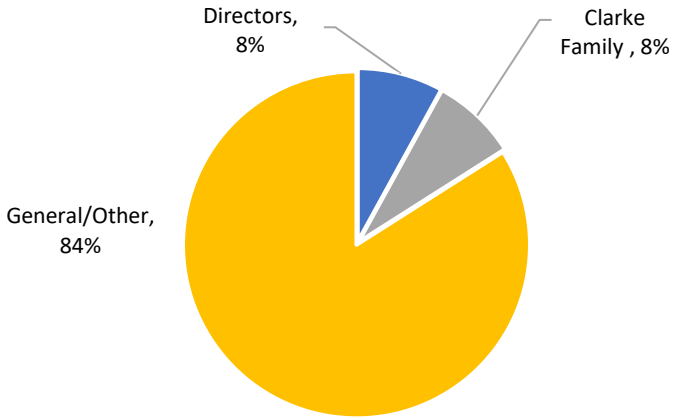
Capital Structure

Shares on issue	1,666M
Listed Options	182M
Performance rights	12M
Share price (23 February 2021)	$0.047/sh
Market Cap (at $0.47/sh)	**$78.3M**
Cash (31 Dec 2020)	$4.6M
Debt (31 Dec 2020)	Nil
Enterprise Value	**$73.7M**

Shareholder Breakdown (16 February 2021)



Share Chart – RNU:ASX

Siviour: Among the World's Lowest Cost Sources of Battery Anode Material

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- Renascor is developing a **vertically integrated Battery Anode Material Manufacturing Operation** in South Australia[1] including:
  - a **A$118m Siviour Graphite Mine and Concentrator** located on the Eyre Peninsula, 15 km west of Arno Bay; and
  - a **A$90m Purified Spherical Graphite ("PSG") Manufacturing Facility** nominally located in Port Adelaide.
- Renascor's Siviour Graphite Deposit is the **world's second largest Proven Reserve of Graphite** and the **largest Graphite Reserve outside of Africa** (3.8Mt of Contained Graphite Reserves)[2].
- The favourable geology and location of the Siviour Graphite Deposit will allow Renascor to produce **Graphite Concentrate at globally low-cost.**
- Renascor has developed a proven **eco-friendly, HF-free purification process** endorsed by leading global anode companies.
- **Low-cost Graphite Concentrate feedstock** enables the eco-friendly 28ktpa PSG manufacturing facility to be**:**
  - **amongst the lowest cost in the world,** competitive with current Chinese production and advantaged over other developments outside of China; and
  - **shipped directly to lithium-ion battery anode manufacturers** over a project life of 40 years.

1. Financing and production targets sourced to ASX 1 July 2020 "Renascor Announces Battery Anode Manufacturing Operation", 2. See Slide 24 for Reserve category breakdown

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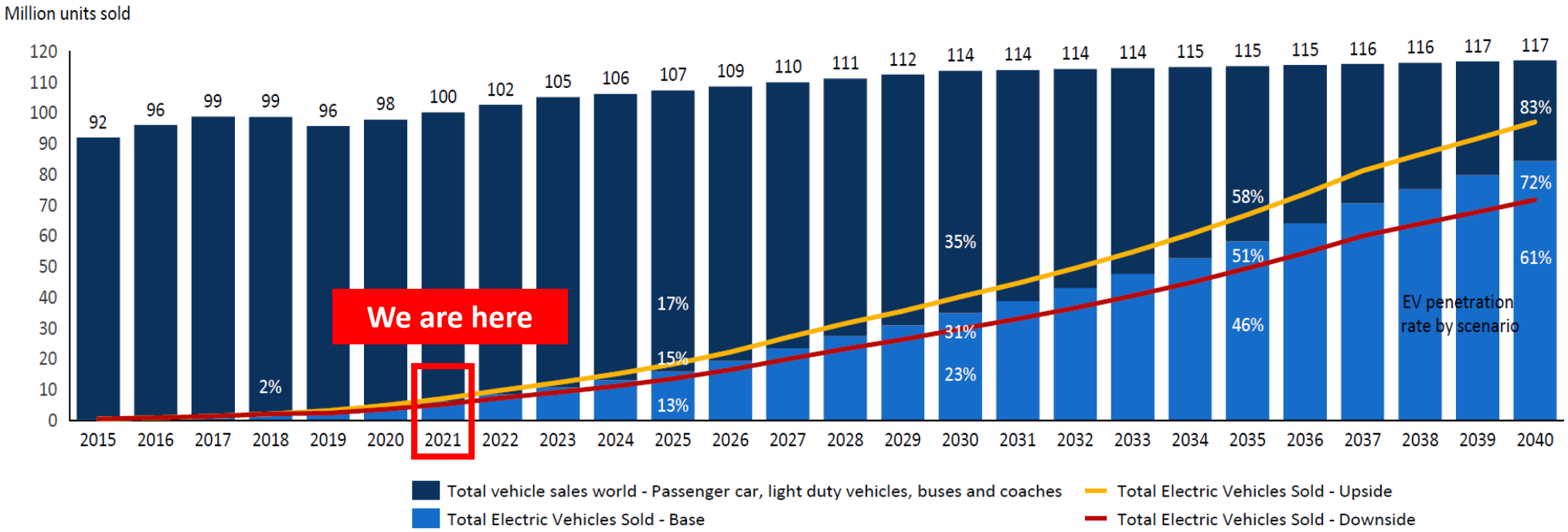
Section 2:

Graphite Market

Global EV Growth is Creating a Paradigm-Shifting Event for Battery Minerals

Start of a global mega trend that will drive demand for minerals needed for lithium-ion batteries.

EV sales as share of total cars



Source: Benchmark Mineral Intelligence

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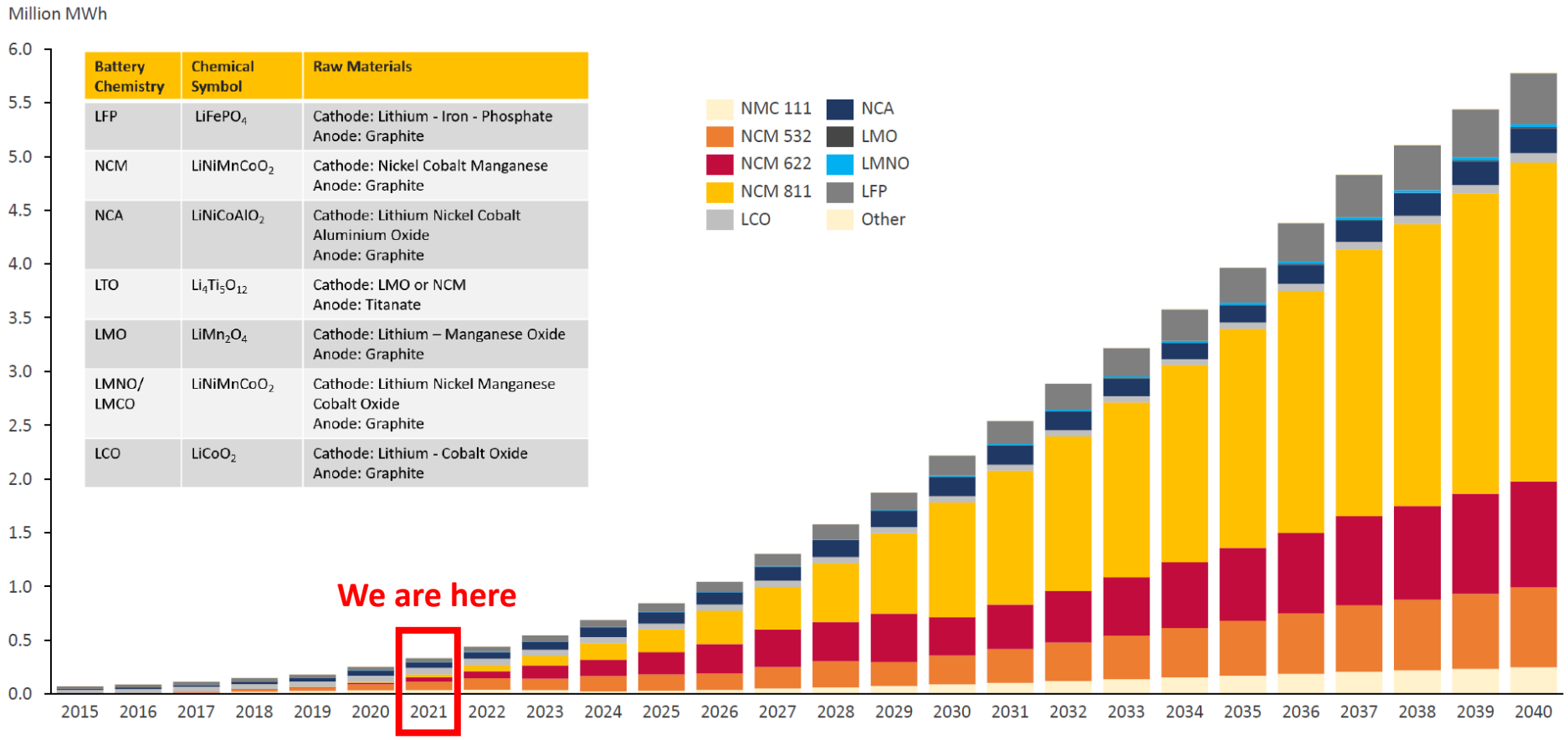
Graphite is an Essential Part of the Transition to Lithium-Ion Batteries

Increasing amounts of natural graphite will be needed to meet projected lithium-ion battery growth.



Battery Chemistry	Chemical Symbol	Raw Materials
LFP	$LiFePO_4$	Cathode: Lithium - Iron - Phosphate Anode: Graphite
NCM	$LiNiMnCoO_2$	Cathode: Nickel Cobalt Manganese Anode: Graphite
NCA	$LiNiCoAlO_2$	Cathode: Lithium Nickel Cobalt Aluminium Oxide Anode: Graphite
LTO	$Li_4Ti_5O_{12}$	Cathode: LMO or NCM Anode: Titanate
LMO	$LiMn_2O_4$	Cathode: Lithium – Manganese Oxide Anode: Graphite
LMNO/ LMCO	$LiNiMnCoO_2$	Cathode: Lithium Nickel Manganese Cobalt Oxide Anode: Graphite
LCO	$LiCoO_2$	Cathode: Lithium - Cobalt Oxide Anode: Graphite

Source: Benchmark Mineral Intelligence

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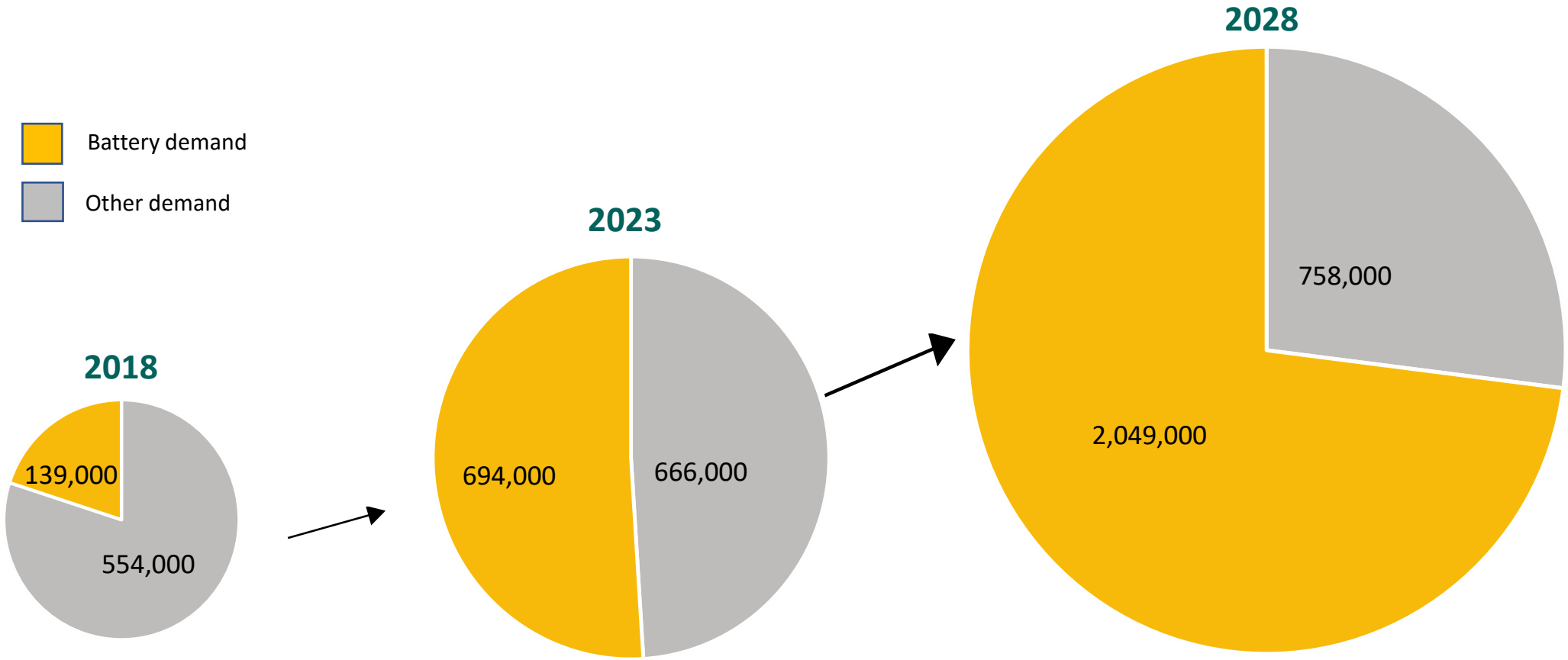
Graphite is an Essential Part of the Transition to Lithium-Ion Batteries (cont.)

Battery demand is growing at 19% annually (versus 2% for other uses).



In 2018, use of Graphite Concentrates was primarily industrial

By 2023, battery demand is projected to increase by five times

By 2028, battery share of market is expected to grow +2 million tonnes

Source: Benchmark Mineral Intelligence

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EV Momentum is Driving Unprecedented Demand for Purified Spherical Graphite

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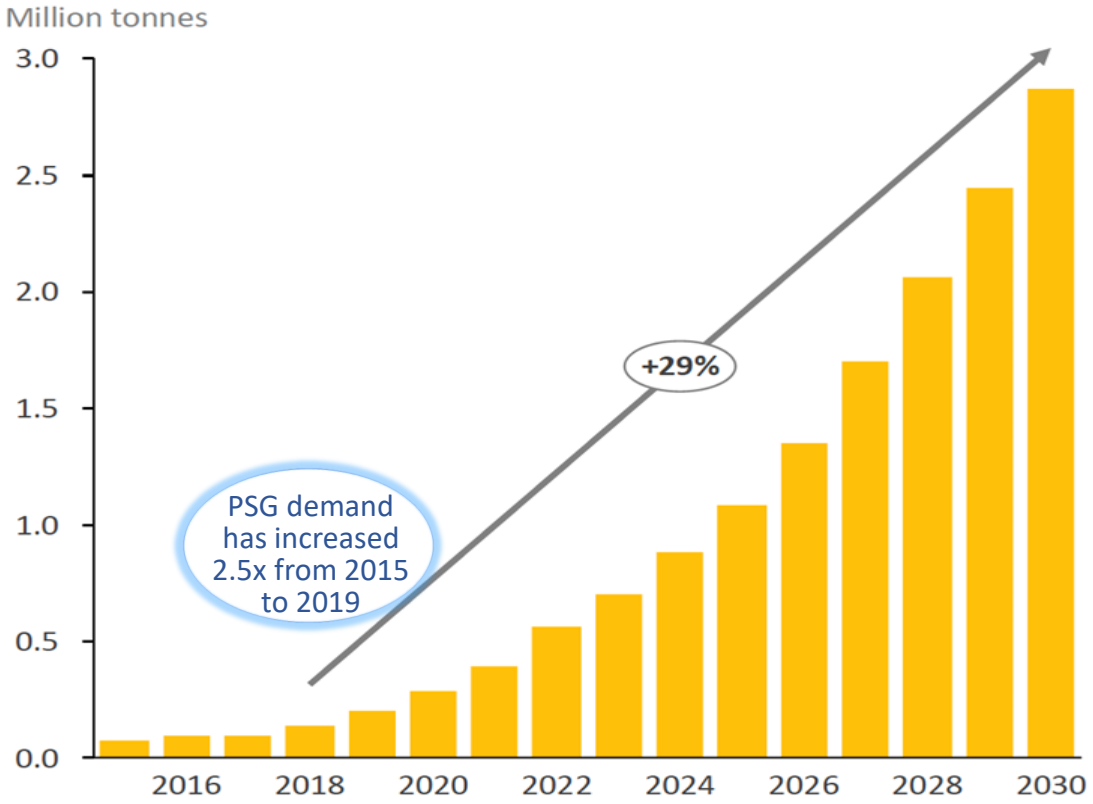
PSG is used exclusively in lithium-ion battery applications and therefore provides more direct exposure to growth in the EV sector.

Purified Spherical Graphite Demand



Source: Benchmark Mineral Intelligence

90x Siviour

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

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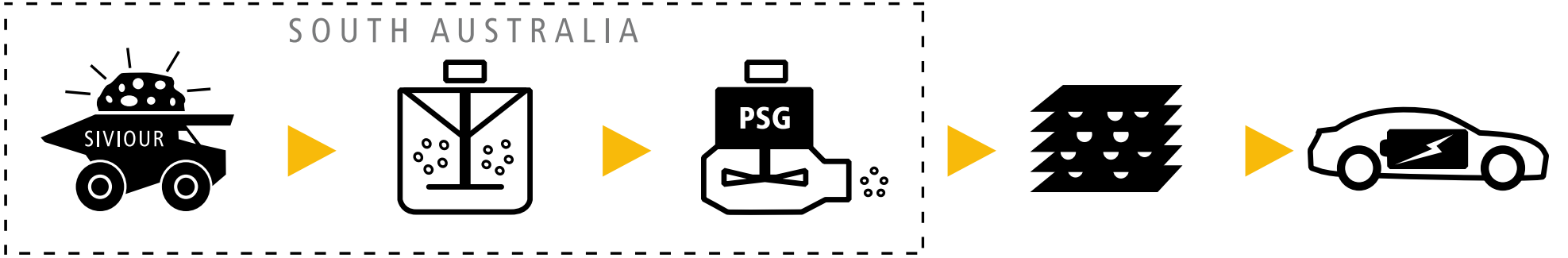
Section 3:

The Siviour Battery Anode Material Project

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

Renascor is developing a vertically integrated operation consisting of a Mine and Concentrator plus a downstream manufacturing operation to produce PSG via eco-friendly chemical purification route for sale to anode makers.

Renascor's Integrated Battery Anode Material Manufacturing Operation



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

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Mine to Market Supply Chain Security

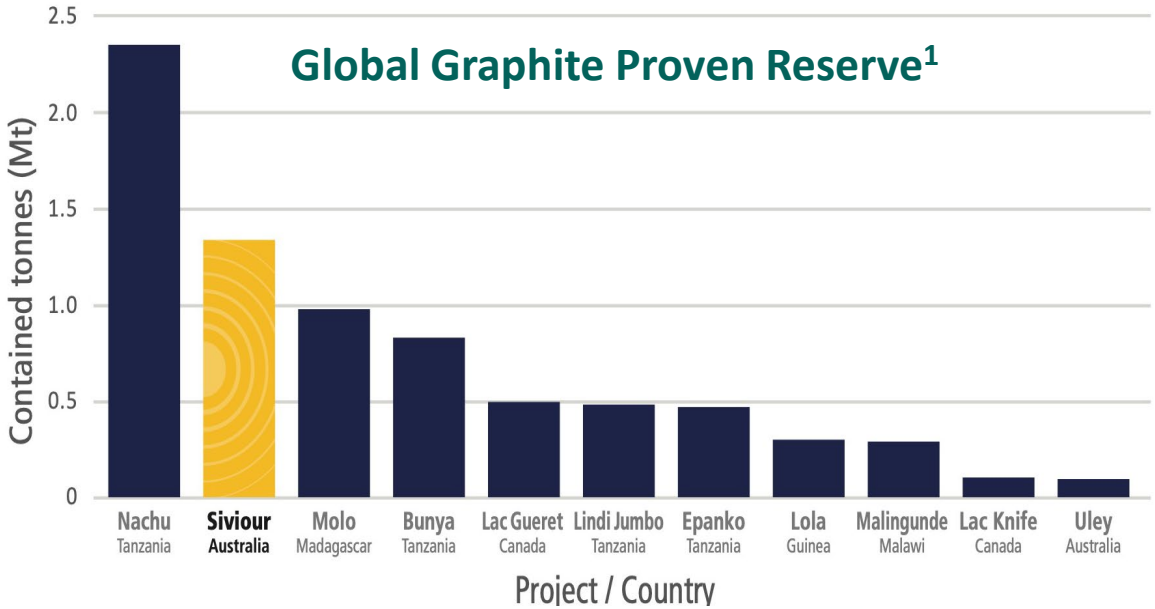
Mine to Market supply chain located from South Australia lowers lowers logistics costs and ensures security of supply.

- **Graphite is a 'Critical Mineral'** as defined by Australian Trade and Investment Commission.
  - High-value PSG is required for battery anode manufacture to service the rapidly growing Electric Vehicle market.
  - Currently, 100% of PSG is produced from natural flake graphite is produced in China.
- 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.
  - Concentrate produced on the Eyre Peninsula will be transported to a PSG manufacturing facility in Port Adelaide and 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.

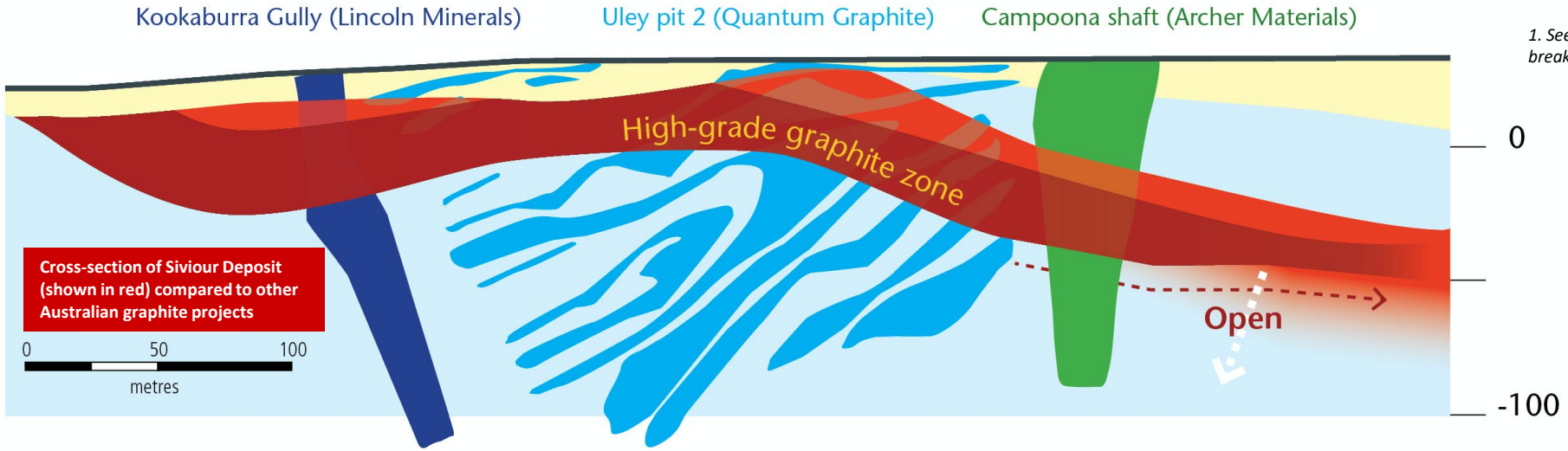
The Siviour Graphite Deposit is World-Class

Siviour is unique - in both its near-surface, flat-lying orientation and its scale as one of the world's largest graphite Resources.

- 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.



1. See Slide 24 for Reserve category breakdown.



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

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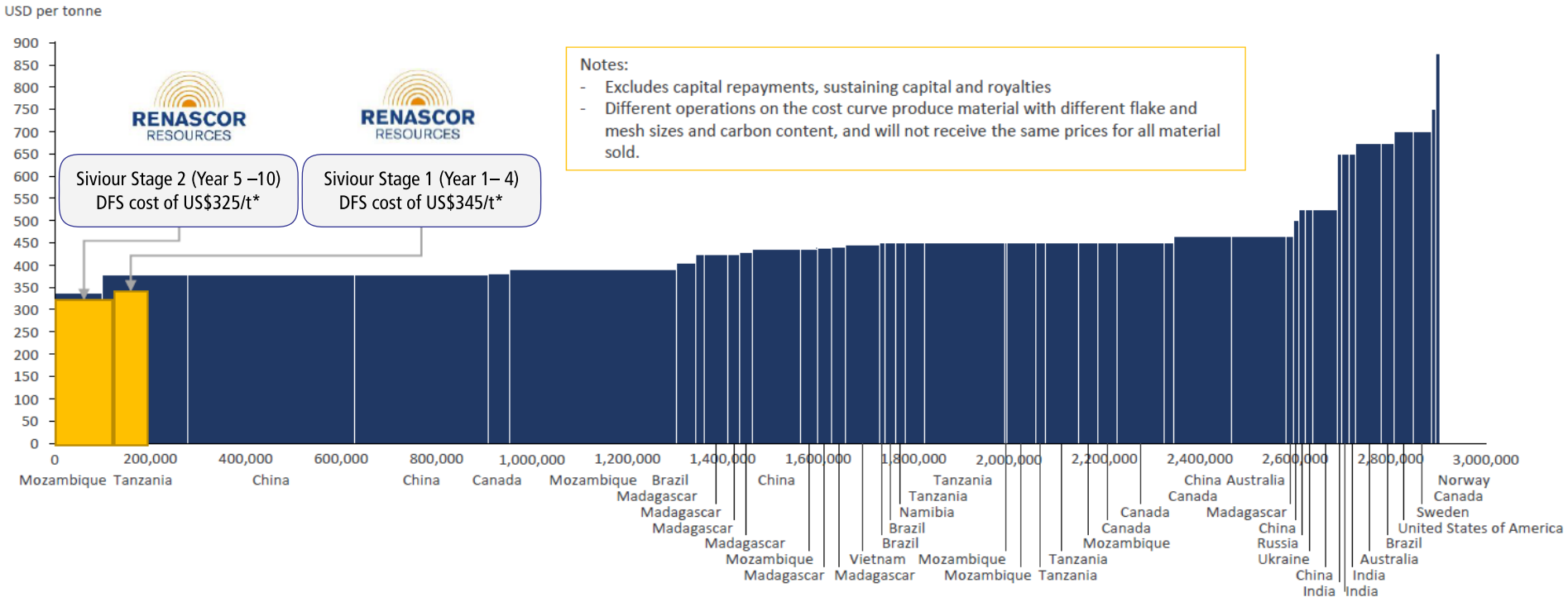
Graphite Concentrate DFS confirms lowest quartile OPEX, underpinning globally competitive PSG production.



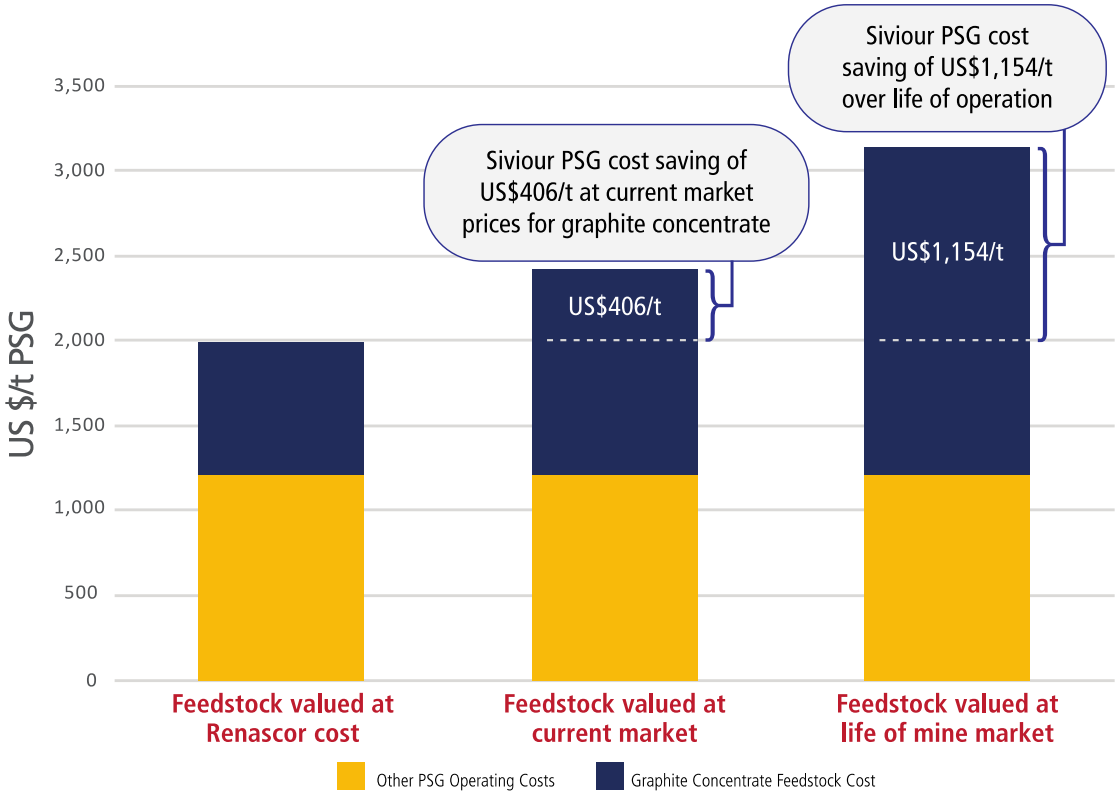
* Costs provided by Renascor from the Siviour DFS document. The cost assessment from the Siviour DFS may not use the same methodology as the Benchmark Minerals cost model.

Source: Benchmark Mineral Intelligence.

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 of US$1,989/t PSG is favourable by comparison.



Source: Benchmark Mineral Intelligence

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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 in April 2019,[1] the first step in the South Australian government's two-stage assessment and approval process.
- 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 99.98% C purity in recent 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.

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1. ASX 8 April 2019, "Mineral Lease Granted"1 July 2020 "Renascor Announces Battery Anode Manufacturing Operation"

Offtake Strategy: Aligned with Global Leading Battery Anode Manufacturers

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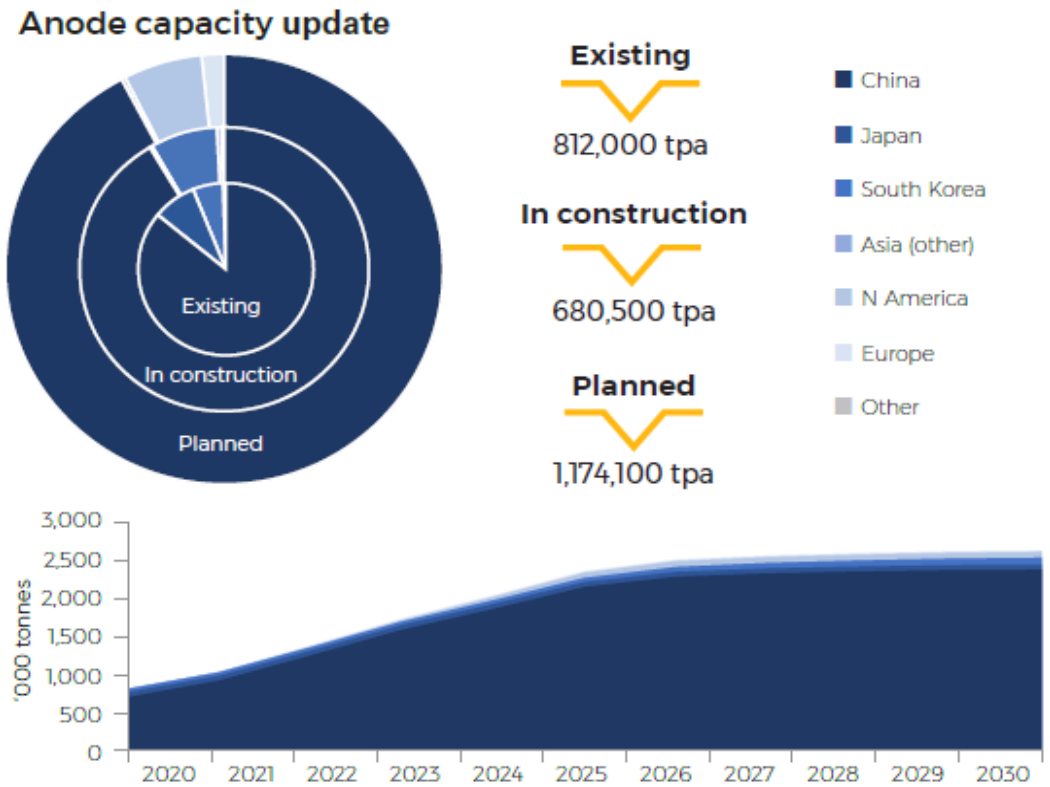
China is the leader in existing and future PSG demand.

- The production of lithium-ion battery anodes is largely concentrated in China, which accounts for approximately 85% (600,000tpa) of current lithium-ion battery anode capacity.
- The remaining 15% of lithium-ion battery anode capacity is centered in South Korea and Japan, with emerging anode production sources being developed in Europe and North America.
- China is also the highest growth market for lithium-ion battery anodes, with over 90% (560,000tpa) of new capacity currently under construction.

Renascor is concurrently advancing offtake negotiations for the balance of its planned PSG production capacity, including with anode manufacturers and lithium-ion battery companies headquartered in north-east Asia and Europe.



Source: Benchmark Mineral Intelligence (January 2021)

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

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Renascor is pursuing long-term, binding Offtake Agreements with leaders in battery anode manufacture and EV battery supply.

- **Minguang:** First stage product qualification achieved with Chinese anode company Minguang as part of a non-binding PSG Offtake MOU covering up 10ktpa PSG production for 10 years (or 30% of forecast). 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 a non-binding PSG Offtake MOU covering up to 10ktpa PSG production 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).
- Over two-thirds of Siviour's PSG Stage 1 production of 28ktpa is currently first-stage qualified with offtakers.

Renascor has moved to the negotiation of binding offtake agreements with existing MOU partners.

Australian Government Support

- Mineral Lease grant by South Australia's Minister for Energy and Mining in Siviour April 2019.[1]
- Reduced royalty for first five years of production with grant of 'New Mine' status by South Australian Government Treasury.
- In principle financial support from Export Finance Australia.
- Strong local support, including District Council of Cleve and Regional Development of Australia Eyre Peninsula.

Deputy Prime Minister Michael McCormack with Renascor Chairman Richard Keevers (February 2021)

Australian Government | export finance australia | Government of South Australia | AUSTRADE Australian Trade Commission | District Council of Cleve | Regional Development Australia Eyre Peninsula Inc.

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

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Project Development Indicative Timeline

The Company's indicative timeline targets:

- **Q1 2022** – Final Investment Decision.
- **Q2 2022** – Commencement of Construction.
- **Q3 2023 –** Commencement of Production.

	Q1'21	Q2'21	Q3'21	Q4'21	Q1'22	Q2'22	Q3'22	Q4'22	Q1'23	Q2'23	Q3'23
Marketing and Offtake											
PSG Optimisation Tests											
Product Qualification											
PSG Engineering											
Final Regulatory Approvals											
Early Works and Long Lead Procurement											
Project Financing and Due Diligence											
Final Investment Decision											
Detailed Design and Procurement											
Construction											
Commissioning											
Production Start											

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Renascor Resources: Multiple Near-Term Value Drivers

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- **Siviour Battery Anode Material Project:**
  - Advancing to binding offtakes with two world-leading battery anode companies.
  - Advancing product qualification tests with other potential offtakers and further offtake arrangements for remaining one-third of Stage 1 PSG production.
  - Completion of technical studies to capture synergies of the integrated Battery Anode Material Project.
  - Final environmental and regulatory approvals.
  - Lender due diligence and execution of a binding credit approved terms sheets.

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Appendices

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Siviour Mineral Resources and Ore Reserves

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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	**15.5**	**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"

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Battery Anode Material Study Results[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	**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	**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	US$4,312/t
Net revenue of integrated operation	US$6,686m
EBITDA of integrated operation	US$4,387m
Project cashflow of integrated operation	**US$2,878m**

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

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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"