

Syrah Resources: Moving into Operations

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Shaun Verner, Managing Director and CEO

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Corporate Introduction

Syrah Resources overview

Corporate & Development

- Australian Stock Exchange: SYR
- S&P/ASX200 index member
- Market capitalisation ~US\$850m¹
- Moving from project to operations
- Target cash flow positive H1 2018

Natural Graphite

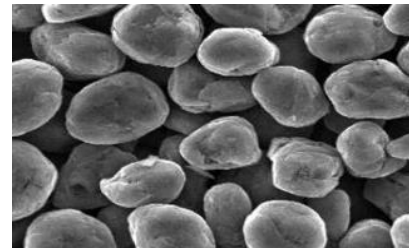
- The world's largest and one of the lowest cost flake graphite mines
- World class ore grade of 17%
- Mine life of over 50 years
- World's largest graphite supplier by 2018 and ~40% global market share by 2020
- CY18 production of 160 - 180kt
- CY19 production of 250 - 300kt

Battery Anode Material

- Aim to be the first integrated BAM producer outside of China
- Capture additional cash margin and establish key position in the supply chain of global battery market
- Targeting sales into USA domestic market as well as exports to other major battery making regions
- Collaboration with industry leaders

Optionality

- Balama expansion the lowest cost incremental tonne of supply
- Battery Anode Material expansion when market conditions suitable
- Processing of vanadium by-product



(1) As at 10 November 2017

Investment highlights

First mover advantage	<ul style="list-style-type: none">- Balama Graphite Project in Mozambique will be the largest natural graphite mine globally from 2018- Syrah is the only listed company with a major graphite project currently commissioning, moving to production
Tier 1 asset	<ul style="list-style-type: none">- Long life asset, with over 50 years of mine life and 350kt per year of graphite concentrate production capacity- Targeting first quartile cash cost within the first year of production- High grade concentrate provides a competitive differentiator relative to current industry standards- Scale of resource provides Syrah optionality to substantially expand production in the future
Exposure to high growth markets	<ul style="list-style-type: none">- Sales agreements signed with traditional and battery market customers for both flake concentrate and BAM- Graphite is a key component of lithium-ion batteries- Major supplier of flake to BTR New Energy Materials, the world's largest anode producer
Value accretive BAM strategy	<ul style="list-style-type: none">- Opportunity to capture additional cash margin and establish core position in the battery supply chain through value-added processing of graphite from Balama- Balama's product is a major enabler in the delivery of this strategy

Syrah's strategy is focussed on value; enabled by a world class deposit and fast growing market

Goals	Logic	Enablers	Timing
1 Be the pre-eminent supplier of flake graphite	<ul style="list-style-type: none"> Industrial for baseload demand Lithium-ion battery market growth 	<ul style="list-style-type: none"> Low cost High quality Large volume 	<ul style="list-style-type: none"> First saleable product this month First revenue in early 2018
2 Be the first integrated battery anode material producer outside China	<ul style="list-style-type: none"> High value-add product First mover advantage Diversification in the global supply chain 	<ul style="list-style-type: none"> Electric vehicle market growth Energy storage Consumer goods 	<ul style="list-style-type: none"> Qualification product in Q2 2018 Commercial product in Q4 2018
3 Maximise value of other options	<ul style="list-style-type: none"> Large scale deposit Lithium-ion battery market growth Vanadium 	<ul style="list-style-type: none"> Expansion of Balama mine Battery anode material expansion Processing Vanadium 	<ul style="list-style-type: none"> Options under development

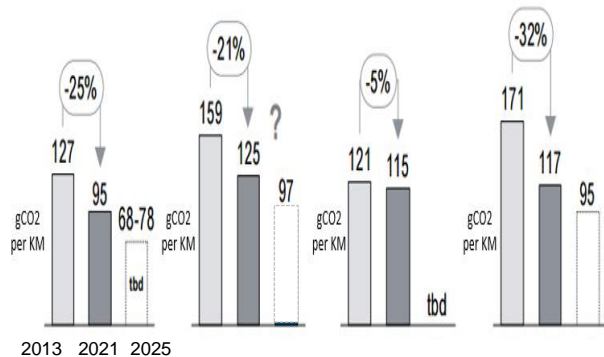
Our Values and People underpin how we execute our strategy

Deliver value for stakeholders and shareholders

Lithium-ion Battery Market

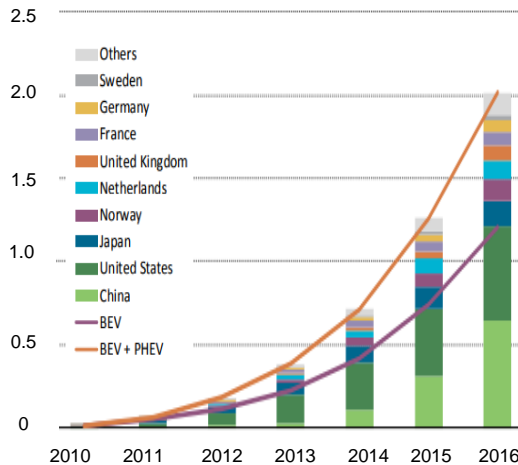
Global policy, sales momentum and industry investment continue to build for the electric vehicle market

Government regulations driving change



EV fleet surpassed 2 million in 2016, ~1 million more to be added in 2017

Stock of EVs (millions)



Traditional OEMs responding to EV development and competition



Invest up to \$24 billion to produce more than 3 million EVs pa by 2026



Has sold 100,000 EV/PHEV in each of the last 3 years



EVs to be 15-20% of sales by 2025



All sales to be EV/PHEV by 2019



50% of sales to be EV/PHEV by 2020



80% of core models to be EV/PHEV by 2023



20% of EU sales to be EV/PHEV by 2020



65% of all sales to be EV/PHEV by 2030



31 new models and 300,000 EV/PHEV sales by 2020



Partnering with Nissan/Renault to launch 12 new EV/PHEV models by 2022



10 EV/PHEV models by 2020



13 EV/PHEV models by 2022, including F-150 hybrid



Global Electric Vehicle Leaders

Over 500,000 full electric cars and trucks planned



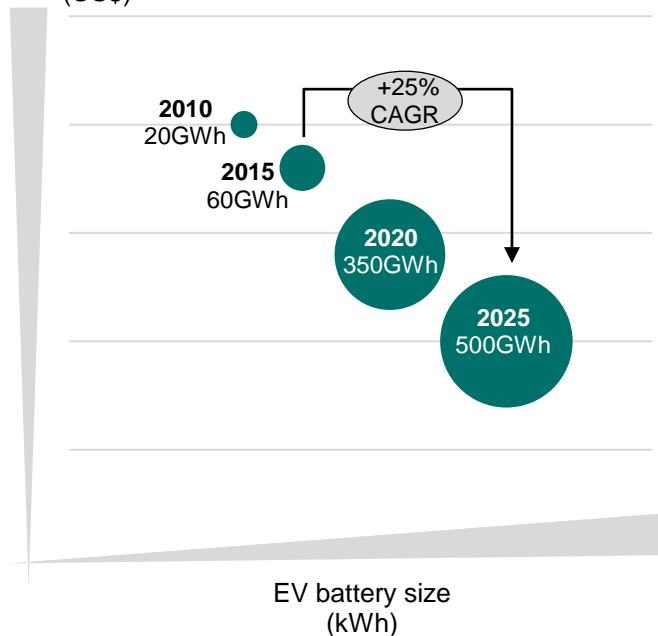
Leading Chinese EV car and bus producer



Lithium-ion battery market size expected to grow to 500GWh in 2025, from 60GWh in 2015; impact on flake graphite significant

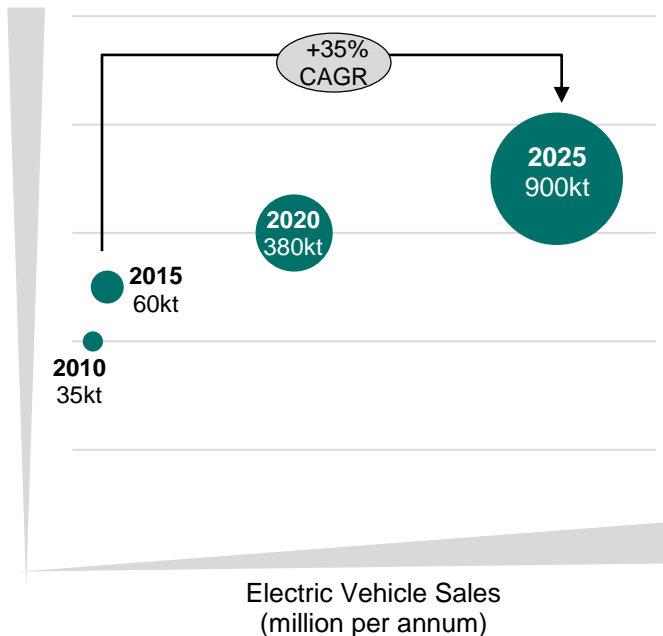
Larger and lower cost lithium batteries

Cost per kWh
(US\$)

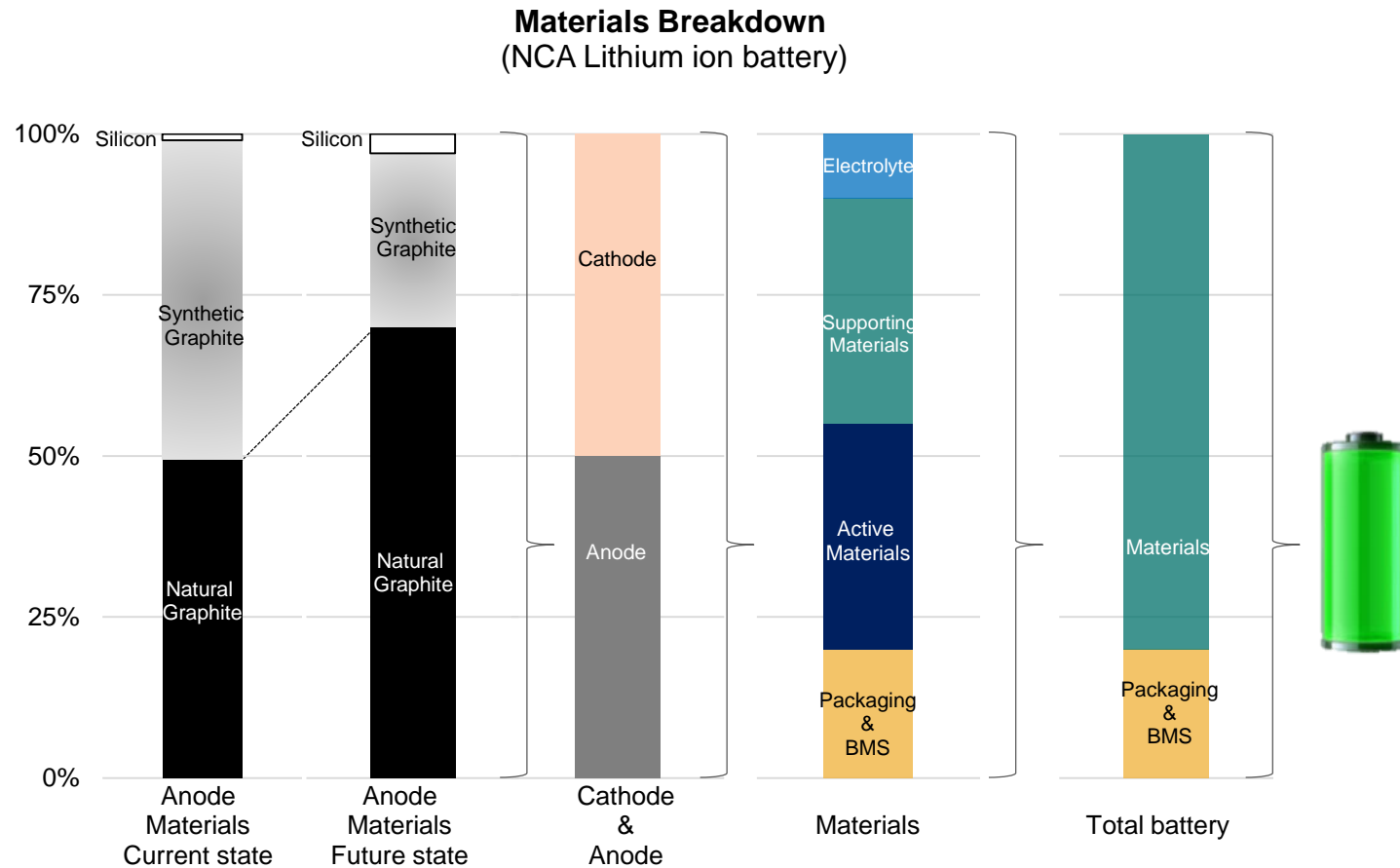


Flake graphite demand from lithium-ion batteries

Natural graphite
anode penetration



Anode material is 10 - 15% of the total battery cost, increasing natural graphite assists battery cost reduction



Graphite anode concentration is battery chemistry agnostic; more graphite per kWh than cathode commodities

Nickel Cobalt Aluminium (NCA)

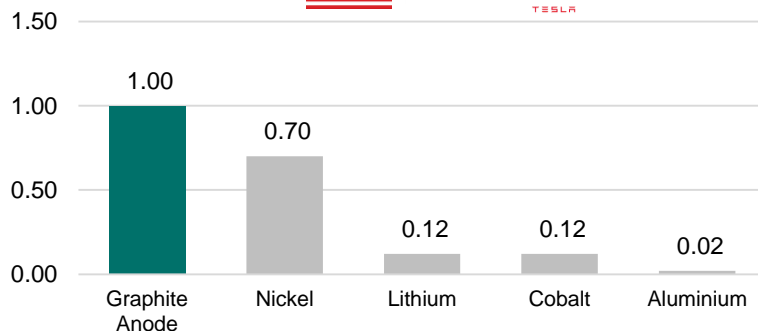
Preferred by



Panasonic

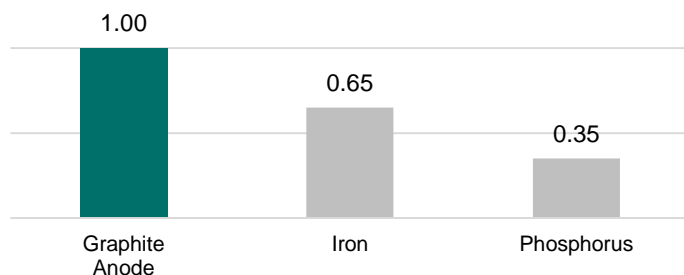


Kg per kWh



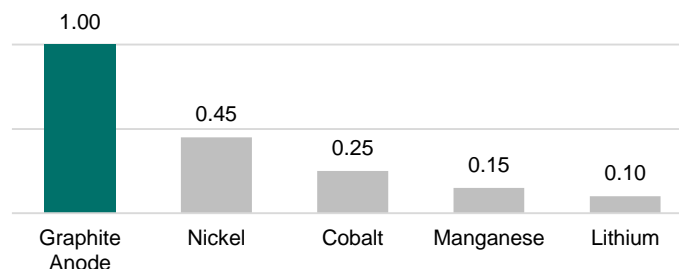
Lithium Iron Phosphate (LFP)

Preferred by



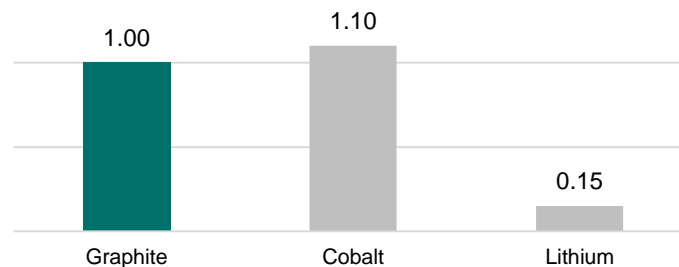
Nickel Manganese Cobalt (NMC¹)



Preferred by



Lithium Cobalt Oxide (LCO)

Preferred by



 Anode
 Cathode Materials

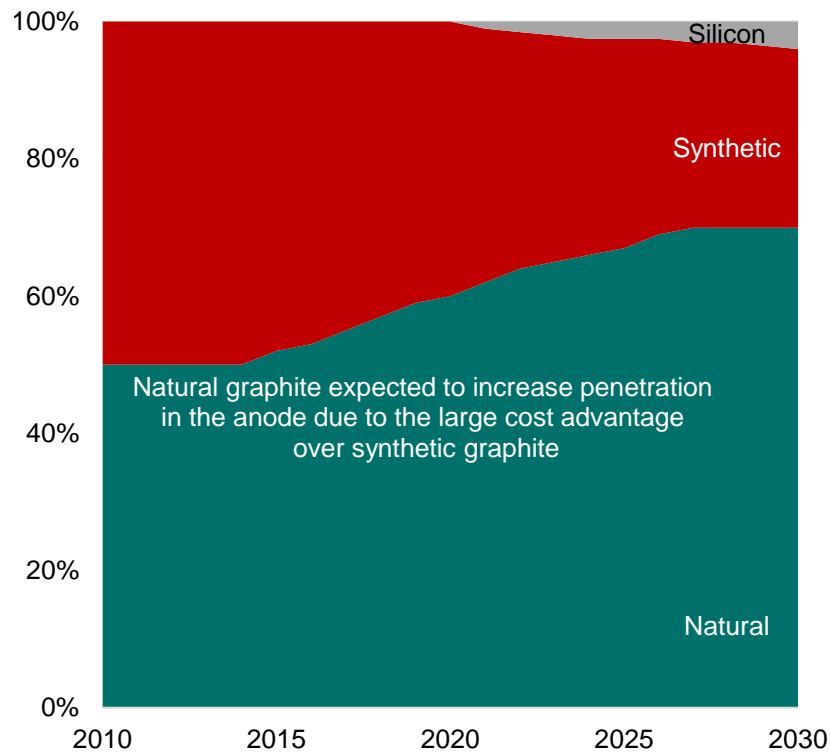
Source: Syrah Resources
Each kg of natural graphite anode material requires >2kg of natural flake graphite
(1) NMC 523 Chemistry



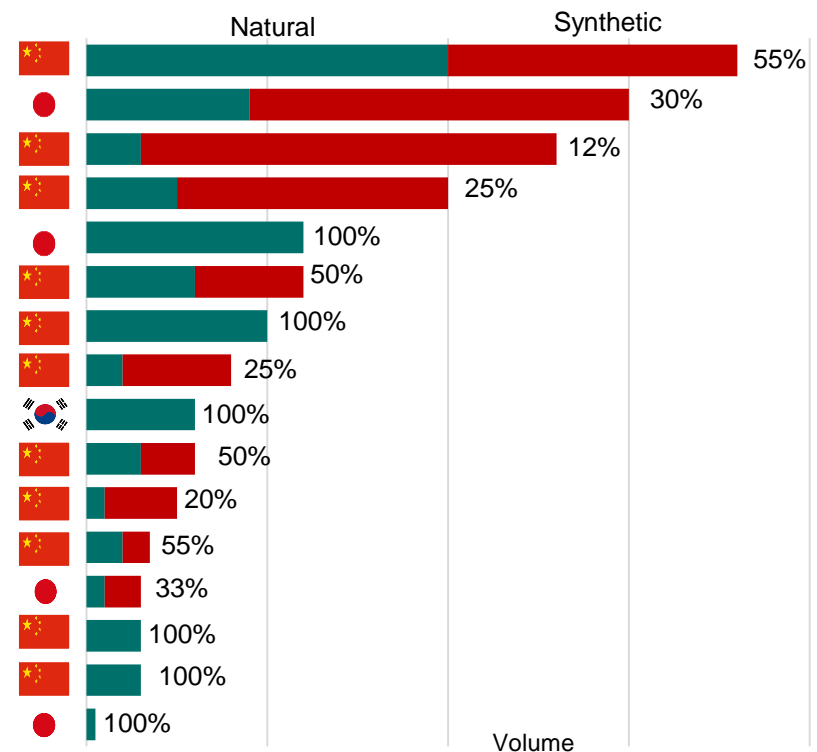
SYRAH RESOURCES

Blending natural and synthetic graphite in anodes enables a balance of performance and cost

Natural graphite penetration expected to increase



Anode composition by major anode producer



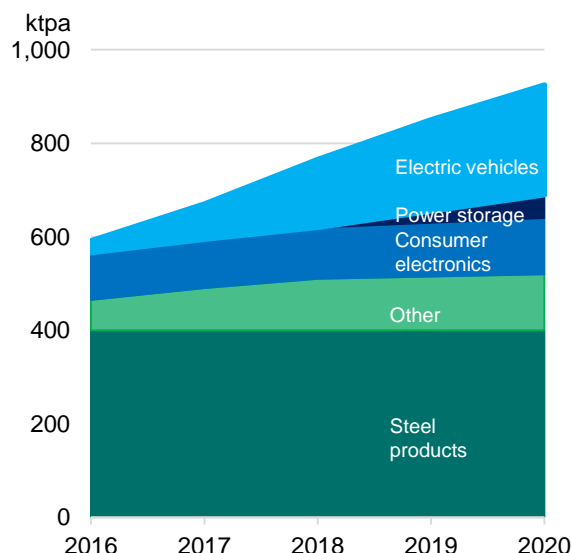
Volume

Graphite Market

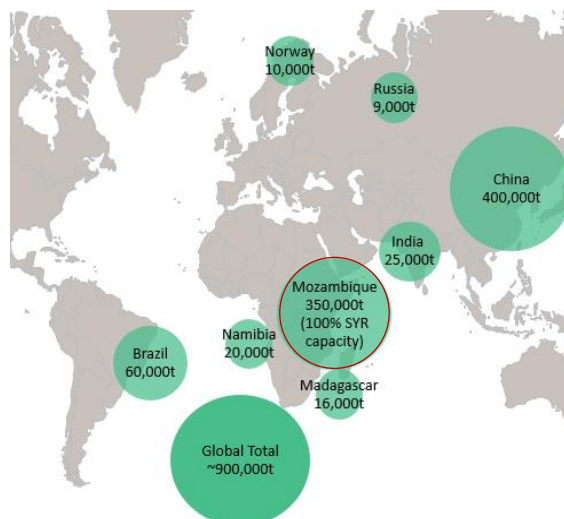


Baseload of demand in industrial markets; incremental demand driven by batteries; supply constraints in China impacting market dynamics

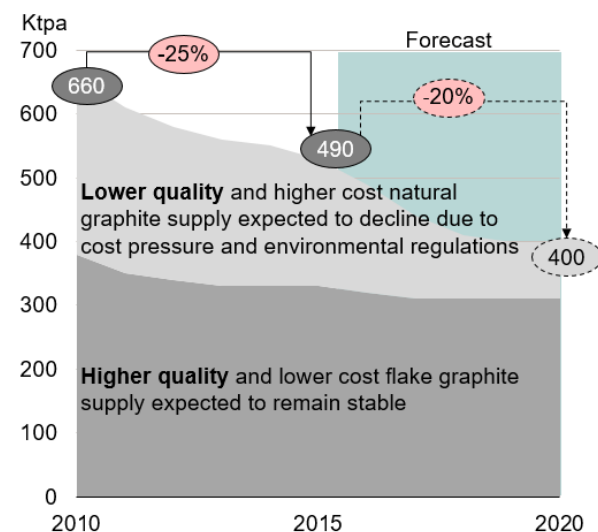
Global natural flake graphite demand growth +250kt to 2020



Natural flake graphite supply forecast, market short to balanced by 2020



China's domestic supply has been declining since 2011



Source: Syrah Resources

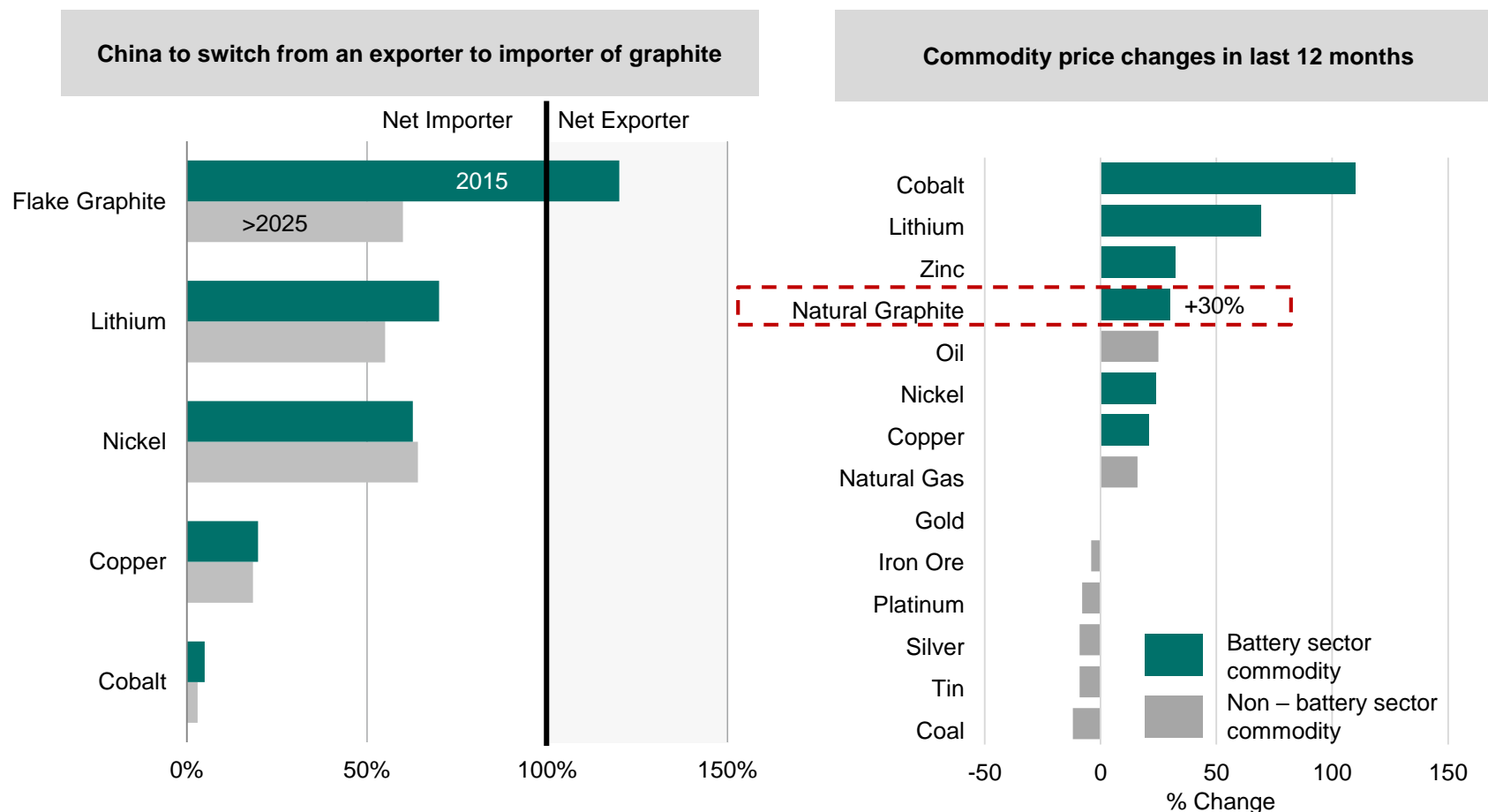
Notes: Steel sector includes refractory bricks, foundries, crucibles and recarburizer

Other includes lubricants, brakes, friction products and pencils



SYRAH RESOURCES

China's demand for flake graphite is increasing at a time of reducing domestic supply; prices beginning to reflect changing market dynamics



Source: Syrah Resources, Woodmackenzie, CRU, Metal Bulletin

Balama Graphite Mine



Balama commissioning underway, first saleable product this month



Crushing and primary milling



Flotation



Flakes and fines drying; screening and bagging



Intermediate Concentrate production in October



15MW Power station



Process water storage

Syrah's Balama graphite operation is a tier 1 asset by any measure

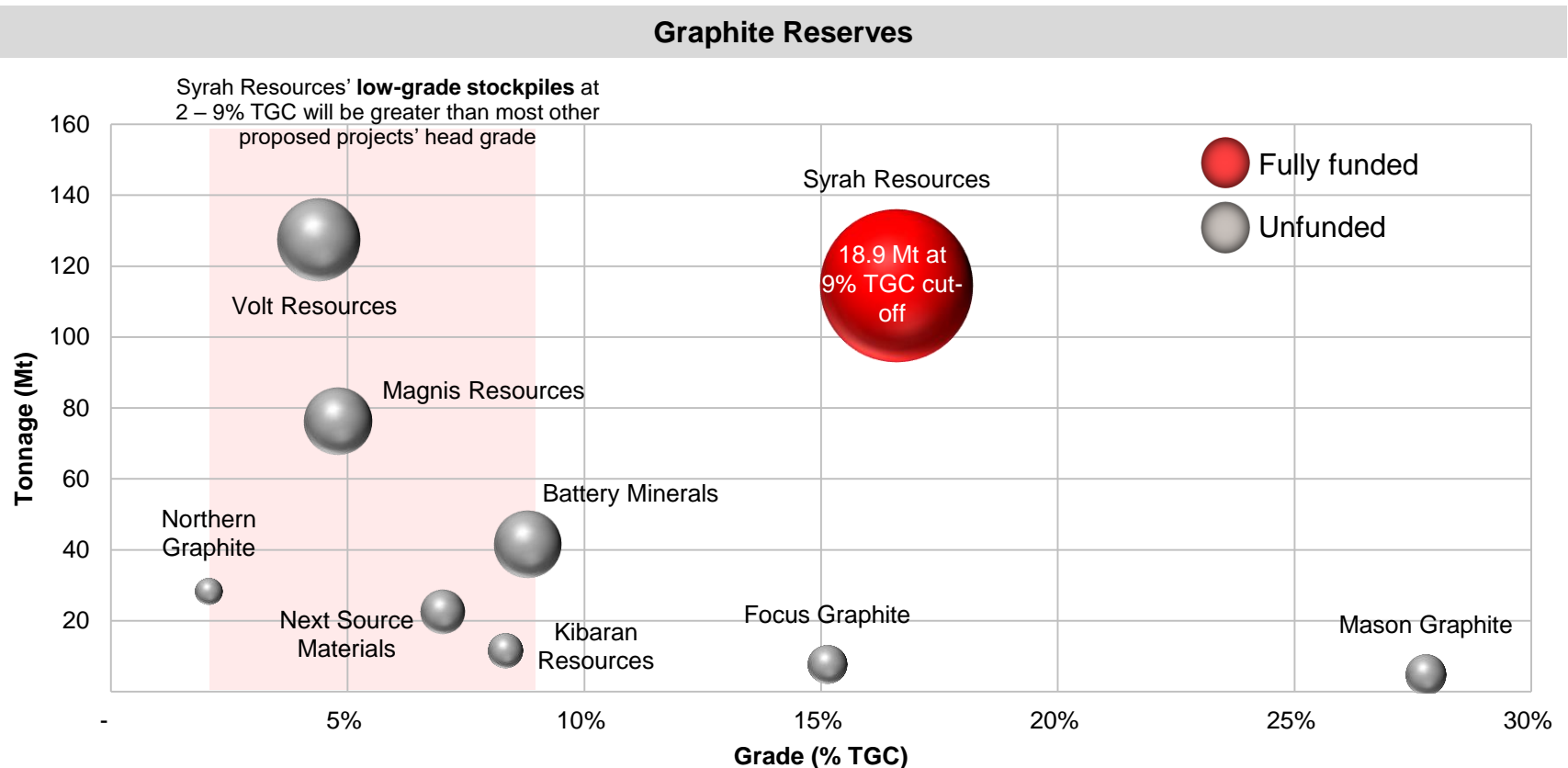
Reserves and Resources	<ul style="list-style-type: none"> - Reserves¹: 114.5Mt at 16.6% Total Graphitic Carbon (TGC) - 18.9Mt of contained graphite - Resources¹: 1,191Mt at 11.0% TGC - 128.5Mt of contained graphite
Mining	<ul style="list-style-type: none"> - Simple, open pit mining operation with extremely low stripping ratio
Processing method	<ul style="list-style-type: none"> - Conventional process that includes crushing, grinding, flotation, filtration, drying, screening and bagging
Production target	<ul style="list-style-type: none"> - 95% to >98% TGC concentrate to be produced across a range of flake sizes
Production^{1,2}	<ul style="list-style-type: none"> - Production capability of 350kt of graphite concentrate per year - CY18 production of 160kt to 180kt / CY19 250kt – 300kt - Ramp up profile to be optimised to meet market demand over time
Cash operating cost	<ul style="list-style-type: none"> - Targeting a cash operating cost of <US\$400 per tonne in the first year; expected to reduce to <US\$300 per tonne as the plant is optimised and ramps up to full capacity
Life of mine	<ul style="list-style-type: none"> - Over 50 years
Option value	<ul style="list-style-type: none"> - Balama's large reserve and resource allows for potential plant expansion (flake or fines circuit), representing a low capital intensity option to meet incremental future graphite demand - Vanadium, a by-product which is liberated during the graphite production process (V_2O_5)

- (1) Refer to ASX announcements titled "Syrah finalises Balama Graphite study and declares maiden ore reserve" released on 29 May 2015, "Syrah increases Balama Reserves and awards Laboratory Contract" released on 15 November 2016 and page 27
- (2) All material assumptions underpinning the production target in the initial announcement continue to apply and have not materially changed



SYRAH RESOURCES

Syrah's high grade Balama deposit has the largest defined graphite reserve globally; only major project nearing operations



Source: Company filings

Notes: Selected ASX and TSX listed graphite projects only and excludes Chinese producers. TGC = Total graphitic carbon

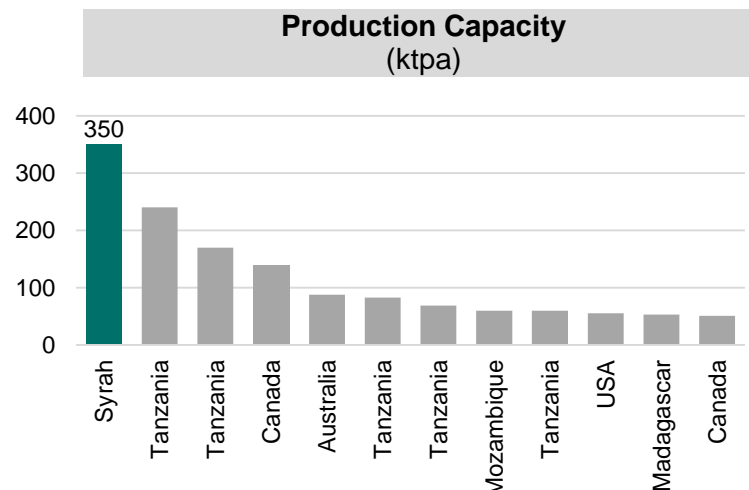
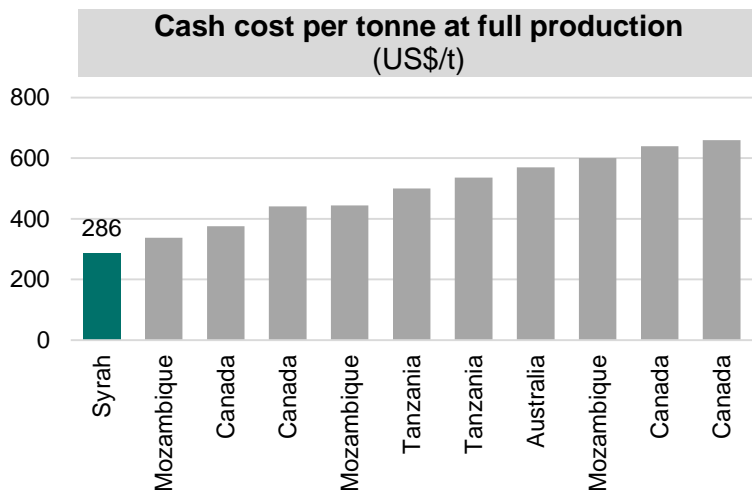
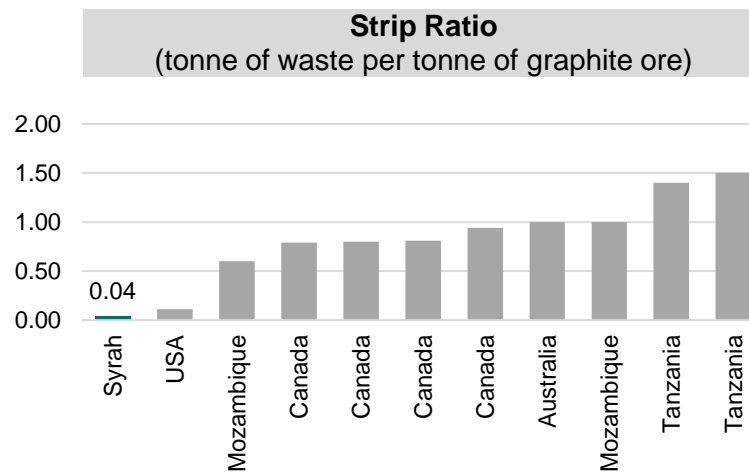
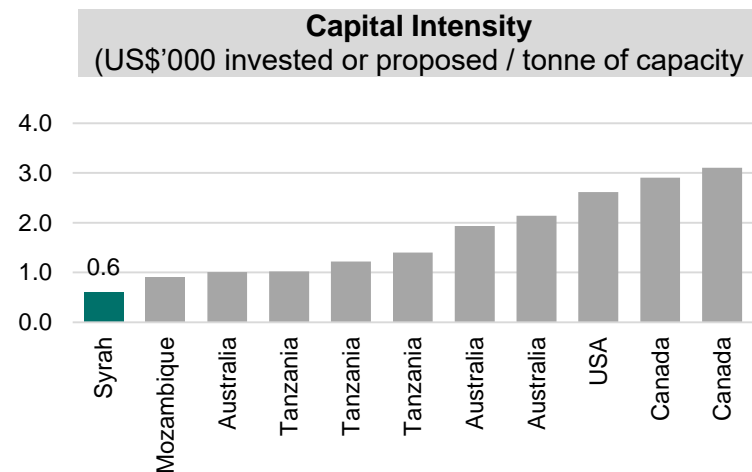
Bubble size is representative of latest reported contained graphite reserves
 Cut-off grade for Northern Graphite (Ontario, Canada) is 0.96% TGC
 Cut-off grade for Volt Resources (Tanzania) is 1.29% to 1.76% TGC
 Cut-off grade for Magnis Resources (Tanzania) that aims for a 98% Cg concentrate grade at a production level of 240ktpa from a 5Mtpa concentrator

Cut-off grade for NextSource Materials (Madagascar) is 4.5% TGC
 Cut-off grade for Battery Minerals (Mozambique) is 4% TGC
 Cut-off grade for Kibaran Resources (Tanzania) is 5% TGC
 Cut-off grade for Focus Graphite (Quebec, Canada) is 3.1% TGC
 Cut-off grade for Mason Graphite (Quebec, Canada) is 6% TGC



SYRAH RESOURCES

Investment and operating metrics highlight Syrah's advantage over all other greenfield projects; Balama brownfield expansion possible



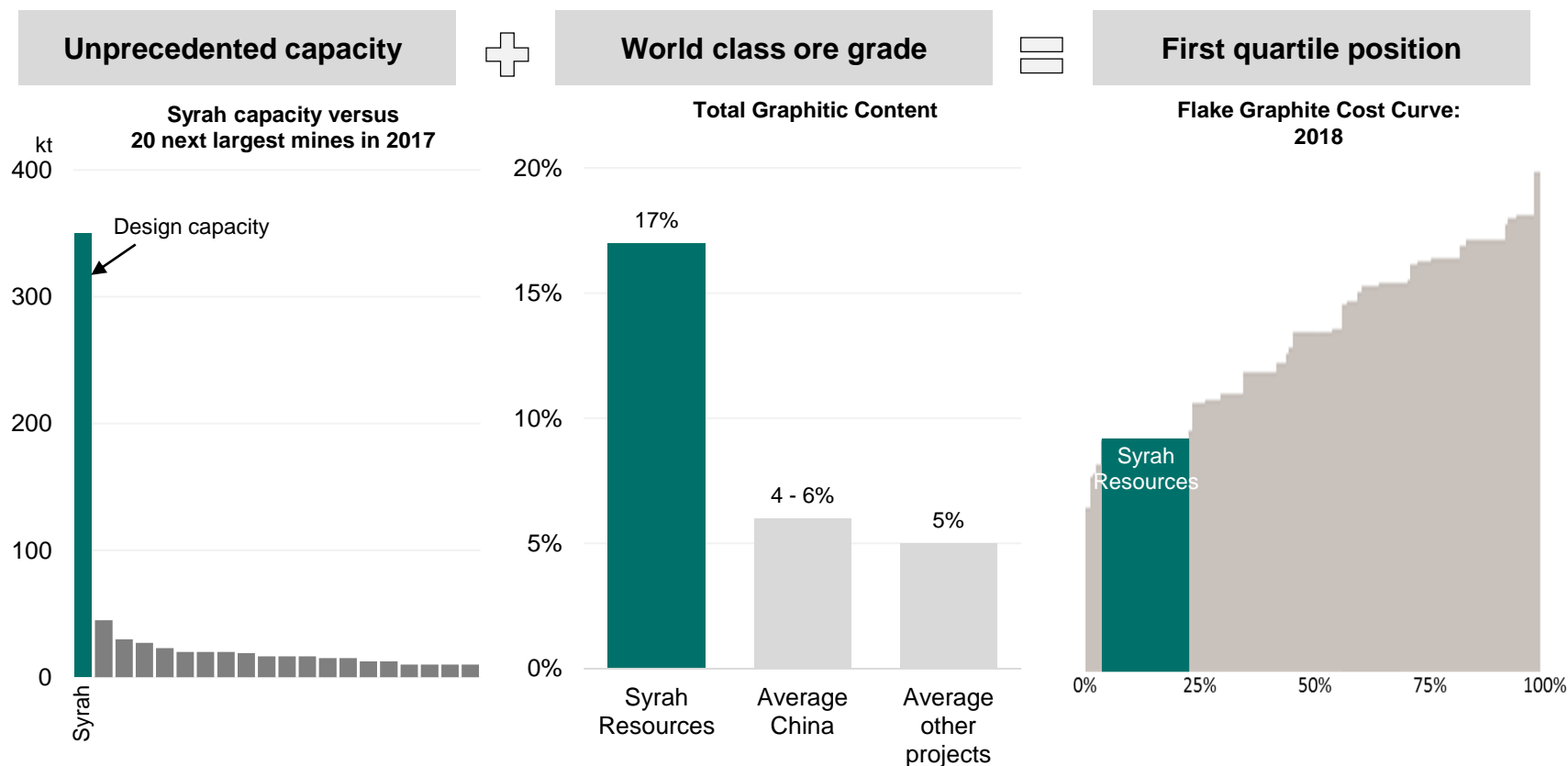
Source: Syrah Resources, Corporate Reports and ASX announcements

Note: Syrah Resources benchmarked against the next best ten greenfield options in each metric
Competitor location based on location of proposed mine, not company headquarters



SYRAH RESOURCES

Largest capacity, high and consistent quality and a long life asset enables Syrah Resources to be the global graphite leader



Source: Syrah Resources

Battery Anode Material (BAM)



BAM strategy leverages product quality, location and timing to establish position and maximise value

Electric Vehicle driven battery growth of 23% CAGR (in GWh) to 2025

Market and Strategy

BAM market opportunity and margins are driven by:

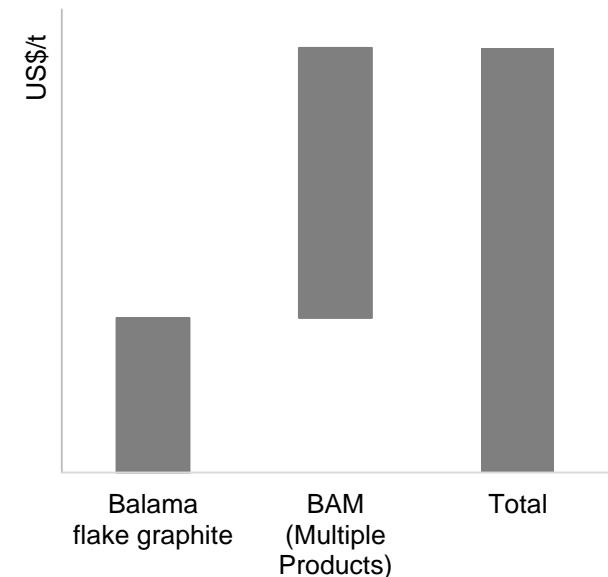
- Anode **quality and performance** in the battery
- **Cost** of alternative materials
- **Security** of supply and sourcing **diversification**
- **Intellectual property** and **technology expertise**

Syrah's BAM strategy is to:

- Highlight quality through **testing and benchmarking**
- **Capture value in use** upstream
- Commence **low risk BAM production in Louisiana**
- Provide baseload **supply security and diversification**
- **Leverage relationships to move down the value chain** for market entry and value

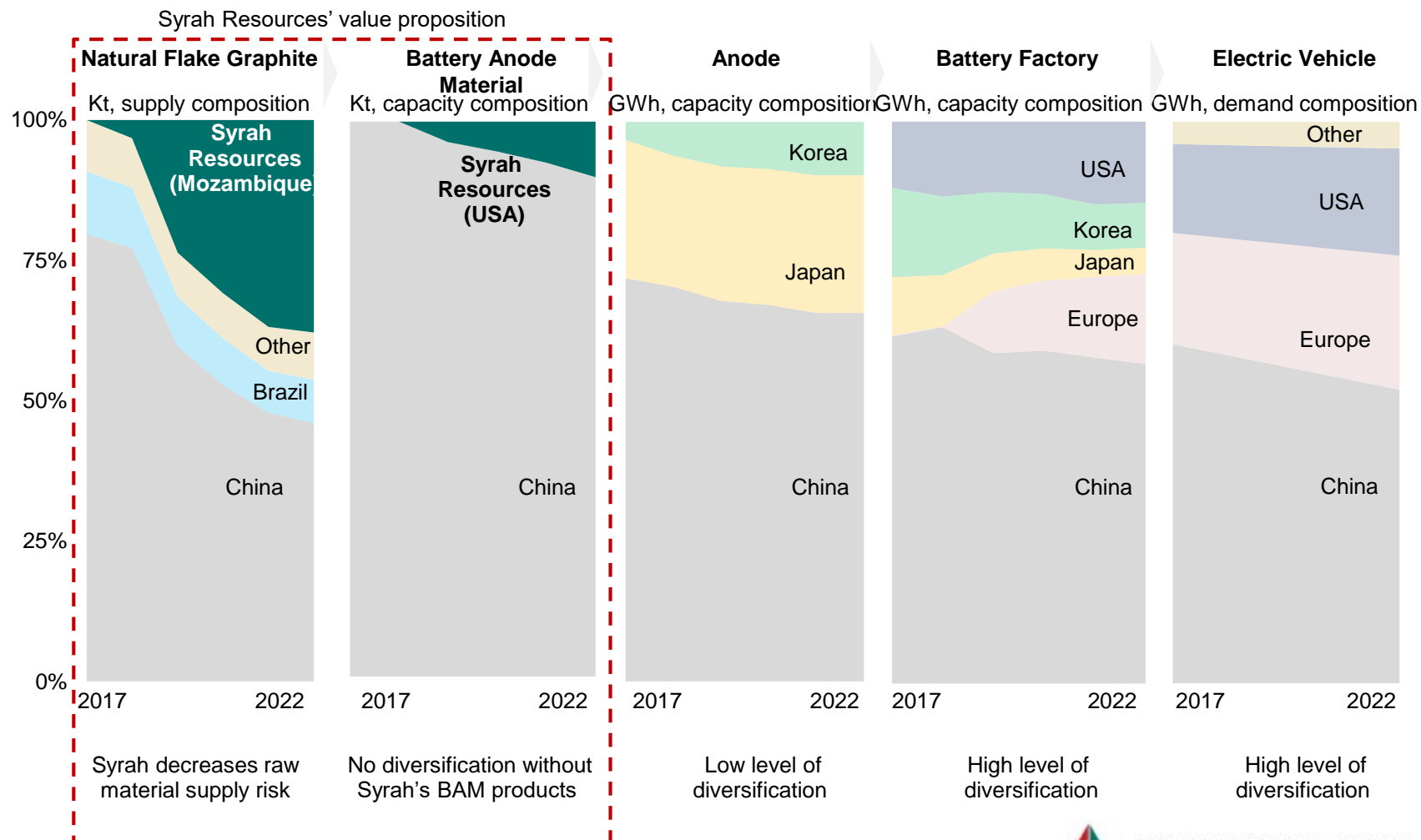
Value

Potential EBITDA contribution



SYRAH RESOURCES

BAM production in USA provides global battery supply chain a strategic and valuable alternate source of anode material



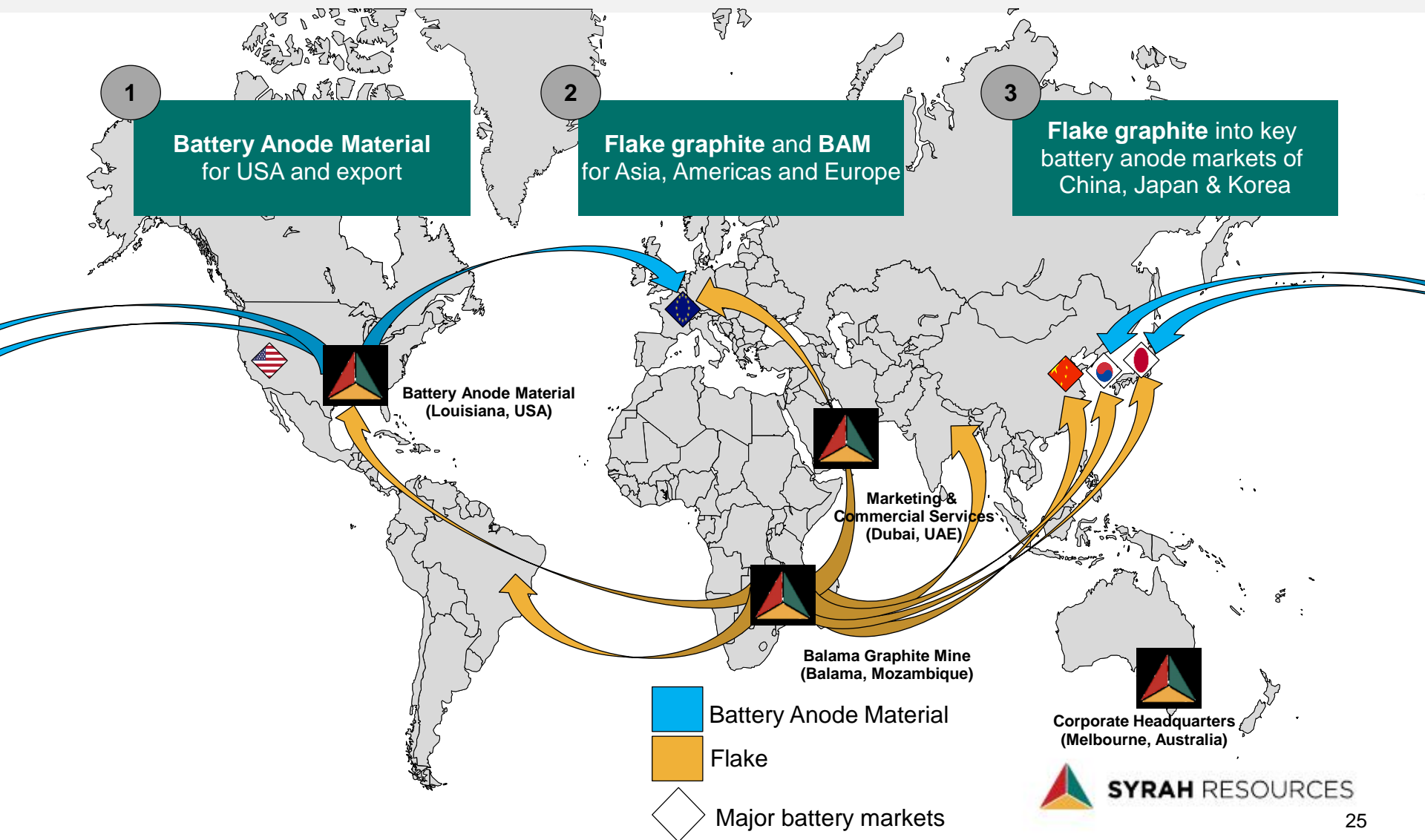
Battery Anode Material (BAM) project summary

Feedstock	<ul style="list-style-type: none"> - High purity flake graphite concentrate from Balama (-100 mesh size material)
Processing capacity and product mix	<ul style="list-style-type: none"> - Planned milling and purification capacity of 10kt per annum⁽¹⁾ - Optionality to produce variety of saleable material to diversify customer and sales base
Location	<ul style="list-style-type: none"> - Louisiana provides easily available access to primary processing consumables and low cost power - Strategically located to service the fast growing United States lithium-ion battery industry, with sea freight access to export markets - Plant commercial lease, detailed engineering design and construction planning activities well underway
Funding and Timing	<ul style="list-style-type: none"> - US\$40m will be used for construction of a BAM production facility in Louisiana and ongoing Syrah BAM product research testing and development - Targeting production of BAM during Q2 2018, initial focus on BAM product qualification - Targeting commercial scale production and sales of value added products during Q4 2018
Research and development	<ul style="list-style-type: none"> - Testing and benchmarking the electrochemical properties of battery anode materials using Balama material is continuing - Benchmarking will inform the evolution of Syrah's BAM product roadmap, the first generation expected to be completed in Q1 2018 - Spend during the quarter was for resourcing and capital for graphite anode and battery cell testing
Sales and marketing agreements	<ul style="list-style-type: none"> - Sales and marketing agreements announced with Marubeni and Morgan Hairong - Other negotiations are ongoing with potential battery market participants

(1) Initially planned milling and purification capacity of 10kt per annum, option to expand milling capacity to 16kt per annum



Syrah will provide global baseload of supply of high quality flake graphite and BAM to all key battery producing markets



Summary

Syrah Resources

- Syrah will be the largest, one of the lowest cost and highest quality producers of natural flake graphite with up to 350ktpa capacity
- Scheduled to deliver first saleable product this month
- Production ramp up profile driven by value, not volume, demand and sales commitments to drive production
- Syrah remains the only major new supplier of flake graphite to world's battery market

Graphite Market

- Electric vehicles with larger batteries and more natural graphite in the anode are the major drivers of ~250kt of incremental demand; long term, energy storage batteries another large source of demand
- China has experienced a rapid market growth, from 100,000 EV/PHEVs on the road in 2014 to 650,000 two years later; global electric vehicle market is expected to grow by 40 - 50% this year
- Natural graphite prices have responded to market fundamentals, +20-30% in the last 12 months

JORC Mineral Resources and Ore Reserves

Balama Graphite (JORC Code 2012) – as at 15 November 2016

Mineral Resources

Classification	Mt	TGC (%)	Contained Graphite (Mt)
Balama West			
Measured	75.0	11.0	8.4
Indicated	110.0	8.1	9.1
Inferred	460.0	11.0	51.0
Balama East			
Indicated	76.0	14.0	11.0
Inferred	470.0	10.0	49.0
Total			
Measured	75.0	11.0	8.4
Indicated	186.0	11.0	20.1
Inferred	930.0	11.0	100.0

Ore Reserves

Classification	Mt	TGC (%)	Contained Graphite (Mt)
Balama West			
Proven	20.0	19.2	3.8
Probable	35.7	17.5	6.2
Balama East			
Proven	–	–	–
Probable	58.8	15.1	8.9
Balama West & East			
Proven	20.0	19.2	3.8
Probable	94.5	16.0	15.1
Total	114.5	16.6	18.9

Competent person statement – Balama Graphite

The information in this report that relates to Mineral Resources and Ore Reserves is extracted from the reports titled “Syrah finalises Balama Graphite study and declares maiden ore reserve” released to the ASX on 29 May 2015 and “Syrah increases Balama Ore Reserves and awards Laboratory Contract” released to the ASX on 15 November 2016 and available to view at www.syrahresources.com.au and for which Competent Person’s consents were obtained. The Competent Person’s consents remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcements released on 29 May 2015 and 15 November 2016, and in the case of estimates of Mineral Resources and Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement 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 ASX announcement.

Full details are contained in the ASX releases dated 29 May 2015 “Syrah finalises Balama Graphite study and declares maiden ore reserve” and “Syrah increases Balama Ore Reserves and awards Laboratory Contract” released to the ASX on 15 November 2016, available at www.syrahresources.com.au