

# Q1 2018 Quarterly Activities Report

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# Q1 2018 Highlights

<b>Health, Safety and Community</b>	<ul style="list-style-type: none"> <li>- Strong safety record continues with Total Recordable Injury Frequency Rate (TRIFR) of 0.8</li> <li>- President of Mozambique, His Excellency Mr Filipe Nyusi, officially opening the Balama Graphite Operation at an onsite inauguration in April</li> </ul>
<b>Balama Graphite Operation</b>	<ul style="list-style-type: none"> <li>- Fines dryer repaired and operational post quarter end, ahead of schedule</li> <li>- Q1 production of 11.2kt. Production below plan, current production rates improving with increased recoveries, plant throughput and stability to deliver significant uplift in daily production</li> <li>- Plant consistently producing carbon grade &gt;95% and particle size distribution within specification</li> <li>- Targeting lower end of 2018 production guidance of 160,000 to 180,000 tonnes<sup>1</sup></li> <li>- Cost base well positioned for C1 production costs &lt;US\$400/t by end of 2018</li> </ul>
<b>Sales and Marketing</b>	<ul style="list-style-type: none"> <li>- Sales and qualification shipments commenced in January to all major customer markets</li> <li>- Positive qualification feedback from &gt; 20 customers across industrial and battery markets</li> <li>- Additional spot and term sales contracts settled in Q1, further contract negotiations well advanced</li> <li>- Basket price impacted by qualification shipments, higher fines production and China pricing</li> <li>- Higher basket price expected in H2 2018 given full sales and production profile, product consistency and grade premium</li> </ul>
<b>Battery Anode Material (BAM) Project</b>	<ul style="list-style-type: none"> <li>- BAM site Letter of Intent to purchase an industrial site in Vidalia, Louisiana with strong local community support</li> <li>- Positive results from testing reconfirm Syrah's BAM products have essential core properties required by global battery industry</li> <li>- Targeting production of first purified spherical graphite by end 2018</li> <li>- Feasibility study to determine size and economics of potential larger commercial facility to be completed by end Q3 2018</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>- Cash on hand US\$80.5m as at 31 March 2018</li> <li>- Forecast cash balance end Q2 2018 ~US\$55m</li> <li>- Timing of BAM major capital expenditure post site selection will be made in conjunction with Balama cash flow profile</li> </ul>

(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. All material assumptions underpinning the production target in these announcements continue to apply and have not materially changed.



# Health, Safety, Community and Environment

## Focus on Health, Safety & Community

- TRIFR 0.8 per million hours worked
- Well positioned to receive ISO certification for Health, Safety and Environment in 2018
- Balama 680 direct employees, 92% Mozambican Nationals

## Environmental Sustainability

- Continued environmental monitoring, no significant incidents in Q1 2018
- Health, Safety, Security, Environment and Community reporting aligned with Global Reporting Initiative™ (GRI)

## Ongoing Government Support

- President of Mozambique, His Excellency Mr Filipe Nyusi officially opened Balama in April
- The Governor of Cabo Delgado, the Minister of Mineral Resources and Energy, and other distinguished guests also attended the event
- Mining Agreement signed and presented to Administrative Court for sanctioning, after which it will be binding and enforceable



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# Balama Inauguration April 2018

President of Mozambique, His Excellency Mr Filipe Nyusi, officially opening Balama



Greeting Syrah MD & CEO, Shaun Verner



Traditional tree planting



Local community



Bagging of graphite concentrate



Unveiling of commemorative Balama plaque



Balama inauguration plaque

# Balama Graphite Operation: Production

Q1 production below plan, recoveries, throughput and stability improving

## Production

- 11.2k graphite produced
- Production below plan – improving flotation recoveries, throughput and stability to deliver significant uplift in daily production
- Q1 production impacted by:
  - Slower ramp up in recoveries due to flotation circuit optimisation and utilisation
  - Lower throughput due to fines dryer outage
- Fines dryer repaired and operational ahead of schedule
- Plant consistently producing high quality, low impurity graphite products
- Product grades > 95% fixed carbon, particle size within specification

## Plant Optimisation

- Ongoing flotation optimisation and minor design enhancements
- Attrition cells for higher graphite grades of 96%-98%, target operation H2 2018
- Balama expansion and optimisation review in H2 2018
- 2018 sustaining capex US\$7m - US\$10m



# Balama Graphite Operation: Production rates improving

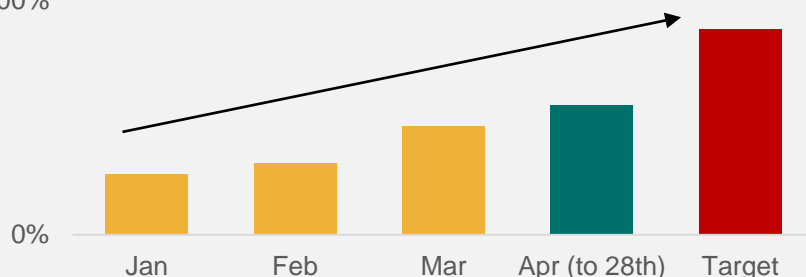
## 2018 Production 160kt – 180kt

- Targeting lower end of guidance 160kt to 180kt<sup>1</sup>
- Planned production ramp up 25% H1, 75% H2 – Q2 and H2 profiles broadly similar to original plan
- Operating costs in line with expectations, well positioned to achieve C1 <US\$400/t<sup>2</sup> by end 2018
- Strong plant throughput performance post dryer repair, combined with continued improvement in graphite recoveries and improved plant stability positions the operation well for continued progressive production ramp up, with maximum daily production achieved in April of 470 tonnes

## Flotation optimisation improving recoveries<sup>3</sup>

Recoveries

100%



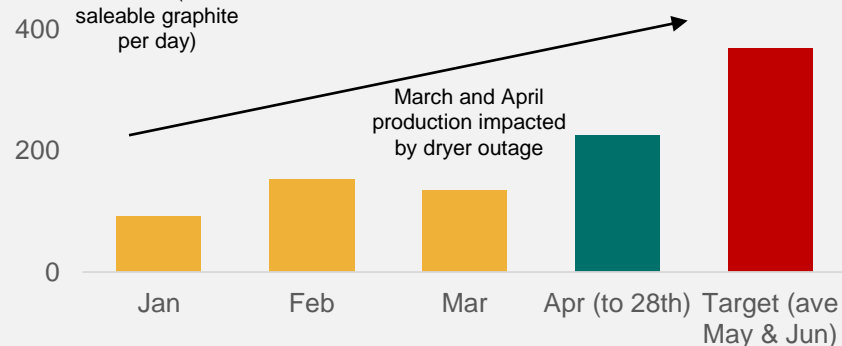
## Daily production increasing

Production (tonnes saleable graphite per day)

400

200

0



- (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. All material assumptions underpinning the production target in these announcements continue to apply and have not materially changed.
- (2) C1 cash operating costs (FOB Port of Nacala, excluding government royalties and taxes)
- (3) Total plant recovery for January, February and March and flotation recovery April month to date.



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# Sales & Marketing – Shipping commenced, positive customer qualification feedback

## Sales

- Global shipping commenced in January
- More than 10 additional spot and term sales contracts settled during quarter
- Further contractual negotiations well advanced

## Customers

- Qualification testing and feedback received from >20 customers across industrial and battery markets
- Quality feedback very positive
- Continue to work with spot customers for longer term contracts

## Pricing

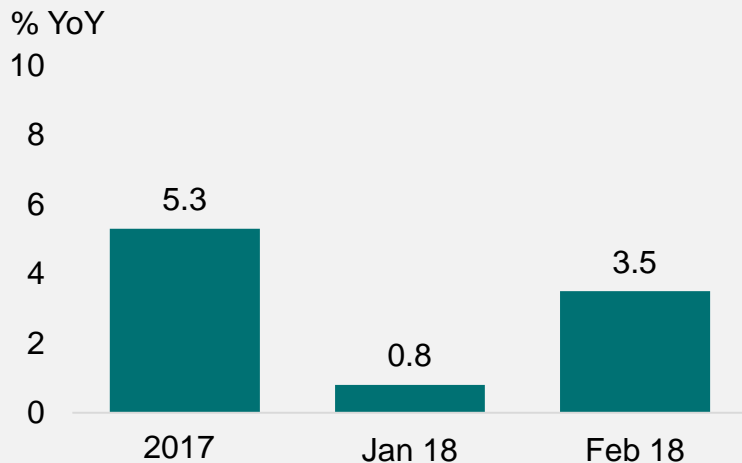
- Average pricing for initial shipments lower than inferred from external consultants and reporters
- Basket price realisation impacted by
  - Focus on qualification shipments
  - Product mix of sales with higher fines contractual production
  - China pricing
- Higher basket price expected in H2 with
  - Full sales profile and production profile
  - Continued demonstration of product consistency
  - Attrition cells targeting operations H2 2018, enables higher graphite grade 96% to 98% fixed carbon and pricing premium



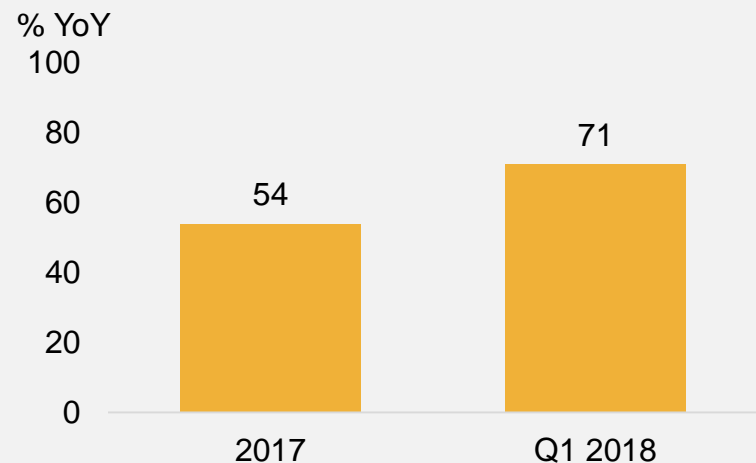
# Industrial and battery market demand was strong in 2017; has continued Q1 2018

- World Steel Association expects global steel production growth of +1.8% in 2018. Down from +5.3% in 2017 as demand from China eases
- In 2017, ~120,000 tonnes of flake graphite was used to produce lithium ion battery anode material for all electrical applications
- Syrah expects electric passenger vehicle market to grow by +40% to +50% in 2018
- In 2018, Syrah expects an incremental +80,000 tonnes of demand from the battery sector and flat demand from the steel sector

## Global Steel Market Growth



## Passenger Electric Vehicle<sup>1</sup> Market Growth



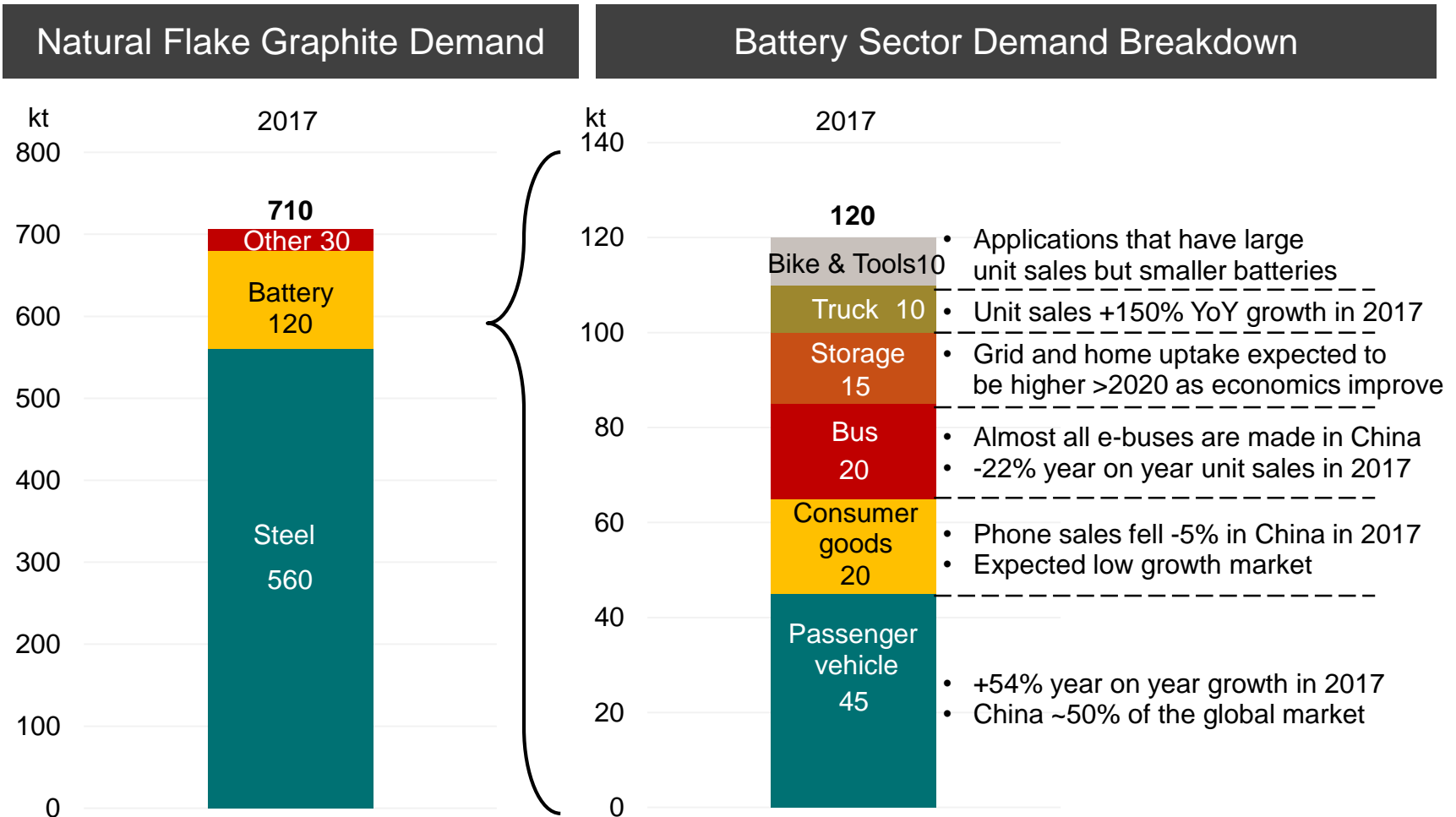
Source: Syrah Resources, CEIC, World Steel Association

(1) Does not include electric bus, trucks and bikes



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# Battery sector demand growth for flake graphite driven by passenger vehicles and trucks in 2017



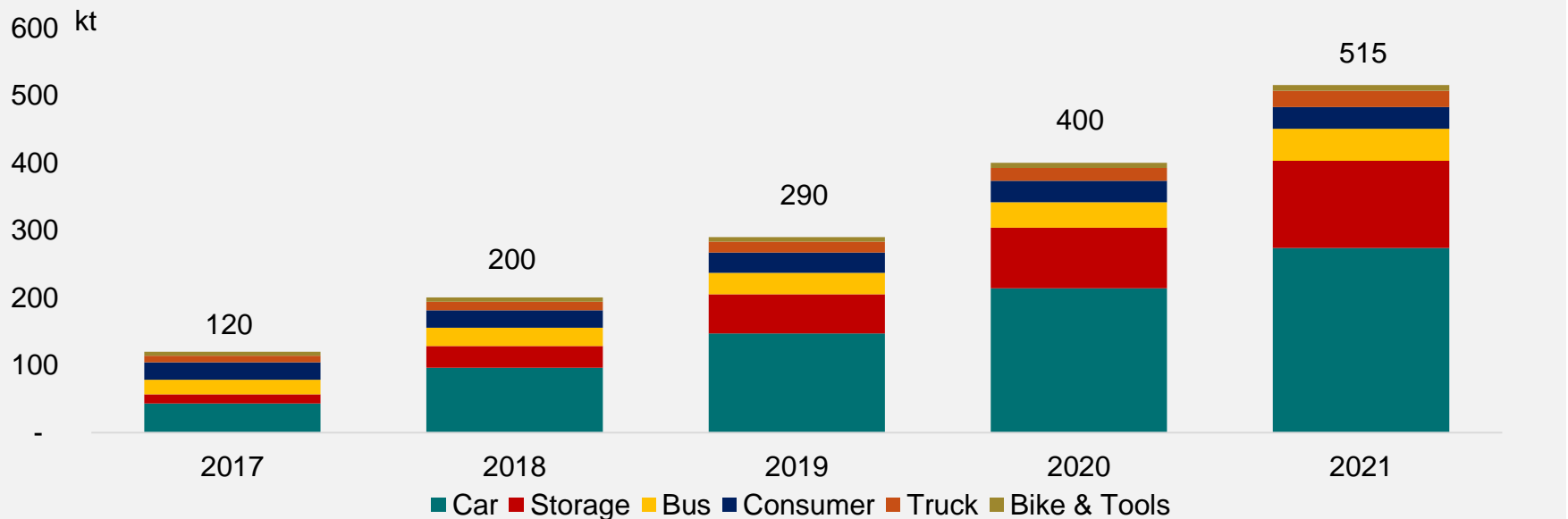
Source: Syrah Resources internal supply and demand model, CEIC, World Steel Association

# Natural flake graphite market outlook: Battery sector

## Rapid growth of lithium ion battery market expected

- Syrah estimates an increase in demand of nearly 400kt from the battery sector between 2017 and 2021, to ~500kt
- Assume an electric vehicle penetration rate of 5.5% (global) and 9% (China) to reach 2021 demand forecast
- Expect energy storage to be a major market >2021 due to renewable energy integration in homes and grids

## Lithium ion battery demand by end use application



Source: Syrah Resources internal demand and supply model



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# Battery Anode Material (BAM) Project

## BAM preferred site identified

- Letter of Intent to purchase an industrial site in Vidalia, Louisiana, exclusive rights to purchase
- Air and water environmental discharge requirements met
- Attractive development incentives from Vidalia and strong local community support
- Retain options for alternative site development

## Benchmarking reconfirms battery suitability

### Testing reconfirms:

- Precursor<sup>1</sup> materials have core properties required by global battery industry
- Finished BAM products<sup>2</sup> using industry standard processing have equivalent electrochemical performance to tier 1 competitors enabling market entry

## Strategic Priorities

- Complete BAM site acquisition
- Feasibility study of potential commercial expansion BAM facility by end Q3 2018
- Installation and operation of initial 5kt milling and shaping followed by integration of chemical purification
- Detailed customer negotiations

## Product Roadmap

- Initial production of unpurified qualification product (3-4 months post site finalisation)
- First purified spherical graphite end 2018
- Near term supply of precursor graphite for anode products in 2018 and 2019
- Potential for next generation anode material technology in 2020

(1) Precursor products comprises of uncoated spherical graphite and uncoated purified spherical graphite

(2) Finished BAM product is coated purified spherical graphite



# Finance and Corporate

## Finance

- Cash balance as at 31 March 2018 US\$80.5 million
- Q2 2018 forecast net cash outflow US\$25m, 30 June 2018 cash ~ US\$55m
- Targeting positive cash flows from operations at Balama ~ mid H2 2018
- Timing of BAM major capital expenditure post site selection will be made in consideration with Balama cash flow profile

## Corporate

- COO Julio Costa appointed
  - Significant mining and operations expertise having worked for Alcoa, Rio Tinto and Vale
- AGM 17 May 2018



# Summary

## Syrah establishing solid foundation as only major new supplier of graphite to battery market

- Strong health and safety record continues
- Ongoing Government support for the Balama Operation
- Balama first quarter of operations in ramp up, improving recoveries, plant throughput and increase stability to deliver significant uplift in daily production
- Sales and qualification shipments to major geographical regions for battery and industrial markets with positive qualification feedback
- Strong demand growth for flake graphite, forecast 500kt total demand from the battery sector by 2021
- Preferred BAM site in Vidalia, Louisiana selected. Positive environmental and community conditions
- Benchmarking of Syrah BAM products reconfirms suitability for battery application and market entry
- Remain diligent in timing of major capex spend in conjunction with Balama cash flow profile
- Syrah Resources remains the only major new supplier of graphite to world's battery market

# Contact

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