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## SYRAH SIGNS PRODUCT SALES & MARKETING AGREEMENTS WITH MORGAN HAIRONG

### INTRODUCTION

#### Highlights:

- 3 year Product Sales Agreement signed with Morgan AM&T Hairong Co., Ltd (Morgan Hairong) for 2,000 tonnes per annum (tpa) of uncoated spherical graphite
- 3 year Marketing Agreement signed with Morgan Hairong for 5,000 tpa of uncoated spherical graphite and 2,000 tpa of coated spherical graphite
- Under these agreements, Morgan Hairong intends to market and sell spherical graphite from Syrah's proposed Spherical Graphite Project to its domestic customers which include the largest and fastest growing battery producers in China
  - Uncoated spherical graphite production in China grew by approximately 90% from 26,000 tonnes in 2014 to over 50,000 tonnes in 2015
  - Significant future growth expected over the next 5 years as the Chinese government makes the development of electric cars a strategic priority, substantially increasing demand for lithium ion batteries
  - Chinese spherical graphite production capacity currently under utilised due to inconsistency of natural graphite supply in China
- These agreements represent a strong vote of confidence in Balama spherical graphite in China, the largest and fastest growing lithium ion battery market globally
- Significant opportunity for the Balama Project to be a major, high quality and consistent source of supply for existing spherical graphite producers as well as Syrah's own proposed Spherical Graphite Project
- Syrah is also in discussions with other parties around the world in relation to further spherical graphite offtake agreements

## PRODUCT SALES & MARKETING AGREEMENTS

Syrah Resources (ASX:SYR) is pleased to announce that it has signed a Product Sales Agreement and a Marketing Agreement with Morgan AM&T Hairong Co., Ltd (Morgan Hairong) for the sale and marketing of uncoated and coated spherical graphite domestically within China.

Morgan Hairong is the second largest coated spherical graphite producer in China, with customers that include the largest and fastest growing battery producers in the country. The company has plans for a significant expansion in production capability in order to satisfy the expected future growth in demand for coated spherical graphite. Morgan Hairong has the capability to supply coated spherical graphite for a wide range of lithium ion battery applications including electric vehicles, grid storage and consumer electronics. Morgan Hairong has been working closely with Syrah in regards to its spherical graphite development for over 10 months.

Syrah Managing Director, Mr. Tolga Kumova commented: *"We are extremely excited to have signed our first product sales and marketing agreements for Balama spherical graphite. Morgan Hairong is an established producer and recognised technical leader in the field of natural graphite anode materials for lithium ion batteries. These agreements represent a strong vote of confidence for Balama spherical graphite in China, which is currently the largest and fastest growing lithium ion battery market. Syrah is also in discussions with other parties around the world in relation to further spherical graphite offtake agreements, and we look forward to finalising these in the future."*

### Key terms

The **Product Sales Agreement** has a duration of 3 years and will be for 2,000 tpa. Morgan Hairong intends to coat Balama spherical graphite at its facility in China for sale domestically. Prices will be negotiated quarterly between Syrah and Morgan Hairong based on market prices which have prevailed in China during the preceding three months.

The **Marketing Agreement** has a duration of 3 years and will be for a total of 7,000 tpa (consisting of 5,000 tpa of uncoated spherical graphite and 2,000 tpa of coated spherical graphite). Under this agreement, Morgan Hairong will market Balama spherical graphite to lithium ion battery producers headquartered in China. Morgan Hairong will also receive a commission based on the gross sales price of the Balama spherical graphite that it markets.

Morgan Hairong General Manager, Madam Lin commented: *"We strongly believe that the Chinese electric vehicle will experience tremendous growth over the next 5 years. As such, we are very pleased to be partnering with Syrah to supply high quality spherical graphite into the Chinese market in order to meet the anticipated significant demand."*

## Chinese electric vehicle market

During the last few years, the Chinese central government has increasingly made the development of mass-market electric cars a strategic priority as part of broader plans to take the lead in automotive technology, curb pollution and reduce dependence on imported oil. Initiatives undertaken to date include:

- Subsidies for private buyers of more than \$25,000 on an all-electric battery car and more than half that on a plug-in hybrid (Source: [www.autonewschina.com](http://www.autonewschina.com))
- Electric car owners in Beijing will have complete freedom to drive whereas under the current policy, internal combustion engine vehicles with odd and even license plates are banned from the city's roads on alternate days (Source: *Wall Street Journal*)
- Subsidies aimed at speeding up the building of electric car charging stations, targeting sufficient infrastructure to handle 5 million plug-in vehicles by 2020 (Source: [www.bloomberg.com](http://www.bloomberg.com))
- A requirement for all newly-built residential buildings to have charging facilities or set aside space for them (Source: [www.bloomberg.com](http://www.bloomberg.com))
- More stringent fuel economy rules in a bid to force automakers operating in China to introduce more electric cars (Source: [www.autonewschina.com](http://www.autonewschina.com))
- Encouraging global automakers operating in China to share technology with their local partners (Source: [www.autonewschina.com](http://www.autonewschina.com)).



Figure 1: The BYD Qin, with a range of 70 km, was the top selling plug-in electric car in China during 2014.

The country has also encouraged and opened its auto industry to technology companies to invest which have resulted in more than half a dozen Chinese-funded electric vehicle startups, backed by multibillion dollar companies such as Baidu, Alibaba, Xiaomi, Tencent, and LeTV (*Source: [www.autonewschina.com](http://www.autonewschina.com)*).

Battery producers operating in China have also responded accordingly:

- In September 2015, Samsung SDI became the first global battery producer to construct an electric vehicle battery plant and initiate mass production in China. The Xi'an based plant has a capacity of approximately 40,000 electric cars per year and has finalised battery supply agreements with 10 local automobile companies. In preparation for increased market demand in the future, Samsung SDI will also invest US\$600 million into the Xi'an battery plant until 2020 and aim to achieve 1 billion USD in sales (*Source: Business Korea*)
- LG Chem Ltd is currently constructing a battery plant in Nanjing that is expected to be completed in Q1 2016 (*Source: Benchmark Minerals*). This plant will produce as many as 50,000 battery packs for electric vehicles per year (*Source: Korea Times*). Over the next five years, the company plans to boost annual production capacity to 200,000 batteries for electric vehicles (*Source: Times*)
- In March 2015, Chinese automaker BYD Co Ltd, announced that it plans to add 6 GWh of battery production over next three years, and hopes to continue adding at that pace subsequently, subject to demand. This means that the company could ramp up from 10 GWh capacity at the end of this year to about 34 GWh of batteries by the beginning of 2020 (*Source: [www.reuters.com](http://www.reuters.com)*)
- In September 2014, Foxconn Technology Group announced that it will invest at least 5 billion yuan (US\$814 million) into its battery plants in northern China's Shanxi province (*Source: [www.bloomberg.com](http://www.bloomberg.com)*).

## Chinese spherical graphite market

Currently, demand in China is at all-time high for battery anode material, driven by a surge in full electric and hybrid production that has seen lithium ion battery demand increase significantly. In the first 8 months of 2015, China produced 110,000 battery powered vehicles and the country is on track to overtake the United States and become the leading global producer of electric vehicles in 2015 (Source: Benchmark Minerals).

With each electric vehicle containing between 10kg and 50kg of spherical graphite, Chinese uncoated spherical production is expected to exceed 50,000 tonnes in 2015, an increase of over 90% from approximately 26,000 tonnes in 2014 (Source: Benchmark Minerals and major anode producer). However, problems with the consistency of flake graphite supply is limiting full capacity utilisation in China. Inconsistencies in natural flake graphite supply are preventing fringe producers from entering the market in a significant way, further hampering utilisation rates.

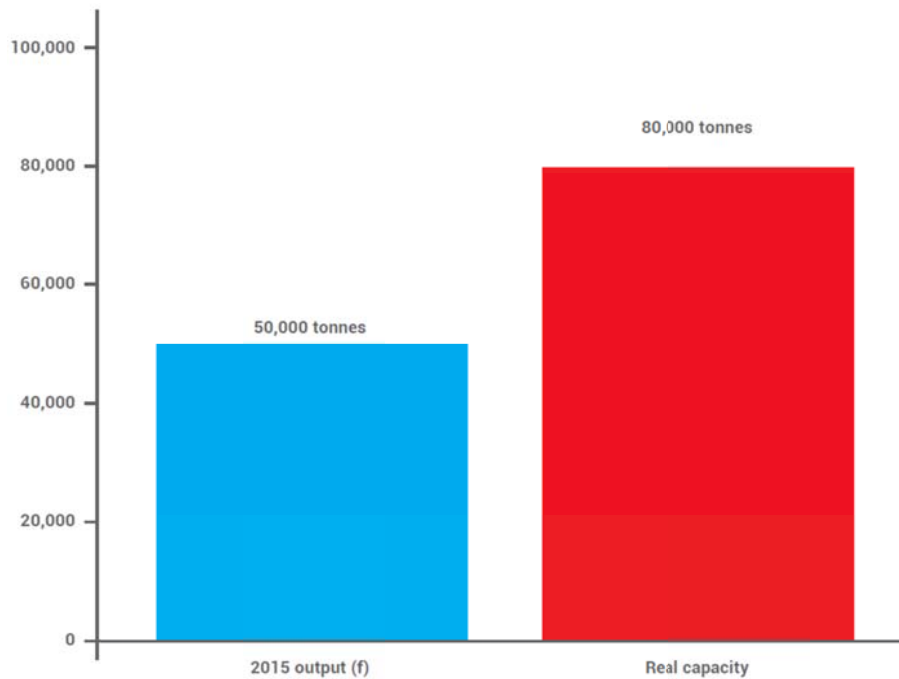


Figure 2: Uncoated spherical graphite capacity utilisation in China  
(Source: Benchmark Minerals)

Despite the cost advantage of natural spherical graphite, it still only accounts for around 60% of the total anode with synthetic graphite making up the rest as it offers the industry supply consistency that is lacking in some areas of the natural spherical graphite sector. The inconsistency in natural flake graphite supply is due primarily to how China's flake graphite industry is structured.

The vast majority of the country's (and the world's) flake graphite is produced in Heilongjiang, with multiple small to medium-sized mining operations that provide feed into centralised processing plants operated by existing spherical graphite producers. This makes it difficult to determine the provenance of feedstock material, which reduces the ability of spherical graphite producers to meet quality specifications consistently.

As outlined in Syrah's Feasibility Study (refer ASX announcement dated 29 May 2015), the Balama Project will produce over 350,000 tpa of 95% graphite concentrate over the first 10 years, of which 240,000 tpa will be -100 US mesh product. Assuming a yield of 40% to 60%, this is sufficient feedstock for 96,000 tpa to 144,000 tpa of spherical graphite. Accordingly, Syrah believes that a major opportunity exists for the Balama Project to be a significant, high quality and consistent source of supply for existing spherical graphite producers and its own proposed Spherical Graphite Project.

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### ***About Syrah Resources***

*Syrah Resources (ASX code: SYR) is an Australian resource company that is rapidly progressing its flagship Balama Graphite and Vanadium Project in Mozambique to production. The Project hosts the largest graphite ore reserves in the world with an Australasian Joint Ore Reserves Committee (JORC) compliant Ore Reserve of 81.4 Mt at 16.2% total graphitic carbon. Balama is a 110 km<sup>2</sup> granted Mining Concession located within the Cabo Delgado province in the district of Namuno in northern Mozambique. The Project is approximately 260 km by road west of Pemba and is accessible by a sealed, main road, running directly from Pemba Airport. The Port of Nacala is approximately 490 km by road south east of the Project and is the deepest port in Southern Africa.*