

Alpha **HPA**

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(5 pages)

HPA FIRST PROJECT UPDATE **SUPPLYING DE-CARBONISATION**

PRODUCT MARKETING

- **MoU signed with Brenntag – world’s largest chemical distributor**
- **HPA order received for delivery from Stage 1 - PPF**
- **Further Al-nitrate sales**
- **Li-ion anode and cathode coating test work expands**
- **Successful development of 5N purity anhydrous Al-sulphate precursor**

STAGE 1 – PPF

- **Mains electricity connected – supplied with renewables via CleanCo**
- **Administration and laboratory building installed**
- **Fire water tanks installed**
- **LNG and reagent tanks installed**
- **PPF on track for start of commissioning in September**

STAGE 2 – FULL SCALE

- **Federal Govt \$45M MMI-C grant advanced**

The Board of Alpha HPA Limited ('Alpha' or 'the Company') is pleased to provide an update on project activities for its HPA First Project, representing the commercialisation and production of critical high purity aluminium products driving de-carbonisation.

Alpha is fully funded to commercial production at its Stage 1, Precursor Production Facility (PPF) which is under construction in Gladstone, QLD and scheduled to commence commissioning ahead of production of the Company's high purity Aluminium Precursors from the September quarter 2022.

The Company is concurrently satisfying the remaining conditions precedent to the full-scale Project Final Investment Decision, with a focus on product sales and offtakes and project financing.

PRODUCT MARKETING

MOU signed with Brenntag

Alpha has signed a Memorandum of Understanding (MoU) with the world's largest chemical distributor, Brenntag Holding GmbH (Brenntag) for the potential sale and/or distribution of Alpha's products within Europe, Middle East and Africa (EMEA). Alpha and Brenntag will work co-operatively and on a non-exclusive basis to develop end-user markets and logistics solutions to the battery chemical markets.

The MoU also considers potential commercial collaboration in test and/or commercial production facilities.

HPA order received for delivery from Stage 1 PPF

Following successful qualification, Alpha has received a sales order to a US based lithium-ion battery manufacturer for an initial 1 metric tonne of HPA for delivery from the Stage 1 PPF in April 2023. The customer is in the early stages of scaling their manufacturing, with much larger volume demand forecast from 2024.

Further Al-nitrate sales

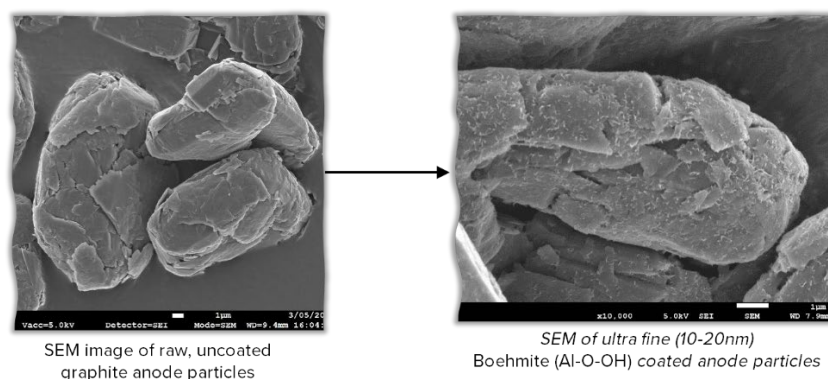
Alpha has received further high-value sales orders via a US based web-catalogue platform for a further 9kg @ US\$350/kg. The order is part of an ongoing series of sales over the previous 12 months delivering high purity aluminium nitrate to researchers and end-users. Alpha is anticipating larger volume orders through this avenue as the Stage 1 PPF ramps up production making commercial volumes available for manufacturing applications.

Anode coating test work expands

Alpha has further expanded its test work in coating both lithium-ion cathode and anode active material utilising the Company's 5N purity aluminium nitrate as the chemical precursor. Alpha now has active coating test work underway or commencing with seven separate counterparties including large scale battery manufacturers as well as both anode and cathode developers.

The coating process is capable of delivering a fine controlled coating of either high purity alumina (Al_2O_3) or high purity boehmite (Al-O-OH) on either lithium-ion battery anode or cathode particles. The coating delivers a number of benefits including increased rate performance, improved safety and faster charging. First stage electrochemical results have proved strongly encouraging, particularly for the boehmite coating path, which as a lower temperature process, represents a significantly lower cost coating.

The test work is specifically designed to facilitate increased end-user acceptance of Alpha's 5N purity aluminium nitrate precursor as the key ingredient in the coating process.



Successful development of 5N purity anhydrous Al-sulphate precursor

Following interaction with a significant lithium-ion cathode manufacturer, Alpha's product development team have successfully developed an anhydrous form of its aluminium sulphate precursor at 5N purity.

Alpha is now marketing both anhydrous and hydrated aluminium sulphate precursors, per below:

- Hydrus Al-sulphate >> $\text{Al}_2(\text{SO}_4)_3 \cdot 16\text{H}_2\text{O}$
- Anhydrous Al-sulphate >> $\text{Al}_2(\text{SO}_4)_3$

STAGE 1 – PPF

The Company continues to make good progress on the construction of the Stage 1 PPF component of the HPA First Project as detailed below:



The Stage 1 PPF remains on track for commissioning in the September quarter.

Mains electricity connected – supplied with renewables via CleanCo

The Stage 1 PPF is now connected to mains electricity supplied via CleanCo QLD generated from 100% renewable sources.

Administration and laboratory buildings installed

The administration and laboratory buildings are now installed with electrical connections and plumbing in place. The buildings are currently being fit out with Alpha targeting mid mid-September for occupation.



Alpha HPA signage outside the newly installed administration and laboratory buildings

Firewater, LNG and key reagent tanks installed

LNG and key reagent tanks are now installed at the PPF building. Fire water tanks are installed and filled. The fire water tank will service both Stage 1 and Stage 2 of the HPA First Project.

Fencing and security gate installation commenced

Fencing and security gate installation is now underway with expected completion by mid-September

Operations readiness

Senior operations leadership and technical staff have now relocated to Gladstone to focus on operations readiness.

All technical and operations positions have now been hired with the final cohort starting September 5th. With the remaining Stage 1 operation staff commencing, Alpha will have a 44% female workforce.

Operations readiness programs include:

- technical training and assessment documentation under development (University of Alpha) structured to support progressive learning;
- commissioning and operating procedures under development with support from technology providers;
- pipe and valve labelling to support plant familiarisation; and
- laboratory equipment all on site and scheduled for installation and commissioning and method development.

STAGE 2 – FULL SCALE PROJECT

In parallel with the PPF, the Company maintains a number of workstreams directed at completing the remaining conditions precedent to the full-scale HPA First Project FID.

Federal Govt \$45M MMI-C grant advanced

Alpha has been notified that \$45 million grant approved under the Modern Manufacturing Initiative, collaborations stream (MMI-C) is now proceeding to negotiation of a grant agreement.

The Company looks forward to working collaboratively with the Department of Industry, Science and Resources to complete the MMI-C grant agreement process.

Alpha's Managing Director Rimas Kairaitis commented "*Alpha is extremely pleased at the continued momentum in the business as we move closer to commissioning of the Stage 1 facility and the completion of key customer contracts.*"

About the HPA First Project

The Company's HPA First Project represents the commercialisation of the production of high purity alumina (HPA) and related high purity precursor products using the Company's proprietary licenced solvent extraction and HPA refining technology. The disruptive, low-carbon process technology provides for the extraction and purification of aluminium from an industrial feedstock to produce 4N (>99.99% purity) alumina and 5N (>99.999% purity) for sale into the lithium-ion battery and LED lighting industry.

Alpha completed a Definitive Feasibility Study in March 2020 following a successful pilot plant campaign in 2019. Alpha has since upscaled its Brisbane facility to demonstration scale and has now recorded over 8,000 operating hours and delivered an expanded range of over 100 high purity product orders to end-users globally.

Alpha is fully funded to the commercial production at its Stage 1, Precursor Production Facility which is scheduled to commence commissioning in September 2022 ahead of commercial production of the Company's high purity Aluminium Precursors in the December quarter 2022.

The Company is now in the mature phases of market outreach and project financing with respect to the full scale HPA First Project, with the expectation of positioning the HPA First Project to Final investment Decision.

For further information, please contact:

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