

Alpha **HPA**

ABN 79 106 879 690

The Manager Companies - ASX Limited  
20 Bridge Street  
Sydney NSW 2000

ASX: **A4N**  
ASX Announcement  
27 October 2020

(5 pages)

## COMPANY AND HPA FIRST PROJECT UPDATE

- **First HPA Pellet order shipped to South Korean sapphire glass manufacturer**
- **Market outreach work expanded into LED phosphors with first 3 test samples shipped to German manufacturer**
- **Product wholesaler discussions commenced in USA and Taiwan with 4 test samples shipped**
- **Global market outreach extended in co-operation with Traxys**
- **HPA First Project approval applications for the Gladstone State Development Area to be lodged this week with QLD Government**
- **Project financing discussions advanced**
- **Further German research confirming beneficial addition of HPA in Li-ion cathode**

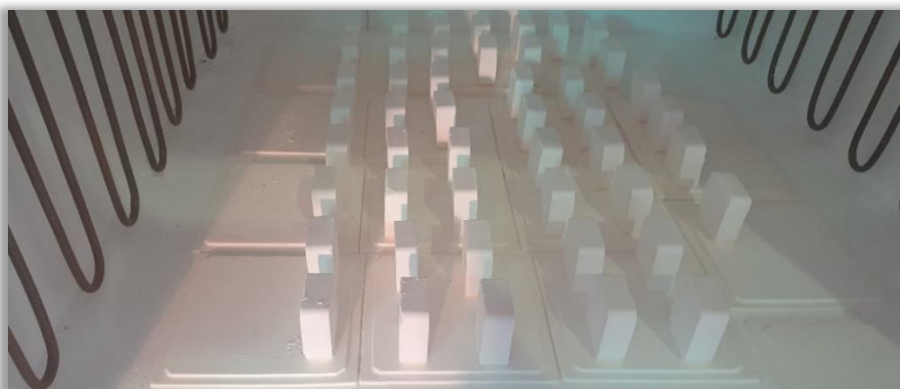
The Board of Alpha HPA Limited ('Alpha HPA' or 'the Company') is pleased to provide an update on activities for its HPA First Project, representing the evaluation and intended commercialisation of the production of ~10,000tpa equivalent of high purity alumina (HPA) and related products using the Company's proprietary licenced solvent extraction (SX) and HPA refining technology.

### MARKET OUTREACH

Alpha HPA, in co-operation with Traxys, has been very active in the continued market engagement in respect of its high-purity aluminium products. As per ASX announcements dated 28 September 2020 and 8 October 2020, the Company's product range has now been expanded from HPA and boehmite to also include two high-purity aluminium pre-cursors with applications across both the lithium-ion battery (Li-B) and light-emitting diode (LED) markets.

### First HPA Pellet order shipped to South Korean sapphire glass manufacturer

Alpha HPA has now shipped the first of two significant test orders for HPA pellets to a sapphire glass manufacturer in South Korea. The 2.5kg test order is the first order filled by the Company's upscaled Brisbane plant which now includes the recently commissioned pellet press and sintering oven. The demonstration facility in Brisbane is now preparing a larger HPA pellet test order for a USA based sapphire glass manufacturer.

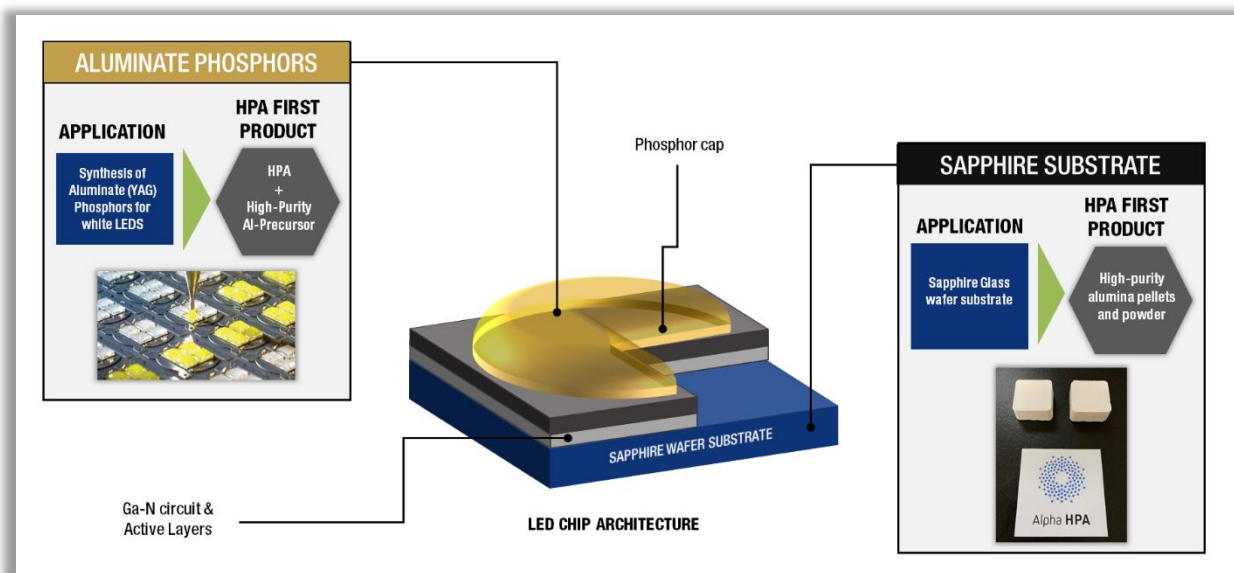


*HPA pellets from the sintering oven (pellet dimensions 45 x 45 x 19mm)*

## First test samples sent to LED phosphor manufacturer in Germany

Following the successful development of 5N purity aluminium pre-cursor product (ASX 28 September 2020), Alpha HPA has now commenced a structured market outreach into the LED phosphor market. This pre-cursor product is variously used in the manufacture of aluminate phosphors (e.g.: YAG phosphor) which are extensively utilised in the manufacture of white LEDs.

This outreach work is seen as a complementary adjunct to the outreach work for HPA pellets in the manufacture of sapphire glass for LED lighting applications. These product applications are represented in the graphic below:



*Alpha HPA product applications inside LED lighting*

Although in the early stages of the LED phosphor outreach, Alpha HPA has already shipped three separate products, including the 5N pre-cursor, in response to a test order from a leading German based LED phosphor developer and manufacturer.

The Company is encouraged by the response from manufacturers to its products and remains confident of further test orders with a view to developing commercial offtake terms.

## Product wholesaler discussions commenced in the USA and Taiwan

In response to its expanded product range, Alpha HPA, in co-ordination with Traxys, has commenced discussions with high-purity product wholesalers in both the USA and Taiwan. These discussions are at an early stage, with potential pricing levels and volumes under discussion. An initial 4 samples of high-purity 5N pre-cursor product sample have been despatched to the US based wholesaler for customer evaluation.

## Global outreach extended in co-operation with Traxys

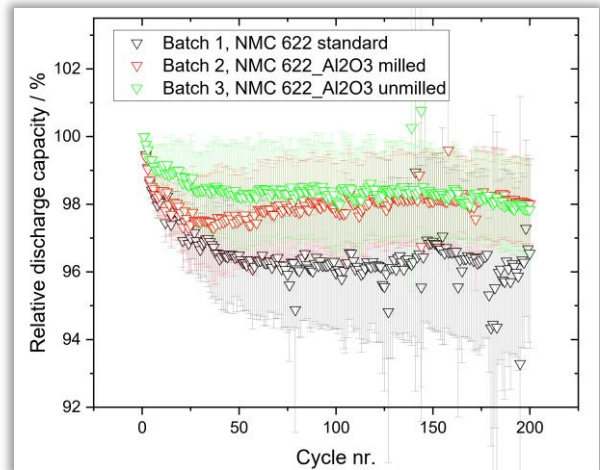
Traxys North America have now expanded its market outreach work across the full Alpha HPA high-purity product range, including into European, North American and South East Asian markets.

## Further research confirming beneficial addition of HPA in Li-ion cathode

Alpha HPA has completed a further research project conducted by the electrolyte specialist E-Lyte Innovations GmbH and the cell specialist Custom Cells Itzehoe GmbH in Germany. The research constructed a series of lithium-ion test cells using NMC622 cathodes impregnated with HPA manufactured by Alpha HPA in Brisbane. The testwork generated definitive results showing material improvements in cell discharge capacity using HPA introduced to the cathode slurry.



NMC622 cathode foil impregnated with Alpha HPA



Results showing material improvements in cell discharge capacity using HPA introduced to the cathode slurry

## HPA PROJECT - COMMERCIAL

### HPA First Project Land Use Approval Application to be lodged this week

Alpha HPA with support from lead permitting consultant AECOM will this week formally lodge the State Development Area Approval (Development Permit) for a Material Change of Use with the QLD Dept of the Co-ordinator General, in respect of its 10,000tpa HPA processing plant at 53 Reid Road, Yarwun, formally described as Lot 12 on SP239343. The Lodgement of this key approval application marks a significant milestone for the HPA First Project. The application is supported by a number of technical assessments, including:

- Air quality and noise impact studies
- Traffic impact studies
- Water Management Plan supported by detailed water modelling
- On-site ecology studies
- Quantitative Risk Assessment (QRA)

An approval decision for the Development Permit is expected in March quarter CY21.

A site specific Environmental Authority Application will be lodged with the Department of Environment and Science upon obtaining a Development Permit approval.



HPA First Project Site – Gladstone State Development Area

## Project financing discussions advanced

Alpha HPA is working actively with support from its advisors (KPMG DAT) on the HPA First Project Financing. The Company continues to progress discussions with Australian Commonwealth Government lenders and respond to their requests for information.

In addition, the Company has received confirmations of preliminary interest from a number of both domestic and international commercial lenders.

## Orica exclusivity period extended to 31 December 2020

In March 2020, Alpha signed a Memorandum of Understanding ('MoU') with Orica Australia Pty Ltd ('Orica') which sets out the volumes and pricing mechanisms for the supply of key process reagents and the offtake of by-product from the HPA First Project subject to the negotiation and finalisation of a more definitive Supply and Offtake Agreement ('Agreement').

The MoU also sets out the scope and commitment for the formation of an Engineering Co-operation Group ('ECG') with representatives from each party to review and advise on the engineering requirements of supply, offtake and project interface. Through the ECG Alpha HPA and Orica Australia continue to co-operate on numerous workflows relating to Project interface including by-product test work and quality assurance as well as engineering studies on by-product concentration and piping locations.

In response, Alpha HPA and Orica have commenced drafting of definitive agreements to replace the MoU. Both Orica and Alpha are pleased with the progress to date, however further time is required to complete this process. Accordingly, Alpha HPA and Orica have mutually agreed to extend the exclusivity arrangement within the MoU through to 31 December 2020.

## EOI issues to selected EPCM Contractors

In preparation for CY21 Final Investment Decision, Alpha HPA has sought Expressions of Interest (EOI) from a selected list of Engineering, Procurement and Construction Management (EPCM) contractors with a view to concluding tenders and allotment of contracts in the March quarter 2021.

Managing Director, Rimas Kairaitis, commented; *"Alpha HPA continues to make strong progress towards the commercialisation of the HPA First Project. The extended market outreach program, showcasing the Company's extended high-purity aluminium products line is particularly exciting, with further developments expected this quarter."*

For further information, please contact:

Rimas Kairaitis  
Managing Director  
[rkairaitis@alphaHPA.com.au](mailto:rkairaitis@alphaHPA.com.au)  
+61 (0) 408 414 474

Cameron Peacock  
Investor Relations & Business Development  
[cpeacock@alphaHPA.com.au](mailto:cpeacock@alphaHPA.com.au)  
+61 (0) 439 908 732

pjn10539

### About the HPA First Project

The Company's HPA First Project represents the evaluation and intended commercialisation of the production of ~10,000tpa equivalent of high purity alumina (HPA) and related products using the Company's proprietary licenced solvent extraction and HPA refining technology. The technology provides for the extraction and purification of aluminium from an industrial feedstock to produce 4N (>99.99% purity) alumina for the intended use within the lithium ion battery and LED lighting industry. Following a successful testwork program and completion of a Pre-Feasibility Study (PFS), updated in March 2019, Alpha HPA has now completed Definitive Feasibility Study (DFS) based on the successful completion of its Pilot Plant program at its dedicated laboratory facility in Brisbane.

The Company has commenced full permitting, market outreach and project financing processes, with the expectation of positioning the HPA First Project to Final investment Decision.

## **Competent Persons Statement (Process Development Testwork)**

Information in this announcement that relates to metallurgical results is based on information compiled by or under the supervision of Dr Stuart Leary, an Independent Consultant trading as Delta Consulting Group. Dr Leary is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Leary has sufficient experience to the activity which he is undertaking to qualify as a Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Leary consents to the inclusion of the technical data in the form and context in which it appears.

For further information on testwork results and processes see ASX announcements dated 8 October 2020, 28 September 2020, 28 July 2020, 19 June 2020, 21 May 2020, 23 April 2020, 25 March 2020, 17 March 2020, 10 December 2019, 21 November 2019, 10 October 2019, 23 September 2019, 28 August 2019, 5 August 2019, 25 July 2019, 2 July 2019, 3 June 2019, 17 April 2019, 7 March 2019, 4 December 2018, 20 November 2018, 6 September 2018, 31 August 2018, 9 July 2018, 30 April 2018, 26 April 2018, 21 March 2018, 6 March 2018, 21 February 2018, 8 December 2017, 30 November 2017, 29 November 2017, 24 November 2017 and 13 November 2017.