



Alpha HPA

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ASX: **A4N**  
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(3 pages)

## HPA FIRST PROJECT PRODUCT MARKETING UPDATE SUPPLYING DE-CARBONISATION

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 commercial production of the Company's high purity Aluminium Precursors from August 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

Alpha maintains an active product marketing program with a number of engagements now maturing to the commercial stage. In addition, Alpha continues to outreach to new markets and jurisdictions, as well as continuing to receive inbound product test and sales orders.

Alpha has now submitted 12 bids with volume, price and freight terms across its range of high purity aluminium products (*refer Table 1, following page*).

Negotiations with end-users on these bids vary from early stage to mature with the Company confident on closing offtake supply agreements in early 2022.

In addition, a further 19 end-user and research organisations are actively testing and/or qualifying Alpha's high purity products (*refer Table 2, following page*).

A detailed summary of Alpha's product marketing is summarised on the following page.

Observations and feedback from Alpha's product marketing program are summarised below:

- A number of end-users have acknowledged Alpha's products including Al-nitrate, Al-sulphate, Boehmites and HPA pellets for sapphire glass manufacture are "best-in-class" with respect to purity and application performance.
- Wider adoption of Al-nitrate precursors, particularly for micro-LED phosphors and lithium-ion battery particle coating, has been in part restricted by the availability of reliable, large volume, high purity manufacture, with Alpha's offering now addressing these issues.

Alpha's Managing Director Rimas Kairaitis commented: "*Alpha's marketing outreach is wide-ranging and continues to expand. The new and expanding marketing opportunities presented by the development of our range of 5N Al-precursors are particularly encouraging and we are excited to conclude these discussions with end-users in the very near future and rapidly complete the remaining conditions on the full scale project FID.*"

## PRODUCT MARKETING SUMMARY

**TABLE 1: SUBMITTED OFFTAKE AND/OR SUPPLY BIDS – LIVE**

Counter	End-User Description	End-User Domicile	Product	Demand Size	End Use	Status
1	Global Chemicals Manufacturer & Wholesaler	Germany	Al-precursors	very large	Lithium-ion battery electrode coatings	Pending
2	Global Chemicals Manufacturer	Germany	Al-precursors	small	Specialty catalysts	Bids submitted, pending confirmation
3	Lithium-Ion Battery Cathode	EU	Al-Sulfate	medium-large	Lithium-ion battery cathode	Bid Submitted
4	Global Materials company	USA	HPA powder	small	CMP slurries	Testing complete. Bids submitted, pending confirmation
5	Chemical Company	Japan	Al-precursors	medium	Specialty catalysts	Bids submitted, pending confirmation
6	Global Lighting Company	Netherlands	HPA powder	small - medium	mini-LED Phosphors	Testing complete. Bids submitted, pending new product launch
7	Global Lighting Company	Germany	HPA powder	small - medium	LED Phosphors	Testing ongoing. Bids submitted, pending confirmation
8	Li-ion battery separator OEM	Japan	HPA powder	large	Lithium-ion battery separator coatings	Testing complete. Bids submitted, pending confirmation
9	Undisclosed	Australia	HPA powder	small - medium	Undisclosed	Bids submitted, pending pilot trial
10	Sapphire Glass Manufacturer	USA	HPA pellets	medium	Sapphire Glass	Testing complete. Awaiting volume confirmation
11	LED Phosphor Company	Germany	HPA powder	small - medium	LED Phosphors	Maiden sales complete, seeking final volume confirmation
12	Electronics/Materials	Japan	Spherical HPA	medium	Integrated Circuit Resins	Bid subject to Pilot Testing Underway

**TABLE 2: END-USER PRODUCT TEST WORK - LIVE**

Counter	End-User Description	End-User Domicile	Product	Demand Size	End Use	Status
1	High Technology LED Lighting	Japan	Al-Nitrate	medium	micro-LED phosphors	Test results due Dec 2021
2	LED Phosphor Company	Japan	HPA powder	small - medium	Al-nitride manufacture for LED's	First pass testing successful. Further samples requested
3	Global LED Company	Japan	HPA powder	medium	LED phosphors	End user testing underway
4	Global materials company	EU/USA	Multiple Products	very large	Speciality aluminas	Test Products under manufacture
5	Specialty Electrics & Ceramics	Taiwan	HPA powder	small - medium	LED Phosphors	Test order in production in Brisbane
6	Battery Materials Manufacturer	Japan	Boehmite	large	Li-B separator coatings	End user testing underway
7	Research Organisation	Germany	Multiple Products	Unknown	Specialty Ceramics	End user testing underway
8	Research Organisation	Germany	Al-Nitrate	Unknown	micro-LED phosphors	End user testing underway
9	Photonics Manufacturer	USA	Al-Nitrate	small - medium	YAG Laser Crystals	Maiden sales complete, seeking larger volume orders
10	Photonics Manufacturer	USA	Al-Nitrate	small - medium	YAG Laser Crystals	End user testing underway
11	Research Organisation	Australia	Al-Nitrate	Unknown	Li-B particle coatings	End user testing underway
12	Research Organisation	Australia	Al-Nitrate	Unknown	Li-B particle coatings	End user testing underway
13	Global materials company	Japan	HPA Pellets	medium	Specialty Ceramics/Sapphire Glass	Test order under manufacture in Brisbane
14	Global materials company	Japan	Multiple Products	medium-large	CMP Slurries	End user testing underway
15	Battery Separator Manufacturer	USA	HPA & Boehmite Powder	large	Li-B separator coatings	End user testing underway
16	Govt Organisation	Japan	Gamma alumina	small	Medical	End user testing underway
17	Electronics coatings	USA	Al-Nitrate	small	Coatings	Ongoing small volume (high value) sales
18	Specialist Battery OEM	USA	HPA powder	small	Lithium-ion battery separator coatings	Awaiting volume confirmation
19	Li-B anode manufacturer	EU	Al-Nitrate	large	anode particle coatings	Testing underway

Note: Al-precursors = Al-Nitrate and/or Al-Sulphate

### Key

Demand Size	Quantum
small	up to 50tpa
medium	up to 100tpa
large	up to 1,000tpa
very large	greater than 1,000tpa

### About the HPA First Project

The Company's HPA First Project represents the commercialisation of the production of ~10,000tpa equivalent 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 4,000 operating hours and delivered an expanded range of over 80 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 commercial production for the Company's high purity Aluminium Precursors from August 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.

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