ASX: **A4N**
ASX Announcement
27 July 2022
(8 pages)

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

ACTIVITIES REPORT FOR THE QUARTER ENDED 30 JUNE 2022

HIGHLIGHTS

FEDERAL GOVERNMENT GRANT SUPPORT FOR HPA FIRST PROJECT

- **$45M – Modern Manufacturing Initiative ('MMI-C') for capital expenditure towards the Stage full-scale commercial facility of the HPA First Project**
- **$15.5M – The Critical Minerals Accelerator Initiative ('CMAI') for the immediate expansion of the product range and production capacity in the Stage 1 PPF**

PRODUCT MARKETING

- **EU, USA and Japan marketing trips accelerate engagement with potential end users and confirm demand for:**
  - **Aluminium nitrate precursors for coating of Li-ion anode and cathode powders;**
  - **Alpha's various HPA powders for Li-ion electrode coatings; and**
  - **Alpha's recently developed nano-alumina product for a range of applications including LED phosphors and Li-ion battery applications.**
- **End user test results of Alpha's products showing out-performance in:**
  - **Sapphire glass growth**
  - **Synthesis of LED nano-phosphors for micro-LEDs**
  - **High transparency coatings of lighting tubes**
  - **Li-B separator coatings**
- **Alpha's market outreach advantages re-affirmed, being:**
  - **Best in-class purity**
  - **Low-CO_2 footprint**
  - **Near term production**
  - **Tier 1 jurisdiction**

STAGE 1 – PPF

- **Facility building at lock-up stage**
- **All major mechanical process equipment on site and installed**
- **Landscaping and civil works near completion**
- **Operational readiness activities ramping up**

STAGE 2 – FULL SCALE PROJECT

- **A further two commercial lenders enter EOIs as potential debt financiers**
- **Lender due diligence advanced**
- **Product optimisation studies advanced**

HPA FIRST PROJECT
SUPPLYING DE-CARBONISATION

The Board of Alpha HPA Limited ('Alpha' or 'the Company') is pleased to provide the June 2022 quarterly activities report for its HPA First Project, representing the commercialisation and production of critical high purity aluminium products driving de-carbonisation.

Alpha remains strongly focused on the delivery of the HPA First Project in Gladstone, Queensland, which represents the commercialisation of the Company's proprietary aluminium purification and refining technology. The HPA First Project will deliver a range of ultra-high purity aluminium products that are critical materials to the supply chains of key de-carbonising technologies including:

- LED lighting, and
- Lithium-ion batteries.

Activities in the June 2022 quarter were dominated by:

- Ongoing product marketing and product development activities of the Company's suite of ultra high-purity precursor and alumina products including marketing trips to the USA, Europe and Japan to further technical and commercial discussions with a potential end user offtake partners. Marketing efforts have been substantially boosted by the availability of overseas travel and the return of the Brisbane demonstration facility to full operational function to supply product samples.
- Construction, engineering and procurement activities related to the delivery of the Stage 1 Precursor Production Facility ('PPF'). The PPF will be the Company's first commercial production facility representing the acceleration of commercial production and cashflows through the Company's ultra-high purity aluminium precursors.
- Continuing to advance a number of the conditions precedent to the Final Investment Decision on the full scale HPA First Project.

Further details on these developments are outlined below.

STAGE 1 - PPF

The June quarter saw the Company continue to make substantial progress on the Stage 1, PPF component of the HPA First Project. The PPF is fully funded to production and represents the acceleration of commercial production and cashflows through the Company's ultra-high purity aluminium precursors.

Following the Company's approval for a grant under the Federal government Critical Minerals Accelerator Initiative (CMAI), the Stage 1 PPF will be expanded to increase production capacity establish >10tpa capacity of high purity alumina products.

During the quarter the following workstreams were advanced.

Facility building at lock-up stage
Cladding and roofing of the PPF building is complete with roller door access installed.

All major mechanical process equipment on site and installed
Filter presses, raw material feed equipment, aluminium nitrate product bagging station and all production modules are installed. The control room is on site and currently being installed.

Piping connections underway and solution pumps in place
All process modules pipework progressing well. SX piping is 80% complete and pumps are in place. Reagent pumping and pipework installation is on track.

First phase electrical install nearing completion

Interior and exterior lighting is installed and operating. Wiring of the main switch board to the motor controls centres (MCCs) is underway and the CCTV contract has been awarded.

Landscaping and civil works near completion

All bitumen and concrete roads are in place, stormwater swales are operational and working as intended. Basic landscaping works are now complete.

Administrative and laboratory building fabrication near completion

The main administration and laboratory building is in the final stages of completion at the offsite workshop and is expected to be installed in August.

Operational Readiness activities ramping up

The PPF operations leadership team, initially based in Brisbane for training, commenced relocation at the end of July. Hiring for operations staff in Gladstone received a strong response from local applicants with an assessment centre conducted this week to finalise successful applicants. Operating procedures and training documentation is well underway.

Potable water connection in place

The site has now been connected to potable water under the supply contract with the Gladstone Area Water Board (GAWB).

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

Stage 1 PPF building at lockup stage

Completed mechanical installation of solvent extraction (SX) circuits

PPF Building Interior - Lighting installed and energised with process equipment deliveries continuing

Installation of PPF reagent tanks

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:

A further 2 commercial lenders enter EOIs as potential debt financiers

During the quarter a further two commercial lenders executed NDAs following an expression of interest to provide debt finance.

Lender due diligence advanced

Alpha continues to advance the lender due diligence process. Following the completion of technical ITE (Independent Technical Engineer) reports and the third party, independent Environment & Social (E&S) reports, Alpha has now provided lenders with third party CO_2 modelling data and updated Project marketing status.

Product Optimisation

Alpha has substantially progressed a study on the full scale facility to accommodate marketing feedback and indicative product demand. The optimised Project will include higher volumes of aluminium precursors and capacity to deliver specific products to the sapphire glass, Li-ion battery, LED and catalyst sectors. The re-configured HPA First Project product scenarios will form the final basis for Project financing.

FEDERAL GOVERNMENT GRANT FUNDING SUPPORT

Modern Manufacturing Initiative

During the quarter, the Commonwealth Department of Industry, Science, Energy and Resources ('Department of Industry') approved the Company's application for grant funding under the Modern Manufacturing Initiative - Collaboration Stream ('MMI-C').

The MMI-C grant will see $45 million of grant funding applied toward the capital expenditure of the full scale HPA First Project. Alpha was the lead applicant, with the grant application supported by Orica Ltd ('Orica') as joint applicant. The business collaboration between Alpha and Orica forms a key part of the HPA First Project, which leverages off the existing Orica manufacturing facility in Gladstone, QLD. 10% of the grant proceeds will flow to Orica to offset their capital expenditure required to support the HPA First Project.

The Company will execute a grant agreement with the Department of Industry in due course.

Critical Minerals Accelerator Initiative

During the quarter the Company was notified it had been approved for further grant funding of up to $15.5 million under the Critical Minerals Accelerator Initiative ('CMAI') program.

The $15.5 million CMAI grant, which is distinct from the $45 million MMI-C grant, will be applied toward immediately expanding and accelerating the production capability of the Stage 1 PPF.

Specifically, this CMAI grant funding will be directed towards:

- Further expanding PPF production capacity of high purity aluminium precursors.
- Facilitating up to 10tpa of additional capacity of High Purity Alumina (HPA) production.
- Facilitating up to 10tpa of additional capacity of High Purity Boehmite production.
- Facilitating the addition of tableting capacity to produce HPA tablets for sapphire glass growth.
- Installation of a large rooftop solar array and battery storage capacity.

The Company will seek to promptly finalise a grant agreement with the Department of Industry.

PRODUCT MARKETING

During the quarter, the Company undertook a series of marketing trips to both existing and prospective customers in the EU and USA. In early July, the Company also completed a marketing trip to Japan.

These trips provided for direct interface with purchasing and R&D teams and the collection of product testwork. In nearly all cases the visits have accelerated the level of end-user engagement, with the summary outcomes described below.

The Company continues to receive high levels of inbound product orders in particular for:

- aluminium nitrate precursors for coating of lithium-ion anode and cathode powders;
- Alpha's various HPA powders for Li-ion electrode coatings; and
- increasingly, test orders for Alpha's recently developed nano-alumina product for a range of applications including LED phosphors and Li-ion battery applications.

The Company also continues to be active in collecting testwork feedback and submitting supply quotations.

Product orders continue to expand

Product marketing continues to generate strong interest and multiple orders for product qualification testing. During the quarter 30 test and/or sales orders were received.

With the Brisbane demonstration facility retuning to full operability following flooding impacts in the previous quarter, the Company was able to manufacture and deliver over 22 product test samples and some sales orders to existing and prospective customers

Orders and ongoing testwork which remain under manufacture within the Company's Brisbane facility include:

- Li-ion cathode and anode particle coating tests using the aluminium nitrate precursors for multiple manufacturers;
- multiple high purity gamma alumina test orders for both li-ion battery and catalyst sector end-users;
- high volume (+300kg) orders of sintered HPA pellets for sapphire glass growth; and
- high purity gamma aluminas and high purity boehmite samples for the catalysts sector.

High volume enquiries from catalyst sector

Linked to the product test orders described above, Alpha has fielded inbound enquiry of for its high purity gamma aluminas and high surface area boehmites for applications as chemical catalysts. Indicative demand of these materials from two key EU counterparties is in excess of 4,000tpa.

Further high value Al-nitrate sales (@US$350/kg)

Alpha has completed follow on sales of a further 9kg of Al-nitrate @ US$350/kg to a research chemicals catalogue business.

High purity nano-alumina process confirmed

Following extended product development work, Alpha has confirmed a process for the manufacture of ultra-fine high-purity 'nano'-alumina, with a p50 particle sizing of 300-500 nanometres. The process was developed following multiple end-user requests, predominantly for the use in manufacturing CMP polishing (semiconductors), micro-LED phosphors and lithium-ion battery electrode (cathode and anode) particle coatings.

Alpha has already shipped seven samples of high-purity nano-alumina, with a further 7 product test orders under manufacture in Brisbane.

Alpha's products delivering outperformance in testwork

During the quarter Alpha collected further positive feedback from various end-user product testwork, including:

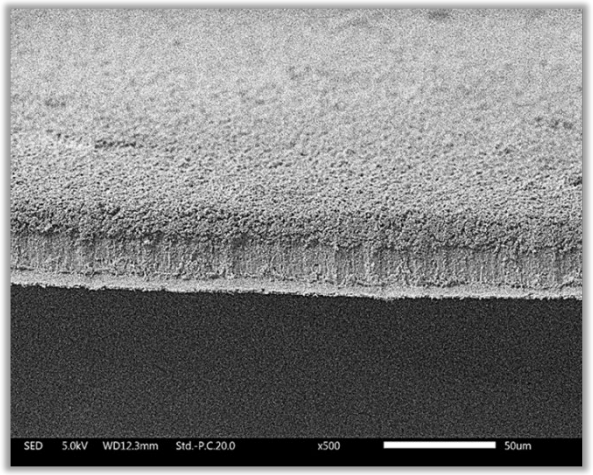
- *Successful synthesis of nano-phosphors for micro-LED's using Alpha's high purity Al-nitrates*. The development of cheap, nano scale LED phosphors is a technology pre-requisite for the wide market adoption of micro-LEDs. Testing by a leading EU based lighting technology group has shown nano-phosphors synthesised using Alpha's Al-nitrate materials are outperforming phosphors made with comparison materials.

- *High transparency coatings on tube lights using Alpha's high purity aluminas.* Testwork by a leading EU based lighting OEM has shown Alpha's materials delivering superior performance in comparison to incumbent raw materials.

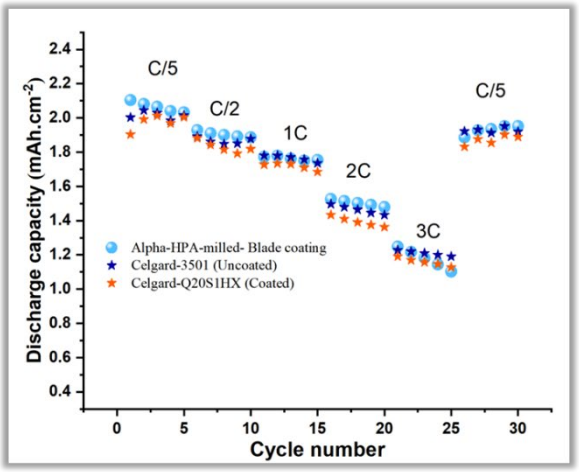
In each case, completion of next stage testwork has good potential for high value future demand.

As reported in previous updates, sapphire glass end-users have confirmed the quality of glass grown from Alpha's HPA feedstock meets their highest quality standards. Beyond the standing product orders, Alpha remains in discussions with sapphire glass growers to accelerate its ability to supply sintered HPA pellets to this market following significant supply disruption in Russia.

Alpha is also strongly encouraged by early stage testwork from the Australian based Future Battery Industries Cooperative Research Centre ('FBICRC'), showing electrochemical performance of lithium-ion battery separators coated with Alpha's HPA's are matching or slightly outperforming recognised industry standards (*see image below*)



Alpha's HPA coated separator (courtesy FBICRC)



Alpha's HPA coated separator – improved cycling performance (courtesy FBICRC) against industry benchmark (Celgard)

Marketing Thematics

Recent marketing activities have firmly re-affirmed Alpha's key marketing advantages:

- *Best in-class purity:* Three of Alpha's products (Boehmite, Al-nitrate and Al-sulfate) are considered best in class purity with our HPA equivalent to highest purity materials available. In nearly all cases where testwork has been completed, Alpha's higher purity materials are delivering superior performance in testwork results.

- *Low-CO_2 footprint:* Alpha's CO_2 modelling has shown a +60% reduction on CO_2 emissions per unit of HPA when measured against the incumbent HPA production process (the alkoxide process). Most end-user counterparties with which Alpha is interfacing have stated commitments to lower-carbon or zero-carbon supply chains by 2030.

- *Near term production:* Having the Stage 1 PPF in construction phase and the availability of Al-precursors in calendar 2022 followed by commercial volumes in 2023 is proving a key catalyst for end-users to accelerate product testing and commercial engagement with Alpha.

- *Tier 1 jurisdiction:* The increasing trends of geographic supply chain diversification continues to assist Alpha in presenting its product offering

- *Australian Government Support:* Recent public announcements of the $45M MMI-C federal Government and $15.5M CMAI grants.

CORPORATE

Issue of Options

During the quarter the Company issued 12 million unquoted options across key operations employees, each to convert to one fully paid ordinary share of the Company under the Company's Option Incentive Plan. Key terms of the options are:

Number	Exercise Price	Vesting Date	Expiry Date
12,000,000	$0.90	1/3 at grant date, 1/3 on 30 April 2023 and 1/3 on 30 April 2024	30 April 2025

Related Party Expenditures

During the June quarter, the aggregate amount of payment to related parties and their associates totalled $263,667 comprising $196,667 of payments to Directors or Director related entities for Directors' consulting fees and $67,000 in fees were paid to MIS Corporate Pty Limited ('MIS'), an entity in which Directors Norman Seckold and Peter Nightingale have a controlling interest. MIS provides full administrative services, including administrative, Project commercial services, accounting and investor relations staff, rental accommodation, services and supplies to the Group.

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 September quarter 2022.

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Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity	
Alpha HPA Limited	
ABN	**Quarter ended ("current quarter")**
79 106 879 690	30 June 2022

Consolidated statement of cash flows		**Current quarter $A'000**	**Year to date (12 months) $A'000**
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	4	19
1.2	Payments for		
	(a) research and development	(2,017)	(9,273)
	(b) product manufacturing and operating costs	-	-
	(c) advertising and marketing	-	-
	(d) leased assets	-	-
	(e) staff costs	(592)	(1,563)
	(f) administration and corporate costs	(276)	(1,829)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	10	38
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	**Net cash from / (used in) operating activities**	**(2,871)**	**(12,608)**

2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	(6,617)	(19,747)
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	(2,649)

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
2.2	Proceeds from disposal of:		
	(a) entities	-	-
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	50	50
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	**Net cash from / (used in) investing activities**	**(6,567)**	**(22,346)**

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	1,500
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	(11)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	**-**	**1,489**

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	26,289	50,344
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,871)	(12,608)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(6,567)	(22,346)

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	1,489
4.5	Effect of movement in exchange rates on cash held	(26)	(54)
4.6	**Cash and cash equivalents at end of period**	**16,825**	**16,825**

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter $A'000	Previous quarter $A'000
5.1	Bank balances	16,825	26,289
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	**Cash and cash equivalents at end of quarter (should equal item 4.6 above)**	**16,825**	**26,289**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	264
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

Director fees, salaries and superannuation payments.

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	**-**	**-**

7.5	**Unused financing facilities available at quarter end**	-

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

	N/A

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	(2,871)
8.2	Cash and cash equivalents at quarter end (item 4.6)	16,825
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	16,825
8.5	**Estimated quarters of funding available (item 8.4 divided by item 8.1)**	5.86

Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.

8.6 If Item 8.5 is less than 2 quarters, please provide answers to the following questions:

8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: Not applicable.

8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: Not applicable.

8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Not applicable.

Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.

Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 27 July 2022.

Authorised by: By the Board.
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.

3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.