

ORICA TAKES SUBSTANTIAL STAKE, NORTH AMERICAN MOU, PPF SITE TOUR

A4N.ASX | ALPHA HPA LIMITED | MATERIALS

PRICE
AUD 0.62

TARGET PRICE
AUD 1.10
(FROM AUD 1.05)

RECOMMENDATION
SPECULATIVE BUY
(FROM SPECULATIVE BUY)

ANALYST
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Event

HPA First Project chemical counterparty Orica Ltd (ASX: ORI) has acquired a 5.25% equity stake in A4N following the placement of 45m shares at \$0.44/sh for gross proceeds of ~A\$19.8m. A4N and Orica have adjacently signed a non-binding MoU with respect to establishing an additional manufacturing facility in North America. We recently attended a tour of A4N's Gladstone-based Stage 1 Precursor Production Facility (PPF) and received a detailed update on the commissioning process and product marketing efforts.

Impact

Big tick of validation from Orica. The direct equity investment in A4N is Orica's first and follows more than 3 years of technical and commercial due diligence undertaken by Orica on A4N's proprietary process. The transaction is not typical of Orica. Funds raised will be allocated to final engineering and product marketing for the full-scale plant, feasibility work on the proposed North American facility and general working capital requirements. The placement sees an updated working capital position of ~A\$27m as at Nov'22, with the balance of remaining Stage 1 PPF capex spend fully covered by A\$15.5m in undrawn grant funds.

Alberta-based facility to be assessed under North American MoU. A4N and Orica will mutually investigate the feasibility of establishing an additional facility located in Alberta across CY23. Similarly to A4N's Gladstone operations, the proposed plant will leverage the supply of reagents from and offtake of process by-products by Orica's existing operations, being a ~500ktpa ammonium nitrate manufacturing plant located in Carseland, Alberta. The MoU represents a further significant vote of confidence by Orica in the commercialisation prospects of the HPA First Process.

Stage 1 PPF commissioning advanced. The construction of the Stage 1 PPF (~400tpa capacity) has progressed significantly since our last site visit in Jun'22. Chemical commissioning of the plant was underway during our visit, with initial production of 5N+ Al-nitrate due imminently. A ~5-week commissioning period has been loosely guided, with production targeted to reach ~50% of nameplate capacity in late DecQ'22. We continue to view the available capacity to meet immediate end user demand for product qualification purposes as the key value driver of the PPF.

Action

Speculative Buy rating maintained, Price Target increased to \$1.10/sh (prev. \$1.05/sh).

Catalysts

The execution of initial large-volume offtake agreements remains the most material catalyst for a rerating, in our view. In the near term, we anticipate the release of a bankable feasibility study incorporating final commercial allocations across A4N's expanded product suite, to be followed by a final investment decision for the full-scale facility and project financing.

Market Statistics

Share Price	0.62	A\$/sh
Price Target	1.10	A\$/sh
Valuation	1.10	A\$/sh
Shares on Issue	857	m
Market Capitalisation	531	A\$m
Enterprise Value	504	A\$m
Cash	27	A\$m
Debt	Nil	A\$m

Production Forecasts

	FY23	FY24	FY25
4N+ HPA (kt)	-	3.0	10.0
5N+ Al-Precursors (kt)	0.15	0.35	0.35

Assumptions

	FY23	FY24	FY25
4N+ HPA Price (US\$/kg)	20.0	20.0	22.5
Operating Costs (US\$/kg)	0.0	6.2	6.4
AUD/USD (x)	0.66	0.71	0.73

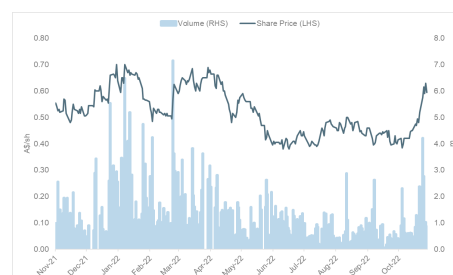
Key Financials

	FY23	FY24	FY25
Revenue (A\$m)	12	110	333
EBITDA (A\$m)	2	70	244
NPAT (A\$m)	(17)	35	140
Operating CF (A\$m)	(18)	28	125

EPS (A\$/sh)	(0.02)	0.04	0.18
EV/EBITDA (x)	na	10.9	2.4
EV/EBIT (x)	na	12.4	2.6

DPS (A\$/sh)	0.0	0.0	0.0
Dividend Yield (%)	0%	0%	0%

Performance



Background

The PPF is a standalone facility that represents Stage 1 of A4N's Gladstone-based HPA First Project. The election to construct the PPF as an initial standalone facility was made to allow for A4N to enter supply chains earlier for Al-nitrate and Al-sulphate precursor products.

The Stage 1 PPF is located within the footprint of the HPA First Project and will be incorporated with the full-scale plant subsequent to Stage 2 FID as a dedicated Al-sulphate production unit. The PPF utilises the same suppliers for feedstock (Rio Tinto) and process reagents (Orica) as the proposed full-scale plant, with the sole exception being the delivery of reagents to the Stage 1 PPF via truck load-out (as opposed to pipe connections to Orica's adjacent Yarwun facility).

Commissioning update

We attended a tour of the Stage 1 Precursor Production Facility (PPF) on the 17th of November, 2022. Chemical commissioning of the plant had commenced at the time of our site visit. Aluminium chemical feedstock from Rio Tinto had been received (Fig. 1) along with reagent chemicals from Orica (Fig. 2), with the process flowsheet operational up to (and including) the solvent extraction circuit (Fig. 3). Commissioning of the crystalliser (Fig. 4) is expected imminently, being the final phase of the flowsheet required for the production of A4N's 5N+ Al-nitrate product.

No material issues have been flagged by the company thus far in the commissioning process, with the solvent extraction circuit building tenor ahead of the commencement of crystallisation. Successful execution and scale-up of production to nameplate capacity presents as a key de-risking milestone through the lens of project financiers and will be pivotal in converting end user engagement to binding offtake agreements.

Stage 1 PPF capacity and capex

Original Stage 1 PPF production capacity of ~200tpa was upscaled to +350tpa in Feb'22 on the back of higher than originally anticipated Al-precursor demand levels, with PPF capex guidance increasing by A\$8m to A\$36m for the upscaled plant design. Consequently, we continue to assume FY23 precursor production volumes are met in full by end user demand, while pulling our FY23 5N+ Al-precursor production forecast back to 150t in recognition of a 5-week commissioning period and gradual ramp-up to nameplate capacity from ~50% of nameplate in late CY22.

The Apr'22 award of Federal Government grant funding of A\$15.5m under the Critical Minerals Development Program (CMDP) will cover additional capex for both expanded Al-sulphate production capacity (for total nominal precursor production capacity of ~400tpa) and high purity alumina and boehmite circuits within the Stage 1 PPF (nominal capacity of ~10tpa each). We estimate cumulative capex spend of A\$35m to date against total Stage 1 PPF capex requirements of A\$51m.

Figure 1: Aluminium feedstock (~17ktpa) received from Rio Tinto



Source: Euroz Hartleys

Figure 2: Orica process reagent delivery and storage area



Source: Euroz Hartleys

Figure 3: Solvent extraction circuit



Source: Euroz Hartleys

Figure 4: Installed crystalliser



Source: Euroz Hartleys

Product Marketing

Recent product marketing updates continue to outline robust end user demand across A4N's expanded product suite, with more than 18 supply bids now received and >100 test orders provided to >40 end users as of SepQ'22. Global product marketing efforts are now being assisted by the world's largest chemical distributor in Brenntag Holding GmbH following the execution of an MoU in SepQ'22 for the potential sale and/or distribution of A4N's products within Europe, Middle East and Africa. We highlight significant tailwinds arising from the following macro events subsequent to our last published note:

- **Enactment of the US Inflation Reduction Act** and underlying production tax credit incentives has resulted in a notable uplift in demand for A4N's 5N+ Al-nitrate offering from domestic US-based cathode and anode manufacturers/developers;
- **Enactment of the US CHIPS Act** and underlying semiconductor supply chain re-shoring initiatives has stimulated demand for A4N's nano-alumina and boehmite offerings for application in semiconductor polishing slurries by end users within the semiconductor industry;
- **Sapphire glass supply disruption arising from sanctions against Russian producer Monocrystal** has seen an uplift in demand for A4N's HPA pellets for sapphire glass growth. Monocrystal accounts for more than >25% of global sapphire glass production.

Although the execution of maiden product offtake agreements has taken longer than originally anticipated by A4N due to product qualification timelines, we remain encouraged by i) third party validation provided by Orica's direct equity investment in A4N and MoU for an additional North American facility, ii) indicative end user demand for large commercial supply volumes and iii) continued end user recognition of A4N's best-in-class purity under product qualification and test work.

Full-scale project capex and funding

Subsequent to the placement of 45m shares to Orica, we estimate an updated working capital position of ~A\$27m as at Nov'22, which sees A4N comfortably funded through to FID, which we currently assume will be reached in H2 CY23. We continue to assume a full-scale project capital hurdle of A\$308m (incl. contingency) in alignment with the Mar'20 DFS on the expectation that subsequent cost inflation will be offset by capex reductions arising from the partial diversion of HPA equivalent production (originally 10ktpa) to Al-precursor production capacity at scale.

We currently assume full-scale plant capex will be met by a blend of concessional government funding (total A\$200m, including A\$40.5m in grant funding already awarded under the Federal Government's Modern Manufacturing Initiative), A\$50m in traditional debt funding and A\$70m in equity. The HPA First Project has now demonstrated the ability to attract strategic equity, and given this, we highlight the potential for the equity component to be met by strategic equity investments, either at the project level or via strategic placements.

North American Facility

The establishment of additional high purity aluminium manufacturing capacity in Alberta presents an avenue for A4N to be located closer to North American end users, serving as a reminder that A4N's commercialisation efforts are not geographically constrained by the requirement to be located near an upstream resource. A4N's aluminium chemical feedstock is guided to be readily accessible by the proposed Alberta-based facility.

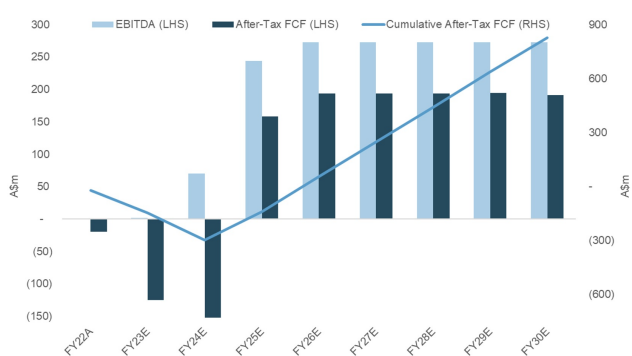
The facility is guided to replicate the Gladstone project in terms of the supply of reagents and offtake of by-products to/from Orica's existing operations. Given the infancy of the proposed expansion (guidance on expected scale and product mix are yet to be provided), we currently do not ascribe any value to potential North American manufacturing capacity, although we look to assign value on progression towards an investment decision.

Valuation update

Revisions to our NPV_{10%} valuation of the HPA First Project (10ktpa HPA equivalent at an avg. basket price of US\$25/kg) and SOTP valuation subsequent to our last published note are detailed below. Our valuation and PT are both diluted for all options on issue.

- Reduced model risk weighting from 20% to 15% following further validation by Orica;
- Assumed full-scale project (Stage 2) FID in H2 FY23, followed by an 18-month construction period;
- Revised FY23 5N+ Al-precursor production of 150t at an avg. received price of US\$52/kg;
- Revised capital structure subsequent to the placement of 45m new shares to Orica.

Figure 5: HPA First Project EBITDA/FCF forecasts



Source: Euroz Hartleys estimates

Figure 6: Valuation sensitivity to avg. basket price

A\$/sh	Weighted avg. HPA/Boehmite/Precursor Basket Price (US\$/kg)								
	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.0
0.76	0.46	0.61	0.77	0.92	1.08	1.23	1.39	1.55	1.70
0.75	0.47	0.63	0.79	0.94	1.10	1.26	1.42	1.58	1.73
0.74	0.48	0.64	0.80	0.96	1.12	1.28	1.44	1.60	1.76
0.73	0.50	0.66	0.82	0.99	1.15	1.31	1.47	1.63	1.80
0.72	0.51	0.68	0.84	1.01	1.17	1.34	1.50	1.67	1.83
0.71	0.53	0.70	0.86	1.03	1.20	1.36	1.53	1.70	1.86
0.70	0.55	0.72	0.89	1.05	1.22	1.39	1.56	1.73	1.90
0.69	0.56	0.74	0.91	1.08	1.25	1.42	1.59	1.76	1.94
0.68	0.58	0.75	0.93	1.10	1.28	1.45	1.63	1.80	1.97

Source: Euroz Hartleys estimates

Investment Thesis

- A4N is an emerging producer of high purity aluminium products that employs a proprietary solvent extraction and refining process (HPA First Process)
- The HPA First Process is capable of producing very high purity aluminium products at purity levels of >99.99% Al (4N) and in multiple instances >99.999% Al (5N)
- Key applications of A4N's high purity aluminium products include lithium-ion batteries (anodes, cathodes and separators) and LED lighting, for which there is a steep demand growth trajectory

- The HPA First Process is capable of supplying into emerging supply chains leveraged to the decarbonisation thematic at a significantly lower carbon intensity than incumbent peers, and is not reliant on mining a kaolin resource for feedstock in contrast to multiple prospective peers
- On our estimates, **the HPA First Process is capable of generating A\$250m in EBITDA per annum** (Fig. 5)
- In alignment with A4N's recent reclassification to sit within the 'Commodity Chemicals' sub-industry group of the broader ASX Materials sector, we believe A4N should trade on multiples commanded by commodity chemical producers, which implies material upside to A4N's current valuation
- Maiden large volume product offtake agreements are pending following what have been lengthy end user product qualification periods to date; we view execution as potentially the most material re-rating event in the company's history given the opaque nature of the market for high purity aluminium products and proprietary nature of A4N's flowsheet
- Recent validation provided by Orica's investment in A4N and MoU for a North American facility is not to be understated, particularly given Orica is unquestionably the most familiar third party with the HPA First Process (both technically and commercially)
- We have recently seen significant government support for domestic decarbonisation-aligned projects, with A4N awarded A\$56m in grant funding to date
- **We maintain our Speculative Buy rating.**

Market Statistics			
Share Price	0.62	A\$/sh	
Issued Capital			
Fully Paid Ordinary	857	m	
Options	42	m	
Total Dil. FPOrd	900	m	
Market Capitalisation	531	A\$m	
Enterprise Value	504	A\$m	
Cash	27	A\$m	
Debt	Nil	A\$m	
Substantial Shareholders			
Regal Funds Management	8.3%		
Norman Seckold	8.1%		
Orica Ltd	5.3%		

Valuation			
	Risking	A\$m	A\$/sh
HPA First Project	85%	912	1.01
Corporate Overheads		(24)	(0.03)
Cash (Nov'22)		27	0.03
Undrawn Grant Funds		56	0.06
Listed Investments		10	0.01
ITM Options		11	0.01
Total		991	1.10
Price Target (1.0x NAV, rounded)			1.10

Production Forecasts			
	2023F	2024F	2025F
4N+ HPA Production (kt)	0.0	3.0	10.0
5N+ AI Precursor Production (kt)	0.15	0.35	0.35
4N+ HPA Price (US\$/kg)	20.0	20.0	22.5
Operating Costs (US\$/kg)	0.0	6.2	6.4

Ratio Analysis			
Yr End 30 June (A\$m)	2023F	2024F	2025F
Operating CF (A\$m)	-18	28	125
CFPS (A\$/sh)	-0.02	0.03	0.14
Earnings (A\$m)	-17	35	140
EPS (A\$/sh)	-0.02	0.04	0.18
Enterprise Value (A\$m)	483	658	552
EV/EBITDA (x)	na	10.9	10.9
EV/EBIT (x)	na	12.4	12.4
Net Debt (A\$m)	-8.1	167.1	60.8
ND/(ND + Equity) (%)	-6%	47%	16%
EBIT Margin (%)	-57%	48%	64%
ROE (%)	-11%	18%	43%
ROA (%)	-5%	9%	26%
Dividends (A\$/sh)	0.0	0.0	0.0
Div. Payout Ratio (%)	0%	0%	0%
Div. Yield (%)	0%	0%	0%
Div. Franking (%)	100%	100%	100%

Profit & Loss			
Yr End 30 June (A\$m)	2023F	2024F	2025F
(+) Sales revenue	12	110	333
(+) Interest income	-	-	-
(+) Other revenue	-	-	-
Total Revenue	12	110	333
(-) Costs of production	(10)	(40)	(89)
(-) Corporate overheads	(8)	(10)	(10)
(-) D&A	(1)	(7)	(20)
(-) Other	-	-	-
EBITDA	(6)	60	234
EBIT	(7)	53	214
(-) Interest Expense	(10)	(10)	(10)
NPBT	(17)	43	204
(-) Minority Interest	-	-	-
NPBT (ex-min.)	(17)	43	204
(-) Tax	-	(9)	(64)
Net Profit	(17)	35	140

Cash Flow			
Yr End 30 June (A\$m)	2023F	2024F	2025F
Net Profit	(17)	35	140
(+) Working Capital Adj.	(4)	(14)	(35)
(+) D&A	1	7	20
(+) Tax Expense	-	9	64
(-) Tax Paid	-	(9)	(64)
(+/-) Other	2	-	-
Operating Cashflow	(18)	28	125
(-) Capex & Development	(140)	(203)	(19)
(-) Exploration	-	-	-
(+/-) Other	-	-	-
Investing Cashflow	(140)	(203)	(19)
(+) Equity Issues	93	-	-
(+) Loan Drawdown	200	-	-
(-) Loan Repayment	-	-	-
(-) Other	56	-	-
Financing Cashflow	349	-	-
BoP Cash Balance	17	208	33
(+/-) Net Cashflows	191	(175)	106
(+/-) FX Adj.	-	-	-
EoP Cash Balance	208	33	139

Balance Sheet			
Yr End 30 June (A\$m)	2023F	2024F	2025F
Assets			
Cash	208	33	139
Current Receivables	2	22	67
Other Current Assets	-	-	-
Non-Current Assets	146	342	341
Total Assets	356	397	547
Liabilities			
Borrowings	200	200	200
Current Accounts Payable	2	8	18
Other Liabilities	-	-	-
Total Liabilities	202	208	218
Net Assets	154	189	329

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Alpha HPA Limited (A4N.ASX) | Price \$0.62/sh | Target price \$1.10/sh | Recommendation Speculative Buy;

Price, target price and rating as at 21 November 2022

Additional disclosures

The analyst declares that he has a beneficial interest in: Alpha HPA Limited (A4N.ASX)

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