FYI Resources Ltd.

FYI.AX – INITIATION OF COVERAGE

MST Access

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18 July 2023

High Quality HPA with Size

NEED TO KNOW

- 100%-owned, high-purity alumina (HPA) project; feasibility study shows potential NPV of ~US$1bn and 25-year plus mine life
- 1ktpa demonstration plant in CY2024 to optimise process and further customer product qualification
- Highest-quality product – critical minerals focus
- Option for rare earths development

Globally significant HPA project: updated feasibility shows ~US$1bn NPV: FYI Resources' 100%-owned HPA Project in Western Australia (WA) has the potential to produce a significant 10ktpa of HPA over 25+ years. The updated feasibility study estimates a US$1.01bn NPV and US$186m EBITDA pa.

Commercial demonstration plant to produce 1ktpa HPA: The plant will aim to optimise revised operating parameters at a commercial scale and deliver high-quality HPA for targeted customer qualification (first production: CY2024).

Highest-quality product: FYI's process targets production of a minimum of 99.99% ('4 nines' or '4N') with a portion of 99.999% quality HPA, exposing the product to higher pricing parameters, a larger customer base and niche markets.

Rare earths option: FYI has signed agreements to participate in an independent collaborative mineral separation plant with ASX-listed Arafura Rare Earths (ARU), a strategy that overcomes the significant barriers to entry for this type of project. The plant will be capable of processing deposits with high rare earths content.

Investment Thesis – Highest-Quality HPA Focus

Globally significant: With targeted production of 10,000 tonnes per annum (ktpa), FYI's HPA plant will be globally significant with a wide range of potential customers. FYI is implementing a phased path to production with the initial 1ktpa demonstration plant to further de-risk and optimise the commercialisation phase, demonstrate the value-add, deliver significant project data and produce product at commercial scale for prospective customers' supply chain product qualification.

Crucial decarbonisation application: Decarbonisation/electrification thematics support strong demand and pricing fundamentals for HPA as a critical component for batteries and low energy LED applications. FYI aims to produce the highest-quality HPA suitable for these applications.

100% owned; right place: Federal and State Major Project Status Full ownership of the HPA Project enables flexibility in development, partnerships and funding. It is located in WA, a Tier-1 mining and processing jurisdiction. Major Project / Lead Agency status gives advantages in dealings with governments.

Management – experience counts: FYI's board and management have broad experience in large project development and operations, having held senior positions with companies including Rio Tinto, Tianqi, Shell and Newmont.

Valuation – A$0.43 Per Share, Fully Diluted

Our sum-of-the-parts valuation of A$0.43 per share is driven by our risked NPV valuation for the HPA Project. We see significant upside from the current share price as FYI first successfully funds and then develops the project.

Risks

The key risk to our valuation is funding. FYI is looking at a mix of debt, strategic investment, government loans and equity capital to fund the project. Failure of any of these components will place the execution of the project at risk. The other key risks relate to timely execution and construction of the project.

Equities Research Australia

Metals and Mining

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FYI is an ASX-listed company developing its premium HPA project in WA (100% interest), comprising the Cadoux mine's developed and optimised feedstock and proposed HPA refinery at Kwinana. FYI aims to be a single-source integrated producer of high-quality HPA with supply wholly from a Tier-1 mining jurisdiction.

https://fyiresources.com.au/

Valuation	**A$0.43**
Current price	**A$0.085**
Market cap	**A$31m**
Cash on hand	**A$9.1m** *(31 March 2023)*

Additional Resources – Interview with CEO of FYI Resources - Roland Hill

MST Access Interview with Roland Hill, CEO

Upcoming Catalysts and Newsflow

Period	
2HCY23	Small-scale plant: capex and opex estimates
2HCY23	Full-scale plant: funding developments

Share Price (A$) – 1 Year

Source: FactSet, MST Access.

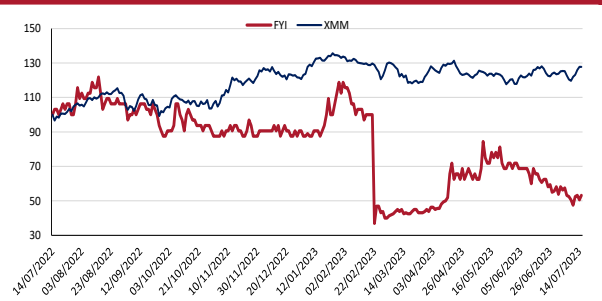
Financial summary, FYI Resources (year-end 30 June)

FINANCIAL SUMMARY FYI RESOURCES LTD. Year End 30 June

FYI RESOURCES LIMITED — **FYI.AX**

MARKET DATA		
Share Price	A$/sh	0.09
52 week low/high	A$/sh	0.06 - 0.19
Valuation	A$/sh	0.43
Market Cap (A$m)	A$m	31
Net Cash / (Debt) (A$m)	A$m	9
Enterprise Value (A$m)	A$m	22
Shares on Issue	m	367
Options/Performance shares	m	5
Other Equity	m	1,307
Potential Diluted Shares on Issue	m	1,678

12-Month Relative Performance vs S&P/ASX Metals & Mining



INVESTMENT FUNDAMENTALS		Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Reported NPAT	A$m	(3)	(4)	(5)	(5)	18
Underlying NPAT	A$m	(3)	(4)	(5)	(5)	18
EPS Reported (undiluted)	¢ps	(1.2¢)	(1.2¢)	(1.3¢)	(1.3¢)	1.7¢
EPS Underlying (undiluted)	¢ps	(1.2¢)	(1.2¢)	(1.3¢)	(1.3¢)	1.7¢
P/E Reported (undiluted)	x	n/m	n/m	n/m	n/m	n/m
P/E Underlying (undiluted)	x	n/m	n/m	n/m	n/m	n/m
Operating Cash Flow / Share	A$	(0.00)	(0.00)	(0.01)	(0.00)	0.01
Price / Operating Cash Flow	x	n/m	n/m	n/m	n/m	6.9
Free Cash Flow / Share	A$	(0.01)	(0.01)	(0.02)	(0.09)	0.01
Price / Free Cash Flow	x	(8.3)	(10.4)	(4.4)	(0.9)	8.1
Free Cash Flow Yield	%	-12.0%	-9.6%	-22.5%	-111.7%	12.4%
Book Value / Share	A$	0.05	0.05	0.05	0.08	0.12
Price / Book	x	1.88	1.86	1.85	1.07	0.69
NTA / Share	A$	0.05	0.05	0.05	0.08	0.12
Price / NTA	x	1.88	1.86	1.85	1.07	0.69
Year End Shares	m	331	366	366	366	1,677
Market Cap (spot)	A$m	28	31	31	31	143
Net Cash / (Debt)	A$m	9	12	5	(15)	159
Enterprise Value	A$m	19	19	26	46	(17)
EV / EBITDA	x	n/m	n/m	n/m	n/m	0.8x
Net Debt / Enterprise Value		(0.4)	(0.5)	(0.2)	0.7	(7.2)

PRODUCTION AND PRICING		Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
HPA Production	kt	-	-	-	-	1
HPA Price (US$/t)	US$/t	-	-	-	-	27,737
AUDUSD	:	-	-	-	-	0.70

Profit & Loss (A$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Sales	-	-	-	-	40
Expenses	(4)	(4)	(4)	(4)	(13)
EBITDA	**(4)**	**(4)**	**(4)**	**(4)**	**26**
D&A	(1)	(1)	(1)	(1)	(1)
EBIT	**(5)**	**(5)**	**(5)**	**(5)**	**25**
Interest	(0)	0	-	0	-
Tax	1	1	-	-	(8)
Underlying NPAT	**(3)**	**(4)**	**(5)**	**(5)**	**18**
Exceptionals	-	-	-	-	-
Reported Profit	**(3)**	**(4)**	**(5)**	**(5)**	**18**

Balance Sheet (A$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Cash	9	12	5	5	336
Receivables	2	1	1	1	3
Inventory	-	-	-	-	2
PP&E	-	-	4	36	38
Exploration	4	4	7	7	7
Other	2	1	1	1	1
Assets	**16**	**17**	**17**	**49**	**387**
Creditors	1	0	0	0	3
Debt	-	-	-	20	177
Other	-	-	-	-	-
Liabilities	**1**	**0**	**0**	**20**	**180**
Equity	**15**	**17**	**17**	**29**	**207**

Cashflow (A$m)	Jun-21	Jun-22	Jun-23e	Jun-24e	Jun-25e
Cash From Operations	(1)	(2)	(2)	(2)	28
Interest	1	1	-	-	(8)
Tax	(0)	0	-	0	-
Net Cash From Operations	**(1)**	**(1)**	**(2)**	**(2)**	**21**
Capex	-	-	(2)	(31)	(1)
Exploration	(3)	(2)	(3)	(2)	(2)
Investments	-	-	-	-	-
Free Cash Flow	**(3)**	**(3)**	**(7)**	**(35)**	**18**
Equity	15	6	-	15	157
Borrowings	(2)	-	-	20	157
Dividend	-	-	-	-	-
Net Increase / (Decrease) in Cash	**9**	**3**	**(7)**	**0**	**331**

Source: FYI; MST Estimates

Investment Thesis: Globally Significant; High-Quality Product for an Electrifying Economy

ASX-listed FYI Resources (FYI) is developing its 100%-owned premium high-purity alumina (HPA) project in Western Australia. The project comprises the Cadoux mine and a proposed HPA refinery at Kwinana. FYI aims to be a single-source integrated producer of high-quality HPA, with supply entirely sourced from a Tier-1 mining jurisdiction. FYI's targeted 99.999% (5N) and 99.99% (4N) pure product will be among the highest-quality HPA available to the market. FYI's strategy is to rapidly fund and develop the HPA Project and take advantage of strong demand for this product against a backdrop of a dwindling supply outlook.

Flagship project: 100%-owned HPA facility with global ambitions

Globally significant project – staged production plan

FYI ultimately aims for its HPA Project to be a globally significant facility producing 10,000tpa of high-quality HPA. The project development will be staged, with an initial small-scale plant (SSP) producing 1,000tpa of high-quality HPA.

Small-scale (demonstration) plant sets up FYI for staged production towards full-scale plant: FYI's HPA process has been proven at a pilot plant scale. Customer response to the quality and purity has been positive during early qualification. The SSP will allow a staged and scalable development approach and is a major step toward realising the project's value as outlined in the Definitive Feasibility Study (DFS). The SSP is designed to demonstrate the value-add of the product, while also potentially delivering significant project data, process optimisation and testing for final product development. The plant will produce bulk samples for prospective customers' testing and qualification. Start up for this plant is expected in H2CY2024.

Full-scale plant DFS shows globally significant project: FYI released an updated DFS in 2021 for its HPA Project. Key project metrics include:

- project NPV of US$1.01bn
- annual EBITDA of US$186m
- pre-production capex of US$202m
- mining licence granted with key transport and power infrastructure in place
- modelled mine life of 25 years – target HPA production of 10ktpa (8.5ktpa 4N + 1.5ktpa 5N)
- 2,537kt aluminium oxide (Al_2O_3) Mineral Resource and 796kt Al_2O_3 Ore Reserve. Substantial potential for Mineral Resource and Ore Reserve growth, leading to further potential mine life extension and hence HPA production.
- Commencement of production CY 2025

Location: Western Australia: – a Tier-1 jurisdiction – Major Project Status

The HPA Project is located in Western Australia (WA), one of the world's safest jurisdictions in which to operate a mine and mineral processing facility. WA has established regulations, strong infrastructure, security of tenure and supportive state and federal governments, and is home to some of Australia's largest mining and energy developments. The project has "Major Project Status" designated by the Federal Government and "Lead Agency" by the Premier's Dept. of WA, giving significant advantages in dealings with government agencies (see ESG section for details on benefits)

Ownership structure: 100%-owned – a strategic advantage

Owning 100% of the project is a strong strategic advantage, allowing flexibility with funding options, ownership structures, joint ventures or strategic partnerships, customer relationships and management of development.

Commodity: HPA – lots of demand, boosted by strong ESG credentials

The current decarbonisation and electrification thematics support strong demand and pricing fundamentals for HPA as a critical component in batteries, and the company's HPA Project strategy has a significant focus on ESG efforts and developing a sustainable project and has achieved an industry and sector rating via Sustainalytics. A certified ESG rating is critical from a customer perspective to provide assurance about the provenance and auditing of the supply chain for the HPA material from mine to market.

What is HPA? HPA is a crystalline white powder made from almost pure aluminium oxide (Al_2O_3) and is sought after due to its unique properties and characteristics, which include low friction; thermal and electrical insulating abilities and ability to withstand extreme temperatures; excellent corrosion, wear and scratch resistance; high brightness; and broad chemical compatibility.

How is HPA used? Traditional applications include light-emitting diodes (LEDs), artificial sapphire glass screens (used in TVs, tablets, smartphone screens, electronics and aeronautics), and plasma screens. Moreover, HPA is now a critical component in lithium-ion batteries (LIBs) and other high-energy-density battery architectures. HPA can be used to coat separators between the anode and cathode in the battery cell of LIBs. HPA-coated separators significantly improve separator performance, especially in maintaining thermal stability under very high-operating-temperature environments (while still allowing the flow of electrolyte ions), reducing the risk of battery fires – a key specification requirement for separators.

Rare earth sector option – aligns with critical minerals strategy

While continuing to advance its core HPA Project, FYI plans to leverage its development experience, ESG platform and capital base into the rare earths sector to strengthen its broader critical minerals production objectives and establish sustainable supply chains for critical mineral products that are essential in decarbonisation and electrification.

FYI has expanded its critical minerals strategy by participating in the development of Minhub, a downstream rare earths processing strategy which is a unique, independent, collaborative mineral separation plant to be located in Darwin. Minhub is designed to process emerging mineral sands deposits with high rare earth content sourced from third parties around Australia.

To undertake this strategy, FYI has signed a binding heads of agreement with Minhub Operations Pty Ltd (MOPL), which will manage the Minhub rare earths project. The heads of agreement outlines the staged acquisition of 100% of MOPL by FYI.

MOPL has been developing its rare earths strategy since January 2021, building relationships with third parties including aggregating a number of key project areas and advancing commercial terms with entities including Arafura Rare Earths. Arafura has signed a non-binding Co-operation Agreement with FYI to collaborate in the joint development of Minhub. Minhub will work with potential suppliers of rare earth–rich mineral sands concentrate to provide a midstream processing solution via offtake of such concentrate, including from the heavy rare earth–rich Gippsland and Murray Basins. The aim is to reduce the significant barriers to entry for these projects and to establish a domestic downstream rare earths production facility for sovereign supply of the critical minerals.

FYI, via MOPL, is advancing project development and project flowsheets for the Minhub project.

Right management in place – experience counts

FYI's management is experienced in project development and global operations and has strong on-the-ground experience and established relationships with government, suppliers and the community. The Board and CEO are backed by a team with engineering, chemical engineering, process control, geological, product marketing and financial expertise with up to 45 years' experience in their field.

Valuation – A$0.43/share (fully diluted)

Our risked NPV for FYI is A$0.43/share, fully diluted for remaining equity finance requirements to fund project capex. Most of our sum-of-the-parts–based valuation is contributed by our HPA Project valuation.

Financials – funding is the key; cash sufficient for current operations

The final project financing package will include a combination of funding options including equity, debt, offtake advances, ESG financing, export credit finance or a joint venture contribution at the project level. At 31 March '23, FYI had cash at bank of A$9.1m, and the company spent ~A$0.9m in the March quarter.

Key risks

The key near-term risk for FYI is the funding of the project – FYI is open to all funding options including joint venture contribution, equity, debt, ESG financing or export credit finance. Other risks include the ability to execute on the construction of the project, producing quality HPA on a commercial scale, securing offtake agreements and any local community issues.

Figure 1: Recent and upcoming events

February 2022	Demonstrated HPA quality from pilot plant trial
October 2022	Further positive results for enhanced FYI HPA anode coatings
December 2022	Joined UN Global Compact – enhances FYI commitment to ESG
February 2023	Resumed full control of HPA Project – terminated Alcoa joint development
April 2023	Achieved 15% increase in output in pilot run
May 2023	Announced SSP for 1,000tpa production; achieved > 99.995% HPA. Entered the rare earths sector – strategic agreement for downstream production with Arafura Rare Earths
July 2023	Appointment of SSP engineering services provider for plant design and fabrication
Expected September 2023	SSP costings, capex and timelines
Expected 2HCY23	Potential receipt of federal and state grants. Further progress towards full-scale HPA plant Progress on rare earths strategy

Source: FYI.

Overview of Projects: Flagship HPA Project and Rare Earths Option (Minhub Operation)

Flagship HPA Project: high-quality; a large resource in a great spot

FYI's 100%-owned HPA Project has two integrated operating locations in WA – Cadoux (mining and beneficiation) and Kwinana (processing and refining). The project has an updated feasibility study that was completed in 2021, which outlines a stated NPV of US$1.014bn with annual EBITDA of US$186m over a modelled 25-year mine life and involves the development of an open-pit mine and associated processing plant and other infrastructure to mine and process ore. The feasibility study estimates the capital expenditure for the full development of the project at US$202m. The capex for the small-scale production (SSP) facility, which was not contemplated under the 2021 DFS, will be announced in September 2023.

Mining and beneficiation (Cadoux)

HPA is a processed premium non-metallurgical alumina product characterised by its purity level – i.e., 99.99% ('4N') or 99.999% ('5N'). HPA is processed from aluminium oxide, also known as alumina (Al_2O_3). The HPA Project's source of Al_2O_3 is the Cadoux Kaolin[1] project approximately 220km northwest of Perth, WA. (For more information on this critical commodity, see chapter 'Understanding HPA' later in this report.)

The Project Resource and Reserves are as follows:

- a Mineral Resource of 11.3 Mt @ 22.5% Al_2O_3
- an Ore Reserve of 3.2 Mt @ 24.8% Al_2O_3.

FYI has spent over 4 years developing an innovative flowsheet to produce HPA in a non-traditional, disruptive process that requires approximately one-third the opex and one-fifth the capital of traditional production methods (hydrolysis of aluminium metal).

Processing and refining (Kwinana)

The processing plant – which will, at full production, produce 10,000tpa of HPA – will be located in Kwinana, 15km south of Perth. FYI plans to construct an SSP facility of 1,000tpa to act as a demonstration plant and to be the first modular stage of the eventual 10,000tpa plant.

Figure 2: Cadoux Project location

Source: FYI.

Figure 3: Kwinana Project location

Source: FYI.

[1] Kaolin is **a soft, earthy, usually white, mineral (dioctahedral phyllosilicate clay**), produced by the chemical weathering of aluminium silicate minerals

Innovative HPA battery coatings program

In collaboration with graphite company EcoGraf Limited (ASX: EGR), FYI is developing an innovative, HPA-enhanced, high-density anode coating for use in lithium-ion batteries. The objective of anode development is to increase the performance, reliability, longevity, safety and cost effectiveness of a graphite anode in high-power-density batteries, primarily used in EVs.

The development work focuses on the unique and innovative application of FYI's high-quality ultrafine HPA and EcoGraf's spherical graphite. The test work is being conducted by a leading independent battery materials research group in the US. FYI and EcoGraf have demonstrated HPA-doped carbon coatings as a major active anode material which has the ability to increase battery performance and safety.

Development work on the anode coating is still in progress, with results to date suggesting further work is required. However, FYI and EGR have agreed to focus on their separate core activities while they consider further development studies.

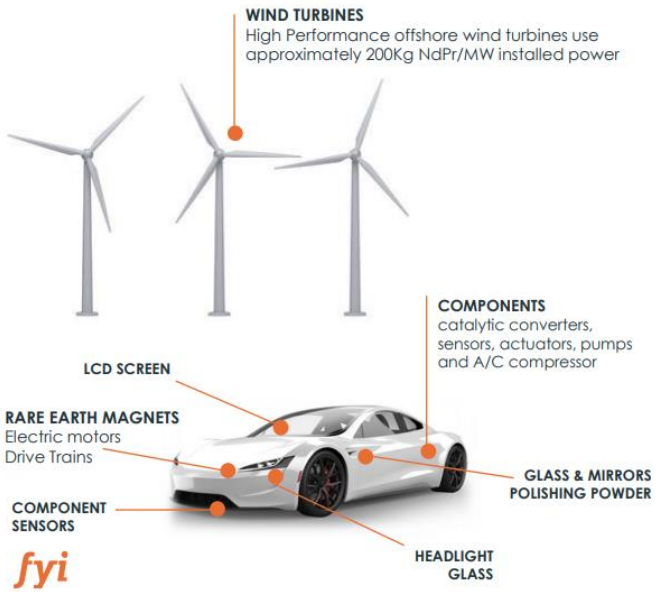
Rare earths option: FYI expanding its critical minerals strategy

FYI announced in May that it is expanding its critical minerals strategy into the rare earths sector through a binding heads of agreement that provides for the staged acquisition of 100% of Minhub Operations Pty Ltd (MOPL).

MOPL was specifically established to develop Minhub, an independent, collaborative mineral separation plant. Minhub will be capable of processing mineral sands from third parties with emerging deposits with high rare earth content, and is aimed at reducing the significant barriers to entry for these projects imposed by opaque markets, dominant industry players and hurdles to approvals. MOPL is collaborating with potential suppliers of rare earth–rich mineral sands concentrate to provide a midstream processing solution via offtake of such concentrate, including from the heavy rare earth–rich Gippsland and Murray Basins. MOPL and Arafura Rare Earths (ARU) have signed a non-binding Co-operation Agreement to investigate the joint development of the Minhub Mineral Sands Processing facility in the Northern Territory.

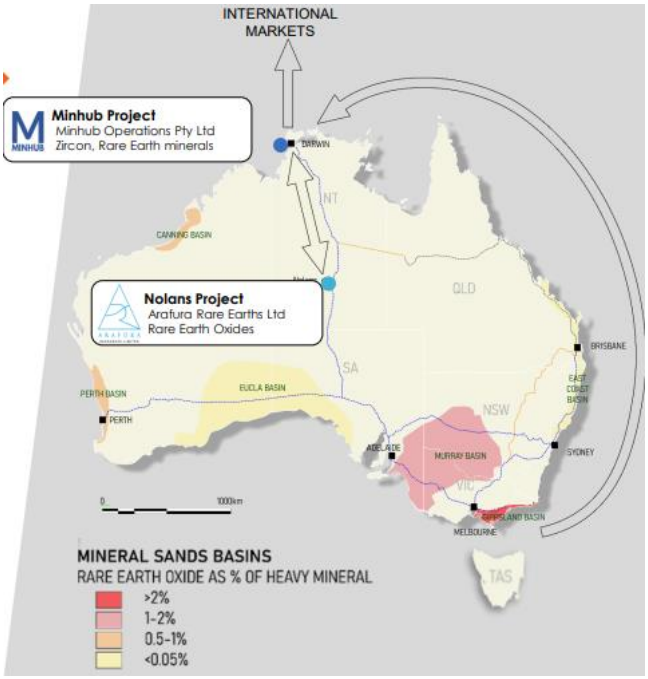
Arafura is developing the Nolans Project in the Northern Territory. The project is Australia's first vertically integrated rare earths operation, where single-site mining and processing operations will provide a secure and traceable supply chain to meet domestic and international economic and security interests.

Figure 4: Rare earth demand drivers



Source: FYI.

Figure 5: MOPL value chain



Source: FYI.

HPA Project: 100%-Owned Flagship Asset in Western Australia, a Tier-1 Jurisdiction

A brief history – from acquisition in 2017 to FYI's plans in 2023

2017–2022: Acquisition and exploration history

FYI acquired the Cadoux Kaolin project in WA in 2017. At that time, the project had an Inferred Resource of 10.5mt grading 11.25% Al_2O_3. FYI raised funds to drill the deposit, progressing the project to a maiden Mineral Reserve and Feasibility Study in March 2020 and an updated Feasibility Study in 2021.

The Cadoux kaolin deposit is a large, shallow, flat lying mineralised body that is well defined by drilling. During 2019, a total of 4,177m of drilling has been completed by FYI from a combined 199 air core (AC), reverse circulation (RC) and diamond drill (DD) holes. All holes were drilled vertically to an average depth of 32m. Intersected kaolin thickness ranged from 1m to 28m. The deepest intersected kaolin was 36m.

For the most recent drilling programs to define the Ore Reserve, 18 additional RC holes were drilled in the geostatistical '10m x 10m' test pattern for a total of 416m. A further 4 RC water bore test holes were also drilled for a total of 198m. Finally, 4 Diamond geotechnical holes were drilled for a total of 100m.

September 2019 - Pilot plant established, demonstrating purity and quality of HPA

To support FYI's DFS and provide qualification HPA to potential customers and off-takers, FYI established a pilot plant to validate its testwork and demonstrate the efficiency and effectiveness of the process flowsheet as well as the quality and characteristics of its HPA product. The pilot plant is an end-to-end scaled replication of the designed commercial plant; therefore the HPA produced is identical to the product that will come to market.

September 2020: Joint development established with Alcoa

Alcoa and FYI signed an MOU in 2020 following successful due diligence and demonstration of FYI's innovative HPA process via multiple joint trials through FYI's HPA pilot plant. Following 12 months of joint development process optimisation work, the parties established a Term Sheet Agreement to take the process to commercialisation. The joint development HPA pilot trial, utilising feedstocks provided by Alcoa, ran on 18–25 January 2022, achieving purity of 99.997–99.999% Al_2O_3. Purity of the HPA was confirmed via analysis using high-level Glow Discharge Mass Spectrometry (GDMS) to provide independent, high-accuracy confirmation. Alcoa contributed >A$10m to the project and its development.

February 2023: Alcoa agreement terminated; FYI maintains access to project IP

FYI announced in February 2023 that the HPA joint development (JDP) project between FYI and Alcoa had been terminated for differing development, project milestone and time schedule objectives between the parties. FYI retains all project data, information, IP, customer lists and related assets of its core technology including the company's innovative process flowsheet for HPA production and refining. FYI and Alcoa will share in the jointly developed technologies that were advanced post signing of the JDP term sheet.

Structure – 100% ownership delivers complete control and flexibility

FYI's 100% ownership of the HPA Project is a key strategic advantage, as it gives the company full management and the ability to make decisions on the project without reference to a joint venture partner or minority stakeholder.

The 100% ownership also allows FYI flexibility on future funding sources and ownership structures. The company may look to strategic investors into the project, customer funding options or prepaid contracts.

Location in WA – significant deposits of many commodities

WA has a long and distinguished history when it comes to mining and energy, and can comfortably be classified as a 'Tier-1' mining jurisdiction. For over 100 years, the state's resources sector has been the major force shaping WA's economy, particularly in regional areas. The production of key commodities, including iron ore, alumina, gold, liquefied natural gas (LNG) and nickel, has led to an extraordinary increase in the value of the state's resources sector in recent years. The value of the sector more than tripled from 2006 to 2020, from $49bn to $174bn.

Well-established regulations

Mining regulation in WA is well established and transparent. Once approved, mining tenure is secure. Approval processes can be complex and take time, environmental obligations are quite strict, and Native Title requirements need to be strictly adhered to, but all processes are well understood by the mining industry. Australia's ranking in the World Bank's 'Ease of Doing Business Index' is 14, putting it comfortably in the top quartile.

Supportive government with a developed infrastructure strategy

The WA Government is extremely supportive of the mining industry and ensures that mining companies operate strictly within set regulations. The Australian Government is also supportive of the mining industry in WA.

WA released its 'Resources Development Strategy' in 2021 with a focus on developing the infrastructure required to harness the untapped potential of the state's resources sector. This strategy is key to developing the major infrastructure to support the solutions that provide efficient routes to market. Infrastructure is fundamental to the everyday operation of the resources sector. Road, rail and ports are vital for the transport of mineral and petroleum products along supply chains and power and water are critical to project success.

WA's Department of Energy and Mining is also focused on green energy. Per the department's website:

> *The Western Australian Government is committed to working with all sectors of the State's economy to achieve net zero greenhouse gas emissions by 2050. This is supported by requirements for mineral and petroleum development proposals assessed under the Environmental Protection Act 1986 to set interim and long-term emission reduction targets consistent with the State's net zero aspiration.*

The geology – a simple explanation

The project area is underlain by weathered granitoid Archaean rock of the Yilgarn Granites, which is the likely parent material for the kaolin. Here, deep weathering of the feldspathic and ferromagnesian minerals within the metamorphosed granitic has resulted in the formation of kaolinite. There is no outcrop, but recognisable granitoid fragmental rocks are sometimes present just below surface. The crust of the overburden comprises gravel and sands over reddish to off-white clay. White kaolin underlies the overburden followed by weathered, partial oxidised and then fresh granitoids at depth.

Approvals – all major approvals in place; only minor ones to go
WA "Lead Agency" – Gives Project Advantages with Government

All primary environmental approvals have been obtained, and the proposed secondary approvals will be commenced when the project implementation starts. From a primary approval point of view, with respect to Cadoux, the Mining Proposal (MP) including Mine Closure Plan (MCP) has been approved. The refinery site, Kwinana, is already approved under Ministerial Statement 863.

FYI received the support of the Premier of WA, who is also the Minister for State Development, Jobs & Trade, in the form of a request to the Department of Jobs, Tourism, Science and Innovation (JTSI) to provide lead agency services to the project. This will assist with project development and the timing of the required approvals.

FYI is in the process of completing final project approvals and permitting.

Infrastructure – WA provides all the infrastructure needs

Supporting infrastructure is key to a successful mining operation. Cadoux is located in a region that has supported mining for multiple decades and is adjacent to key infrastructure that will be vital to mining Al_2O_3 and transporting it to Kwinana for refining into HPA. The key highlights of the infrastructure are:

- **location:** Cadoux is 225km by road from Perth, with access to a significant workforce in neighbouring townships
- **power:** the site has access to mains power through the network grid
- **water:** saline bore water will be used for processing and mining operations as per the licence conditions
- **transport:** Cadoux ore will be beneficiated on site to produce aluminous clay feedstock that will be then transported 245km by road to Kwinana for refining to HPA. As a Tier-1 mining district, the roads are very well maintained.

Funding – options on the table

FYI has a number of financing options for its HPA project. The DFS demonstrates exceptional project metrics with the ability to attract investment and supportive funding packages. The final project financing package will include a combination of funding options including equity, debt, off-take advance payments, ESG financing, export credit finance or joint venture contribution at the project level.

HPA Project Development Strategy: Small-Scale Plant to Show Pathway to Value, a Key Step

FYI is engineering a de-risked pathway to delivering on the DFS outcomes (project value of US$1.01bn) and production objectives. It has invested 5 years into research & development, multiple pilot plant trials, and extensive product qualification with end-users, and its HPA process has been proven at a pilot plant scale. After termination of the Alcoa agreement, FYI has reset the process towards a full-scale operation.

The revised development plan combines the planned small-scale plant (SSP) with the benefits of a full-scale commercial plant by incorporating a staged and scalable development approach. FYI has reviewed and remodelled the project data from the DFS and incorporated process optimisations gained over the past 12 months, including pilot plant results. FYI has also taken customer qualification material requirements into consideration and optimised sizing of the SSP to approximately 1,000tpa of HPA production.

Objectives of the SSP

The planned construction of an SSP, located at Kwinana, WA, will allow a staged and scalable development approach. The SSP will act as a 'bridge' from the pilot plant to a full-scale commercial facility.

The SSP is designed to further update and improve the outcomes of the DFS and demonstrate the value-add of the product, while also potentially delivering significant project data, process optimisation and testing for final product development. The plant will produce bulk samples for prospective customers' testing and qualification, deliver revenue in its own right, and serve as a testing and training facility.

Key features of the SSP

- Increased sizing of output (production volume)
- Capex and opex improvements
- Integration and scaling of engineering
- Lower energy requirements; reduced carbon footprint due to efficiency and design improvements
- Accelerated development; tailored to market qualification requirements
- Advanced materials construction learnings to be incorporated in development
- Higher quality consistency and increased purity from pilot plant trial to be targeted. The SSP will enable FYI to produce bulk samples for prospective customers' testing and qualification
- Design to allow for possible phased modular production increases, leading to advantages including faster project completion, reduced construction costs, high-quality fabrication, non-disruptive phased production increases, and the ability to add capacity or to relocate the facility

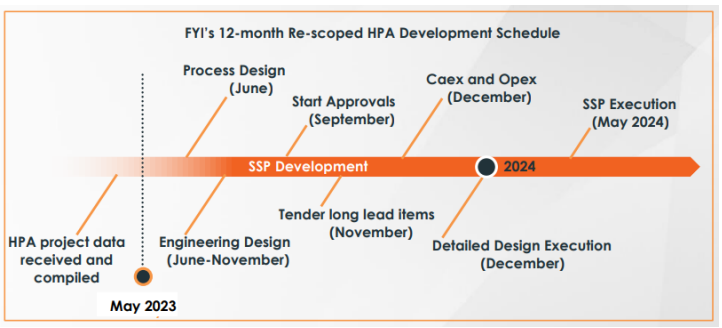
Funding sufficient; government grant applications pending

FYI has sufficient funds for the project engineering phase and has several Federal and WA state grant funding applications pending for selected stages of project capital. SSP capex and opex will be calculated once full equipment lists and final procurement quotes are received (expected by September 2023).

Development timeline

FYI's development activities over the next 12 months will focus on the delivery of the SSP and the associated supporting studies and approvals and permitting activities. In parallel, FYI will continue progressing the HPA product qualification and customer outreach programs and offtake discussions, including downstream production options. Figure 6 shows the development timeline for the SSP.

Figure 6: FYI's 12-month rescoped HPA development schedule



Source: FYI.

Optimised Feasibility Study for HPA Project: Details Show a Robust Project

In April 2021, FYI completed an updated Definitive Feasibility Study (DFS). The DFS updates a previous Feasibility Study completed in March 2020.

Mineral Resource and Ore Reserves – underpinning the project

Mineral Resource Estimate (MRE) – a significant quantity of kaolin ore and Al_2O_3

The Cadoux MRE is 11.3Mt @ 22.51% aluminium oxide (Al_2O_3) (June 2022).

Figure 7: Cadoux: Updated MRE (Measured, Indicated and Inferred Resources, June 2022)

Resource Category	Volume (Cubic Metres)	Metric Tonnes (Dry)	Al_2O_3 Grade (%)
Measured	292,300	480,500	23.56
Indicated	3,501,300	5,742,700	23.36
Inferred	3,111,700	5,045,500	21.45
Total	**6,905,300**	**11,268,700**	**22.51**

Source: FYI.

Ore Reserve – supporting a mine life of at least 25 years

The Cadoux Ore Reserve estimate is 3.205Mt @ 24.8%% Al_2O_3 containing 795kt Al_2O_3 (June 2022). The current mining plan for FYI is fully permitted and utilises 100% of the Probable + Proven Ore Reserve.

Figure 8: Cadoux: Updated Ore Reserve estimate (Probable and Proven Reserves, June 2022)

Reserve Category	Ore (Kt)	Al_2O_3 (%)
Proved	290	24.9
Probable	2,914	24.8
Total	3,205	24.8

Source: FYI.

High-level summary of the DFS

The DFS outlines a robust, long-life project. **Key features** include:

- two planned operating sites: Cadoux (mining and beneficiation) and Kwinana (processing and refining)
- substantial potential for Resource and Ore Reserves growth, leading to mine life extension and subsequently more HPA production
- annual targeted HPA production: 10ktpa.

Key financial estimates (in real 2021 dollars) include:

- NPV: $1.014bn (post tax)
- IRR: 55% (post tax)
- payback period: 3.2 years
- pre-production capital costs: US$202m.

A detailed look at the updated DFS

The project involves the development of an open-pit mine and associated processing plant and other infrastructure to mine and process ore, then ship the marketable concentrates.

Mining method – conventional, proven open-pit mining

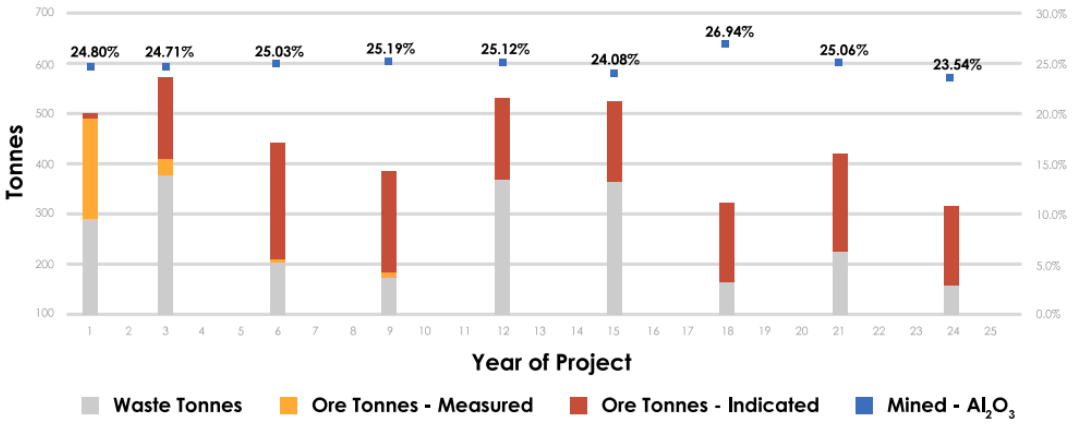
The mining operations at Cadoux will be by conventional open pit. This method is suited to the project's shallow, flat-lying orebody. The kaolin orebody is soft and amenable to free digging, which implies no drilling and blasting is required. Staged block mining and continuous backfilling during operations will minimise the disturbance footprint of the small-scale mining as well as limit the environmental impact at the site.

The selected mining method has the follow steps:

1. Overburden is excavated with trucks and an excavator until the top of the orebody is exposed, with some areas potentially requiring hard ripping.
2. Exposed ore is mined by excavator, then hauled by trucks either directly to the beneficiation plant or to the ROM stockpile for future processing.
3. Overburden and rejects are placed back into the previously excavated sections of the pit as soon as they become available for backfilling.

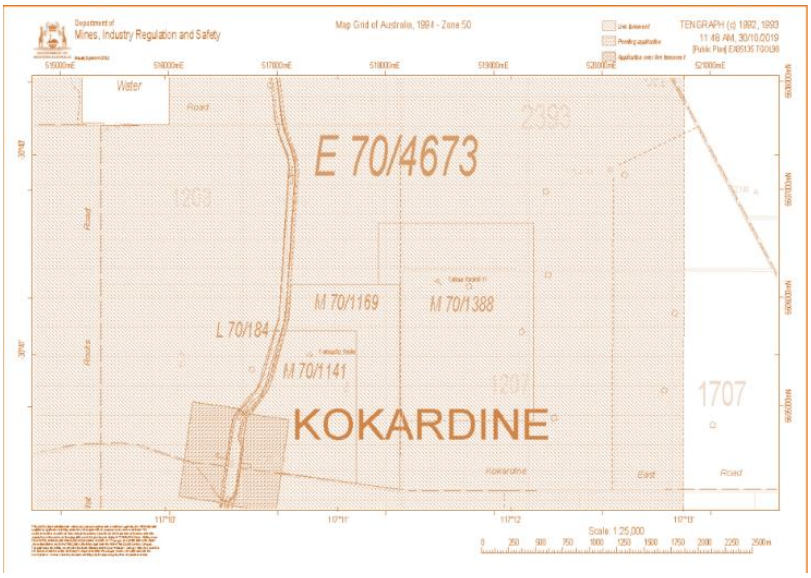
The mining will be managed by a contractor on a campaign basis. Campaign mining is the most effective scheduling due to the very low tonnage requirements relative to a typical continuous mining operation. The mining campaign will operate every three years with total mining averaging 500kt per campaign. This will provide enough ROM stockpile to support a three-year feedstock supply.

Figure 9: Total material mined, by campaign



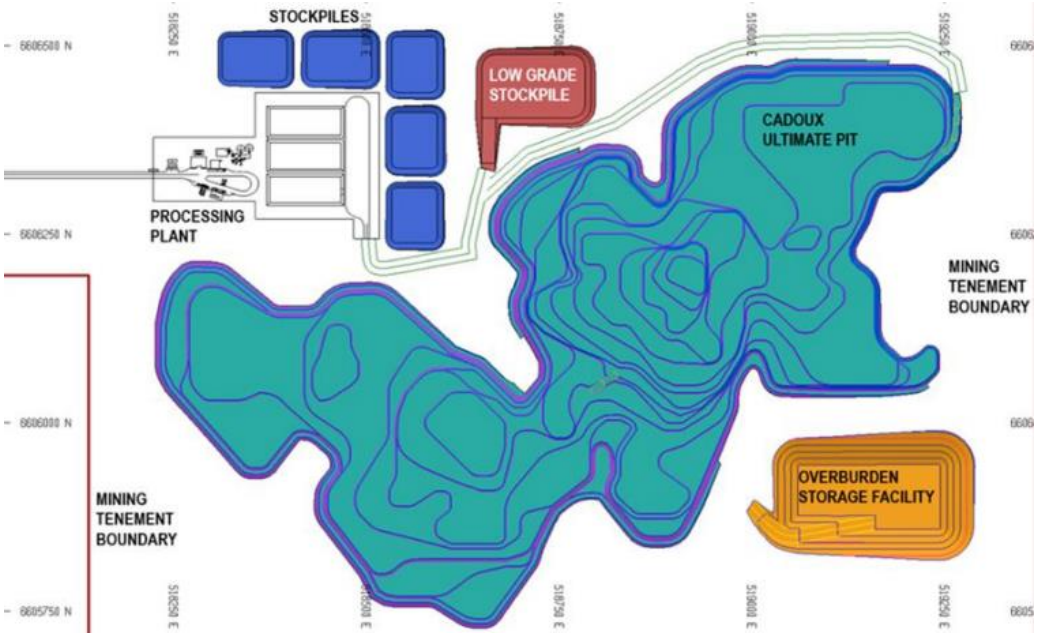
Source: FYI

Figure 10: Cadoux tenement overview (E70/4673 and M70/1388 are owned by FYI)



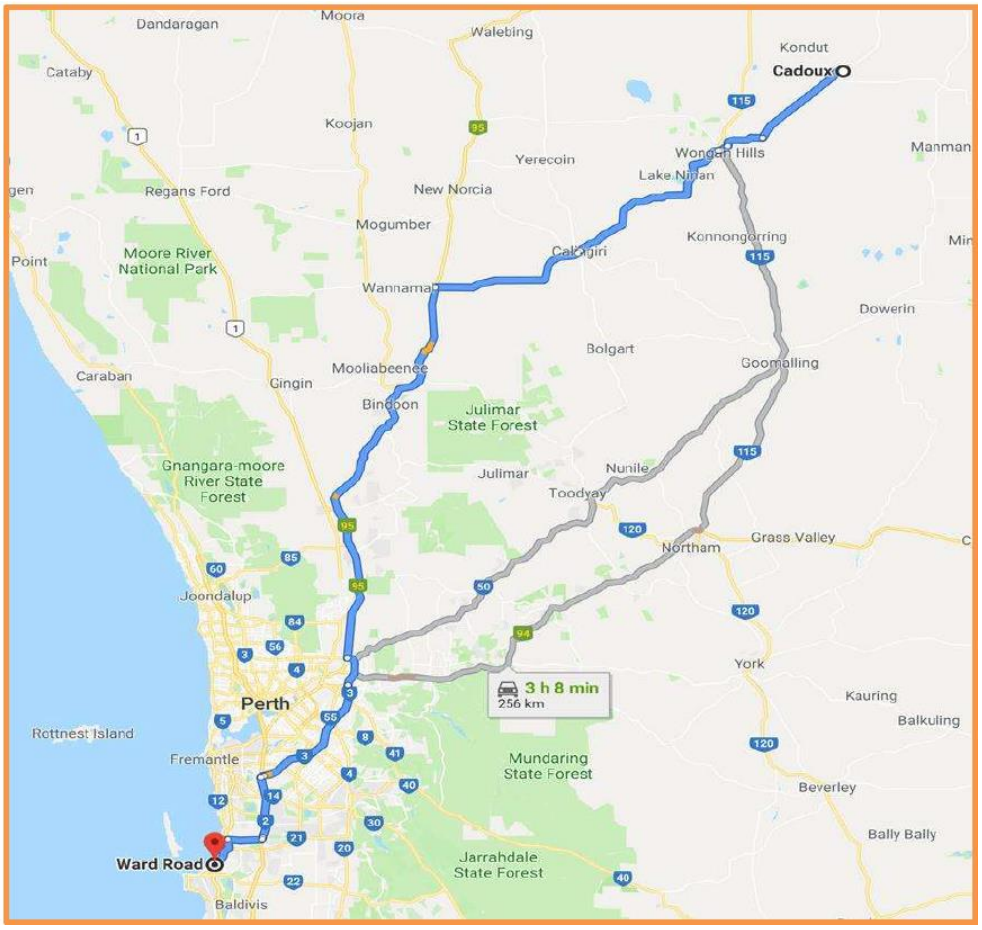
Source: FYI.

Figure 11: Cadoux Mine Layout



Source: FYI

Figure 12: Cadoux Mine to Kwinana Route



Source: FYI

Processing – pilot plant demonstrated that process produces highest-quality HPA

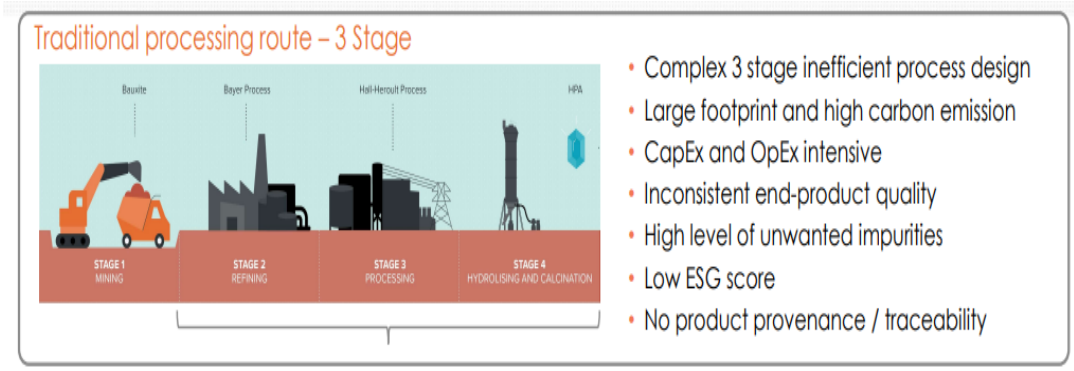
The HPA pilot trial, utilising feedstocks provided by Alcoa, ran on 18–25 January 2022 and achieved purity of 99.997–99.999% Al_2O_3 during its week-long operation. The HPA refining process (to occur at the Kwinana site) is specifically designed around the process flowsheet demonstrated at FYI's pilot plant (see Figure 12). The process is adapted to refine ultrapure, high-quality, low-deleterious HPA with a low environmental impact.

The emphasis has been on achieving a process to obtain the target HPA product (> 99.99% Al_2O_3 grade). The basis of the updated DFS contemplates an initial supply of 44,000tpa of beneficiated ore being transported from Cadoux to the Kwinana HPA refinery site (see Figure 12). FYI's Kwinana facility will refine the beneficiated ore to produce 10,000tpa of market-ready HPA in the 4N (8,500tpa) and 5N (1,500tpa) purity specifications.

Traditional 3 Stage Processing Route for HPA Production

HPA has traditionally been produced using a 3-step processing route (plus mining), with the key ore source being bauxite. Figure 13 below shows the traditional process.

Figure 13: Traditional Processing of HPA

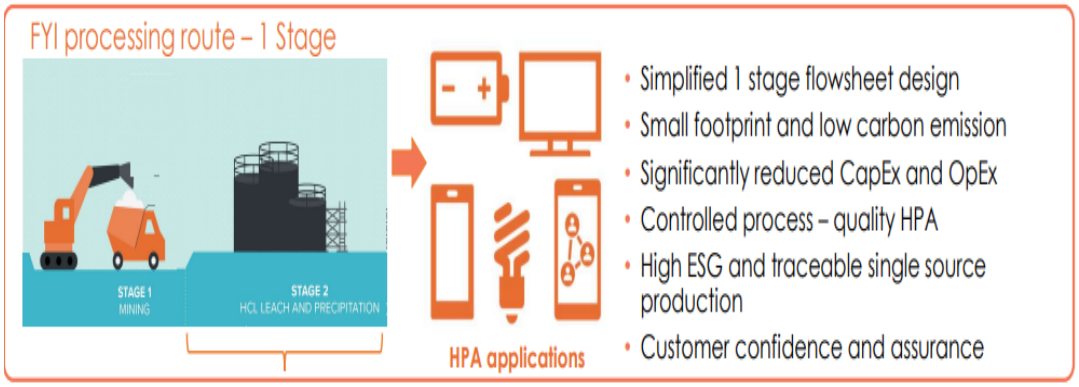


Source: FYI

FYI's More Efficient 1 Stage Processing Route

FYI's process, using Kaolin as the source material, has cut out 2 of the processing stages, and produces high quality HPA from one processing plant.

Figure 14: FYI's More Efficiuent Process

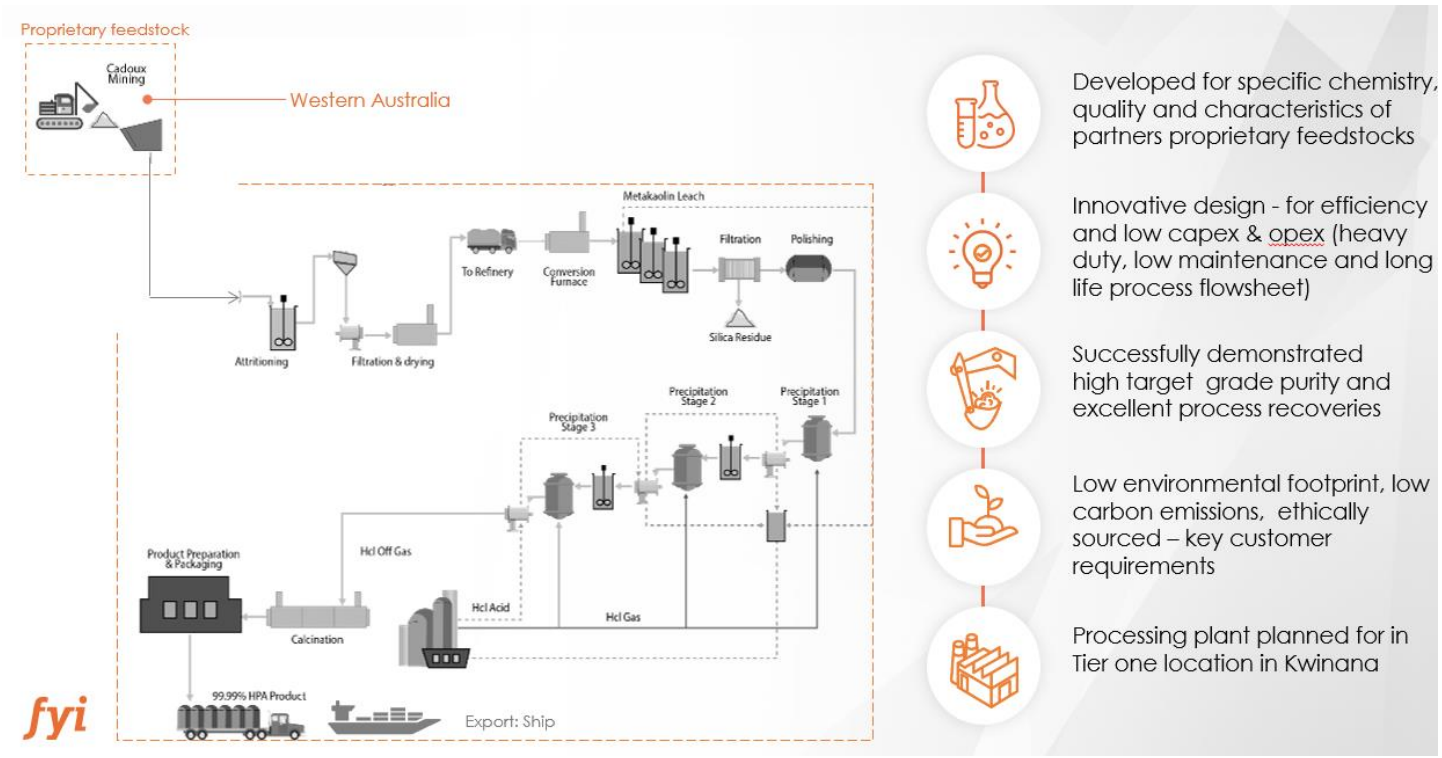


Source: FYI

The process steps are as follows;

- Wet attritioning and screening of the whole ore feed to produce Silica stream for downstream processing and a by-product
- Silica rich screen oversize stream.
- Drying and calcination of attritioning screen undersize to activate Kaolin in preparation for acid leaching.
- Staged Hydrochloric Acid leaching to extract Aluminium as Aluminium Chloride into solution.
- Staged precipitation of Aluminium Chloride concentrates via Hydrogen Chloride gas phase sparging (gas flushing).
- Aluminium Chloride concentrate recovery, filtering and washing.
- Final high temperature Aluminium Chloride calcination and conversion to HPA – followed by packaging for export.

Figure 15: FYI Processing Flow Sheet



Source: FYI

Figure 16: Pilot plant in operation

Source: FYI.

Figure 17: HPA produced from pilot plant

Source: FYI.

Financial details of the DFS: low capex, low cost, high NPV and IRR

Updated DFS – key metrics: strong outcome assuming US$26,400/t HPA: The key metrics demonstrate a robust project, with a company-calculated post-tax NPV of US$1.014bn (at 8% discount rate) and an IRR of 55%. FYI has assumed an average selling price of US$26,400/t for its produced HPA. Pre-production capex of US$202m (real 2021 dollars) is insignificant for this long-life project, highlighting its financial feasibility. The project's average life-of-mine operating costs of US$6,661/t reflect its high-margin nature.

Figure 18: Key HPA Project financial metrics – robust project

Key HPA Project Metrics	Unit	Outcome
Life Of Mine	Years	25
Average Sales Price	US$/t	26,400
Total Project Revenue	US$/lb	6
Annual EBITDA (Average)	US$m	186
Capex	US$m	202
C1 Cash Costs (FOB Kwinana)	US$/t	6,661
HPA Annual Production	kt	10
NPV (Post Tax)	US$m	1,014
IRR (Post Tax)	%	55
Payback Period	Years	3.2

Source: FYI.

Low pre-production capex, long project life: The updated DFS projects pre-production capex for the HPA Project of US$202m (in 2021 real dollars). Furthermore, the DFS forecasts sustaining capex of 2% of pre-production capital costs, annually.

The capex also builds a base for a long-life project and gives options for both extension of mine life and an increase in production. The three key components of the capex are the processing plant, the mining fleet and non-processing infrastructure.

High-margin producer: The operating costs for the project are based on the aggregation of FYI's two project sites:

- Cadoux – the mining and beneficiating of 63ktpa of kaolin to produce 44ktpa feedstock
- Kwinana – processing of 44ktpa feedstock to produce 10ktpa of HPA.

The updated DFS estimates life-of-mine C1 costs (FOB Kwinana) of US$6,661/t. Exchange rate forecasts have increased this USD-denominated project opex estimate (from US$6,217/t originally) due to the AUD component of the cost base. The AUD:USD exchange rate forecast in the DFS has moved from 0.70 to 0.75.

Potential extension of mine life

The updated DFS assumes a modelled 25 years' production from a potentially long-term mine life (>50 years supply of current Reserves). The company sees substantial potential exists for Resource and Ore Reserves growth, leading to mine life extension and increased HPA production. The updated DFS assumed a 25-year project life based only on Provided and Probable Ore Reserves (100%) within the area of the company's granted Mining Lease (M70/1388) (Figure 17). Exploration licence E70/4673 and Mining Licence M70/1388 are held by KKPL, a wholly owned subsidiary of FYI. The large Mineral Resource totalling 11.3Mt @ 22.5% Al_2O_3 provides optionality for the company to extend the mine life and produce more HPA.

Understanding HPA:
A Key to the Electrification Thematic

An introduction to HPA

High-purity alumina (HPA) is a crystalline white powder made from almost pure aluminium oxide (Al_2O_3). Commonly, HPA is defined as Al_2O_3 which is >99.99% pure.

HPA products are generally classified by purity:

- 99.99% = 4N (equivalent to ⩽100ppm impurities)
- 99.999% = 5N (equivalent to ⩽10ppm impurities)
- 99.9999% = 6N (equivalent to ⩽1ppm impurities)

Characteristics – why is this material in demand?

HPA is primarily sought after for its unique combination of chemical and physical properties and characteristics, which include low friction, high wear and corrosion resistance, hardness, thermal and electrical insulating abilities, and broad chemical compatibility. As a sapphire glass it is the second-hardest material (corundum) in the world after diamonds.

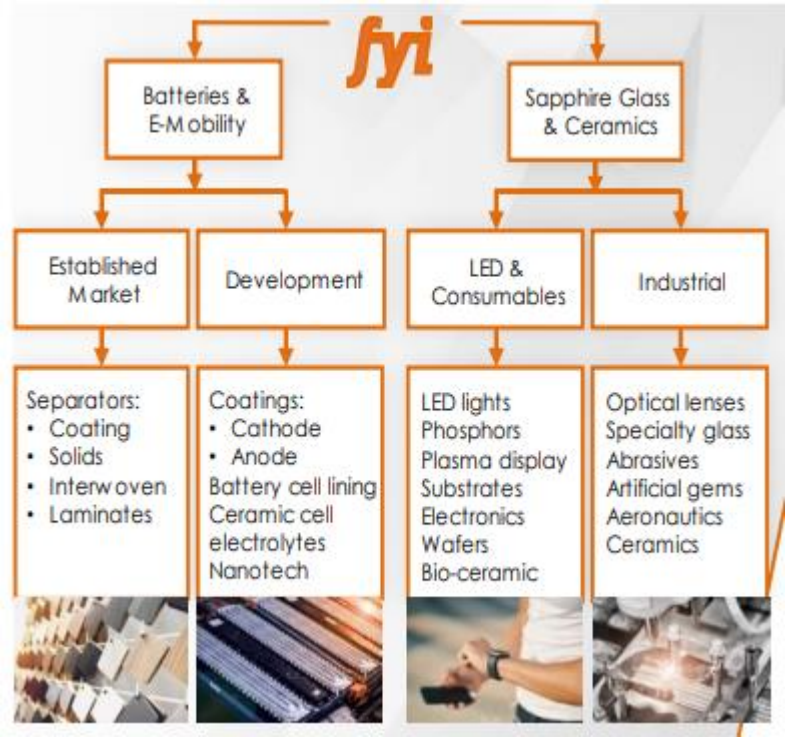
Applications – how is HPA used?

HPA is sold in a number of formats including pucks, pellet or granular form, depending upon the end-use. Various end-use applications have different physical and chemical tolerances and requirements.

The HPA market is split into two broad categories (see Figure 19):

- **traditional applications:** these include LEDs, artificial sapphire glass screens (e.g., TVs, tablets, smartphone screens, electronics and aeronautics) and plasma screens
- **e-mobility (EV) and battery and power storage applications:** these include LIBs, static power cells (power walls) and rechargeable batteries.

Figure 19: HPA applications



Source: FYI.

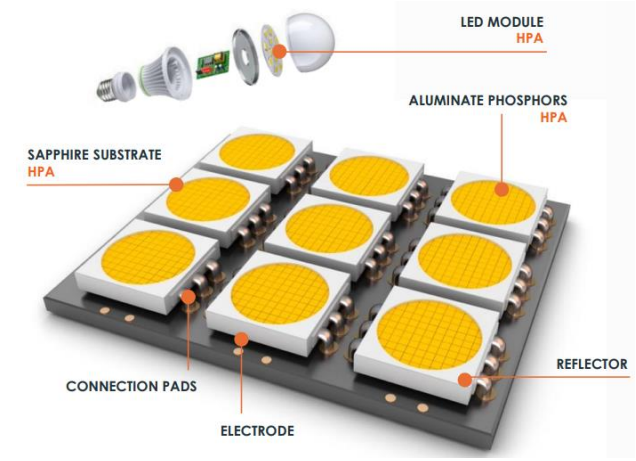
Demand picture for HPA – LIBs a significant opportunity

HPA can be used as a ceramic to coat separators in LIBs, an application which we believe will boost demand for the material. Separators act as a partition between the anode and cathode in the battery cell. Separators must maintain thermal stability while allowing the flow of electrolyte ions. HPA-coated separators significantly improve separator performance. They maintain thermal stability under very high operating temperature environments, which increases safety by reducing the risk of battery fires, and also extends battery life. There's about 5kg of HPA in every EV, on average.

We see strong demand for HPA with market analyst CRU forecasts showing approximately 20% CAGR from 2021 to 2028.

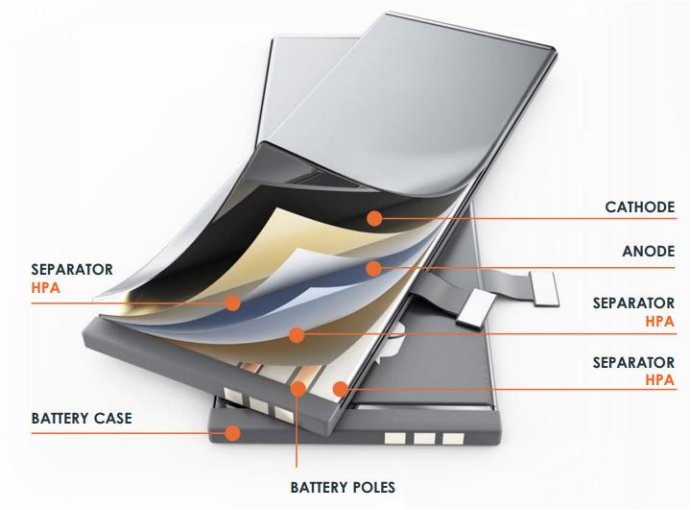
The current market for HPA is estimated to be around 30,000tpa. If we look at the key demand areas, and consider the potential growth, it could be estimated that about 38,000tpa of HPA, alone, will be required to coat separators in lithium-ion batteries by 2025. If the LED industry and separator forecasts are included together, an average of around 92,000tpa of HPA could be used in total by 2025.

Figure 20: HPA in sapphire glass/LED module



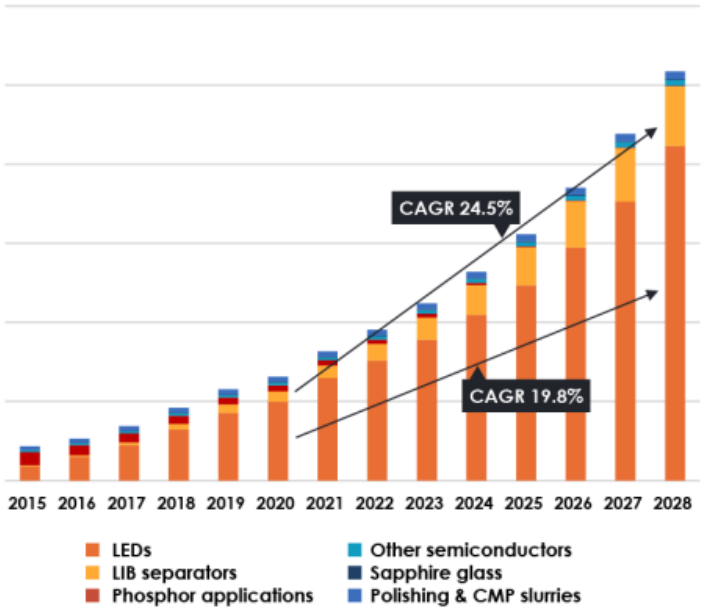
Source: FYI.

Figure 21: HPA in lithium-ion battery



Source: FYI.

Figure 22: HPA Demand profile, new applications driving stronger growth



Source: FYI.

Pricing for HPA – an opaque, relationship-driven dynamic

The HPA market is opaque, with the majority of the product sold under contract (not made public). There is occasional sales evidence through electronic market place platforms (e.g., Alibaba.com). HPA pricing is determined by product purity, the physical characteristics of the product, the ability of a producer to deliver consistent product quality and the end-use application of the HPA.

A key component of the HPA industry is establishing long-term relationships between suppliers and consumers. The tight tolerances in manufacturing processes mean that consumers need to ensure a quality product can be delivered consistently to specification. Consumers are generally prepared to pay higher prices if producers can guarantee a consistent supply of reliable-quality HPA.

Supply picture for HPA – deficit looming

The HPA market faces large forecast supply issues and is likely to be fundamentally undersupplied, driven by a number of factors, including:

- lack of appropriate suitable deposits for economically processing into HPA
- historical underinvestment in HPA production
- quality and purity product production issues
- increased capital intensity to bring new operations into production (of traditional supply)
- increased regulation and approval time frames.

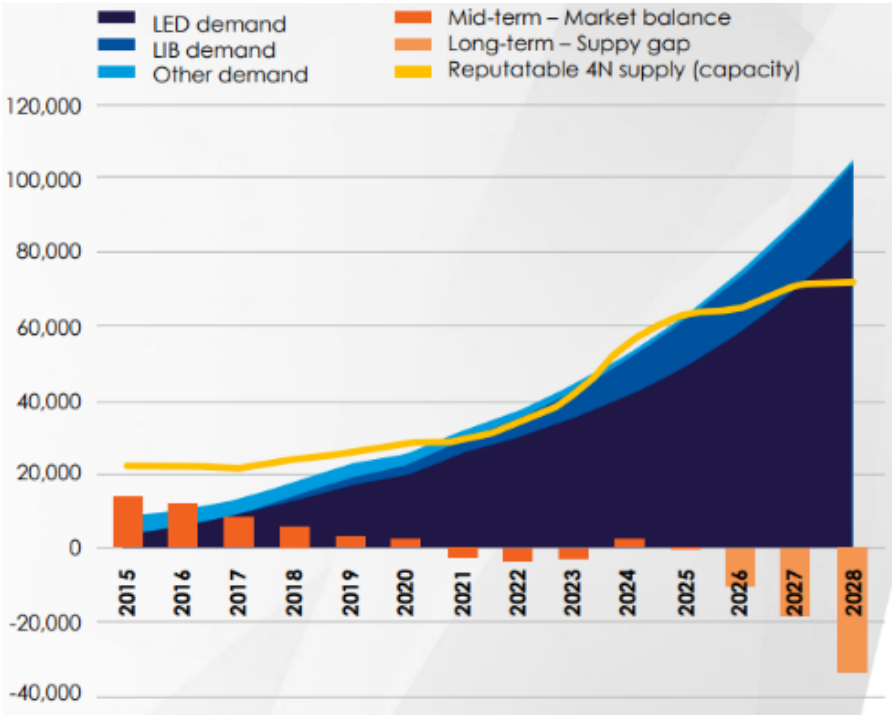
HPA Supply – Fragmented and Needs time

The HPA market is fragmented and opaque, with the largest producer Sumitomo Chemicals out of Japan. Other major global HPA producers are located in China, Japan, South Africa and France. China is a key marginal supplier which have very expensive and slow processes and where the quality and the purity is somewhat questionable.

Market analyst CRU in 2019 said 'supply would not meet estimated demand even if every project comes online'. CRU also stated the 30,000tpa 4N market would build to a supply deficit of nearly 30,000t by 2028 and that supply is essentially shrinking

As with FYI it can be noted that new HPA entrants will take at least a few years to bring their operations online, leading to a likely scenario where demand looks to be significantly outstripping supply, with some comparisons that can be made to the lithium industry 10 years ago.

Figure 23: The demand-supply balance for HPA (tonnes per annum): Supply is tightening



Source: FYI / CRU

Further Growth Option – Rare Earths Opportunity

Rare Earths - FYI's Motivation

FYI's move to look to Rare Earths via the staged acquisition of MOPL and collaboration with Arafura Rare Earths compliments its main HPA project with alignment in the critical minerals space and similar end battery markets. The key rationale behind the rare earths as a further growth option are:

- An opportunity to participate in the development of a potentially world class downstream rare earths production
- Straightforward project delivery, low development cost
- Well-resourced and experienced mineral sands / rare earths team
- Industry and Government support
- Ideally positioned with credible industry partners, to create strategic collaborations
- Attractive preliminary economics
- Complementary to the core HPA project, high quality production, critical minerals and ESG objectives
- Combined capacity, project experience and technologies
- Timing with Industry tail wind and sector growth.
- Contribute to Australia's sovereign supply chain capabilities

FYI has expanded its critical minerals strategy into the rare earths sector through a binding Heads of Agreement that provides for the staged acquisition of 100% of Minhub Operations Pty Ltd (MOPL). MOPL is collaborating with potential suppliers of rare earth–rich mineral sands concentrate to provide a midstream processing solution via offtake of such concentrate, including from the heavy rare earth–rich Gippsland and Murray Basins. FYI and MOPL are working towards having a Minhub rare earths separation feasibility study completed in Q1CY2024.

Separately, MOPL and Arafura Rare Earths Limited (ASX:ARU) have signed a non-binding Co-operation Agreement to investigate the joint development of the Minhub Mineral Sands Processing facility in the Northern Territory, Australia (the Minhub Project).

Project focus – processing third-party mineral sands

The Minhub Project seeks to process third-party mineral sands concentrate in order to separate the high-grade rare-earth minerals xenotime and monazite from other valuable mineral sands products, such as zircon and ilmenite.

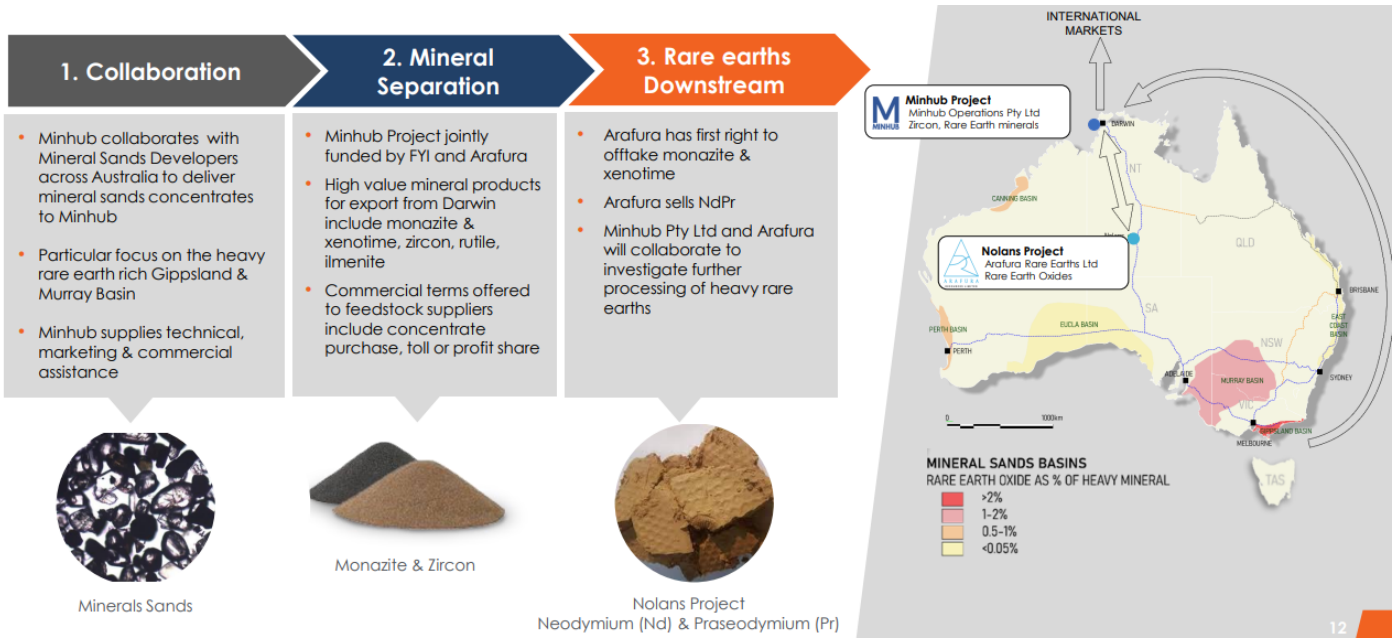
Economic rationale for project – global shift to decarbonisation

High-grade rare earth minerals monazite and xenotime, recovered from Australia's mineral sands deposits, have historically been a major value component of those deposits and a significant contributor as feedstocks for the global rare earth market.

However, increased low-cost Chinese production from the 1980s led to lower rare earth prices and a wind-down and closure of rare earth processing operations in the Western world. For a period of approximately 20 years, most of Australia's monazite production was returned to the pit as waste or stockpiled.

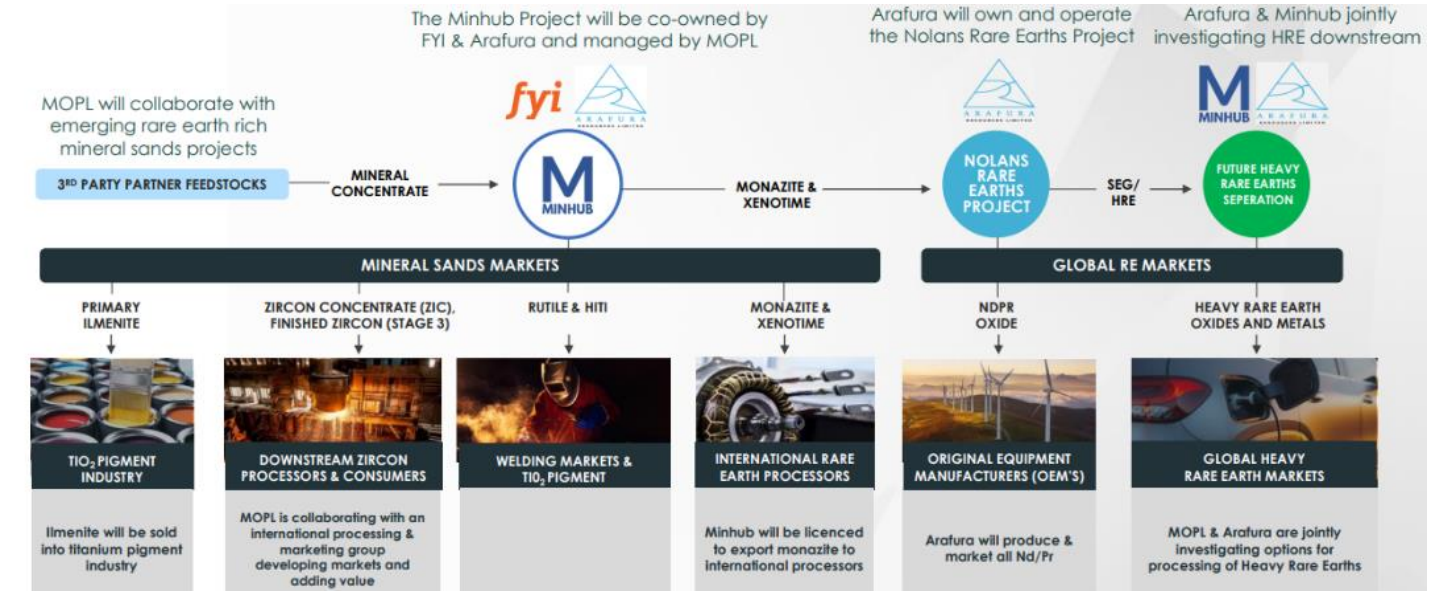
With the shift towards global electrification and decarbonisation, the rare earths used in rare earth magnets have become a major value driver for new mineral sands projects, particularly from the rare earth–rich mineral sand deposits of Victoria.

Figure 24: Commercial framework for the Minhub Project



Source: FYI.

Figure 25: Supply chain through the Minhub Project



Source: FYI.

The Rare Earths Market – A Quick Overview

The rare earth elements (REEs) might colloquially be referred to as 'industrial vitamins' because, despite being used in small amounts, they play an important role in various industrial processes and are essential to enabling many modern industrial materials and technologies.

Rare Earths: What Are They?

The REEs are a group of 15–17 metallic elements composed of the lanthanides on the periodic table, and sometimes also including scandium and yttrium (non-lanthanides). These elements, while sharing similar chemical properties, possess distinct physical and magnetic characteristics.

REEs are typically divided into two categories, light and heavy, based on their atomic weight and electron configurations. Heavy rare earth elements (HREEs) have a higher atomic weight compared to light rare earth elements (LREEs). Because of their geochemical properties, the elements are rarely found in concentrated economic clusters (ore deposits). Typically, economically viable ore deposits will contain concentrations of many or all of the individual REEs.

Global Rare Earths Market: Demand, Production, Supply and Pricing

The global market for rare earths is considered a niche market, as demand for these materials is relatively small compared to other commodities, but the importance of these resources cannot be overstated. The US and the EU consider rare earths to be among the most resource-critical raw materials – they score high on both supply risk and economic importance risk matrices. As a result, they are an area of intense focus for governments as they review their critical raw material strategies.

Demand increasing – especially for magnetic REEs as EVs and wind turbines multiply

REEs have a wide range of industrial applications, including in rare earth permanent magnets (e.g. NdFeB magnets), catalysts, glass and ceramics, metal alloys, and electronics.

By volume, most rare earth consumption is driven by low-value end uses that consume La and Ce; catalysts, polishing powders, and metallurgical applications. This represents >40% of the end-use categories by volume for rare earths.

However, by market value, permanent magnet use is the most important and highest-growth end use for REEs. In 2019, approximately 5,000 tonnes of rare earth permanent magnets were used worldwide in electric vehicles (EVs). This figure is expected to increase significantly by 2030, with estimates ranging from 40,000t to 70,000t of rare earth permanent magnets on a global scale. This is due to growing EV penetration, with the global EV fleet forecast to grow 27% per annum from 2020 (13m EVs) to 2030 (140m), and then 15% per annum to 2040 (565m).

Uses in rare earth permanent magnets (which underpin key modern technologies)

The use of magnet REEs and boron (B) is crucial for the design of 'neodymium' (NdFeB) permanent magnets, commonly present in wind turbines and electric vehicles (EVs) (Exhibit 26).

HREEs (especially Dy/Tb) play a critical role in rare earth permanent magnets. NdFeB permanent magnets (PMs) are crucial for developing efficient, lightweight, and compact traction motors. These magnets are composed of approximately 28–32% NdPr, with minor additions of DyTb (4–8%) to enhance performance under high-temperature conditions.

Dysprosium (Dy) and terbium (Tb) are essential ingredients for high-performing modern permanent magnets. Dy improves the temperature stability of NdFeB magnets, and Tb increases their energy for stronger magnets in high-temperature applications such as EVs and wind turbines.The use of DyTb is essential for producing magnets that can withstand high temperatures. Adding DyTb to the magnet increases the coercivity of the motor, enabling it to operate at much higher temperatures (150–240oC), and more efficiently, than motors with only NdPr (maximum temperature: 80oC) which start to demagnetise at lower temperatures.

Rare earths are used in a wide range of military equipment, communications systems, intelligence-gathering systems, nuclear weapons, and other strategic defence systems.

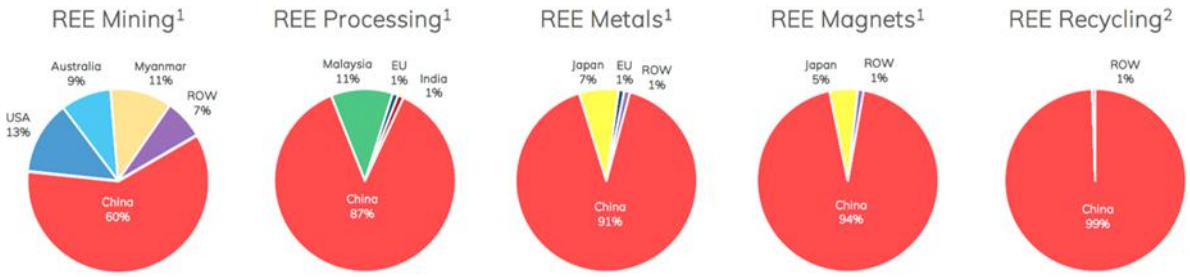
Refining and production – China the dominant player

Most refined rare earths are processed in China

Rare earth minerals are processed into refined products, either as mixed or semi-separated compounds or individual rare earth compounds. Further refinement, or metallisation into rare earth metals and alloys, is necessary for magnetic applications. Most refining occurs in China (~91%), comprised of both domestically mined product and imported ores and mineral concentrates for separation and refining.

As shown in Exhibit 26, China currently dominates processing (87%), metal making (91%), magnet making (94%), and REE recycling (99%).

Figure 26: China is dominant at all stages of the rare earth supply chain



Source: EuropeanRaw Materials Alliances

As the global demand for REEs increases and the West seeks to establish alternative supply chains outside of China, it is crucial to develop the necessary assets and cultivate the essential expertise and capability to extract and process REEs effectively. This includes the knowledge and resources to separate and refine the various REE compounds and convert them into value-added components.

Pricing – Basket Pricing

Most ex-China production is sold as ore concentrate or moderately beneficiated products, e.g., mixed rare earth carbonate (MREC). Lynas produces a range of refined REOs in Malaysia (mostly LREEs), sold to customers in other end markets including Japan. Lynas also produces small quantities of mixed SEG (samarium, europium and gadolinium) and HREEs (holmium to yttrium), sold as mixed products to Chinese refiners.

Some REEs are also sold in other forms (such as metals, alloys, or salts), depending on the specific application and the processing requirements of the end user. For example, dysprosium, terbium and ytterbium are used in the form of metals, while cerium and lanthanum are used in the form of salts.

Since REEs are largely a niche commodity with bespoke products and end uses, most commercial terms for pricing and sale are negotiated between producers and downstream consumers. In China, the price is more tightly controlled by the few large SOE producers, with the annual mining quotas used as a tool to increase or constrain supply in the market (where possible).

Many pricing references exist for the variety of REOs and metals. REE prices are typically referenced in US dollars per metric tonne. They can also be quoted in other currencies or as a price per unit of weight. Prices can be obtained through various sources, such as industry publications, commodity exchanges, and consulting firms.

Examples of industry publications that provide rare earth prices include Asian Metal, Metal-Pages, Shanghai Metals Market and Industrial Minerals.

ESG: FYI Product Essential in Modern Economy; Sustainability Policy Guides Path Forward

Environmental, social and governance (ESG) factors play an integral role in many investors' decision-making for ethical reasons and because many investors expect to achieve better returns from sustainable businesses.

Overall ESG assessment: Strong practices, effective from the global to local level

The big picture (global and national)

In our view, FYI's overall ESG profile is strong, with a clear sustainability policy to ensure that all key ESG factors are covered. FYI considers these factors at the global, national and community level. The company's key product makes a meaningful contribution to global decarbonisation and electrification efforts. Mining also contributes significantly to employment and state and national economies.

On-the-ground sustainability (regional and local)

Moreover, responsible mining can also provide sustainable benefits for the communities in which it occurs. FYI is committed to working in partnership with local stakeholders and communities to identify and achieve these benefits, while delivering value to all stakeholders, by:

- **doing business responsibly:** meeting the needs of communities as well as obligations to shareholders by operating to develop a long-term sustainable business
- **communicating openly:** committing to open and inclusive stakeholder engagement
- **leaving a positive mark:** contributing to local environmental sustainability; partnering with local stakeholders and communities to enhance local businesses and economy; contributing to the local and regional economy.

Environmental – HPA strongly environmentally positive

Our environmental assessment of FYI's environmental credentials looks at two categories:

- the company's projects (mining and processing)
- FYI's key product, HPA.

The key identified environmental issues for mining and processing for FYI are:

- Excessive energy use and greenhouse gas emissions
- Disproportionate effluent and waste production
- Land degradation and negative impact on biodiversity
- High water use
- dust control
- power supply
- rehabilitation.

Environmental impact of Cadoux Mine: relatively low due to helpful terrain, permitting and approvals underway

The mining process at Cadoux consists of the following processes:

- Clearing of small mine footprint vegetation and topsoil stripping and storage
- Haul road and ramp construction
- Grade control
- Establishment of any required pit bunds
- Excavating and hauling overburden material to surface storage facilities or backfilling of mined out voids wherever ore mining has been completed
- Ore mining and hauling to ROM stockpiles
- Rehandling of Cadoux plant rejects, tailings (beneficiation of ore)
- Recycling of treatment water
- Stockpiling of high value silica
- Rehabilitation works and pit dewatering when required

We view the mining process for FYI to have relatively low ESG risk as:

- The mine site location is comprised of relatively flat terrain with the surrounding environment being predominantly pastoral.
- The kaolin orebody is soft and amenable to free digging (i.e. no drilling and blasting).
- Staged block mining and continuous backfilling during operations will minimise the disturbance footprint of the small-scale mining as well as limit the environmental impact at the site. Overburden and rejects are placed back into the previously excavated sections of the pit as soon as they become available for backfilling.
- Small mine footprint
- Beneficiation plant process uses minimal reagents with waste rock returned to the excavation site. is predominantly

Environmental impact of Kwinana Processing Plant – Low Energy and CO_2 Process

FYI uses an innovative processing flowsheet and basic chemistry refined to suit Cadoux ore characteristics. The Company targeting the development of a low industry capex and low opex process where kaolin concentrate goes to a refinery where the material passes through a conversion furnace prior to a metakaolin leach process which is followed by a 3-stage precipitation process adding Hydrogen Chloride gas.

FYI is seeking to produce a consistent ethically sourced and reliable quality end-product. The Company's bespoke pilot plant facility has played a critical role in the validation and de-risking the innovative HPA flowsheet.

An optimised trial with plant modifications for both flowsheet and materials handling to improve upon the targeted 4N HPA. Feedstock variability test work produced assays from 99.997% - 99.998% HPA, which highlights the efficiency and efficacy of the process flowsheet. Whilst the Locked Cycle test work achieved 99.999% alumina (5N).

The refinery is proposed to be built on small footprint on a 6-hectare site at the Kwinana Industrial Estate.

The process is lower energy than established HPA processes that use Bauxite as a source and produces less CO_2.

Waste product from Kwinana is inert. The predominant material is silica and is saleable as sand or alternatively may be the site will be transported back to Cadoux for neutral disposal into the mine void.

Environmental Benefits of HPA

HPA growth has been invigorated in response to global investment in EV's as post COVID19 and critical minerals stimulus incentives achieve traction. New applications and technologies have created increased demand and market opportunities;

- LED
- Phosphor (solid material that emits light, or luminesces, when exposed to radiation such as ultraviolet light or an electron beam)
- Sapphire (Synthetic sapphire holds the same properties and strength as natural sapphire gemstones, but without the colouring agents)
- Separator / EV Battery
- Semiconductor

Key environmental drivers for products using HPA:

- Increasing energy consumption awareness and strict Government emission policies phasing out of old and inefficient lighting applications (eg. incandescent, neon, halogen) being replaced by LED.

– HPA is utilised within LED lights for the LED module, aluminate phosphors and sapphire substrate.

- HPA is a major input into ceramic coated separators (CCS) in batteries

HPA provides greater safety, integrity, performance and charging rates in EV batteries

Social

FYI Resource's focus is with employees, host governments, commercial and state counterparties, stakeholders and the communities in which it operates. The role of the Company in society, workplace policies (employee relations and engagement, diversity, non-discrimination and equality of treatment, health and safety and wellbeing), ethical procurement, any social or community projects undertaken by the Company and social aspects of the supply chain, community and stakeholder engagement or partnerships is also a key driving force of the company's policies and procedures.;

Stakeholder engagement and consultation activities for the HPA Project commenced in 2017 and are ongoing. No significant issues have been raised to date by key stakeholders and the project will create local and regional benefits in the Cadoux and Kwinana areas. FYI will continue the engagement with key stakeholders as it develops its Cadoux mine and Kwinana processing facility.

FYI has identified and met with the following stakeholders:

- WA Government agencies
- local government
- landholders and adjacent tenement holders
- ipotential custmers and suppliers
- non-government organisations
- Aboriginal organisations and traditional owners – in particular, FYI has actively been in discussion with the South West Aboriginal Land & Sea Council (SWALSC), which acts on behalf of the Ballardong People. FYI signed a Noongar Standard Heritage Agreement (NSHA) with the Ballardong People on 15 July 2019, and provided WA's Department of Mines, Industry Regulation and Safety (DMIRS) with the required Statutory Declaration notifying DMIRS of the signed NSHA.

Strong government support – Federal Major Project Status and State Lead Agency

FYI has been granted Major Project status by the Australian Federal Government. The awarding of Major Project Status is the Australian Government's recognition of a project's national significance and potential economic contribution to the country. The awarding of the MPS recognizes FYI's role in the growing battery and energy related minerals industry in Australia through the planned participation and investment in the downstream critical minerals processing sector. The MPS supports the development of FYI's HPA project.

The benefits for the Company achieving Major Project Status are:

- a single-entry point for Commonwealth Government approvals;
- project support and coordination;
- assistance with state approvals;

potential financing support; and provide additional confidence to investors and financiers

WA Lead Agency FYI received the support of the Premier of WA, who is also the Minister for State Development, Jobs & Trade, in the form of a request to the Department of Jobs, Tourism, Science and Innovation (JTSI) to provide lead agency services to the project. This will assist with project development and the timing of the required approvals. Following discussions with DMIRS, FYI was informed that a WA Government royalty rate of 2.5% (instead of 5%) will be applied to the project.

Governance

The Board of FYI is committed to following the corporate governance guidelines and recommendations set out by the *ASX Corporate Governance Principles and Recommendations* (ASX Guidelines).

FYI has employed good practices to ensure that the business operates ethically and transparently. Its sustainability performance is monitored by the board of FYI.

The board has four members, three of which are independent. This satisfies the ASX Guidelines of having at least 50% independent directors. We would expect that, as FYI grows and approaches production, the board will appoint additional appropriately qualified independent directors.

The Board has a 75%/25% male to female split.

Figure 27: Board of Directors: Relevant experience and skills

Experience Skills and Attributes	Directors			
	Edmund Babington	**Roland Hill**	**David Sargeant**	**Sandy Chong**
Professional and Tertiary Skills				
Geology		✓	✓	
Engineering		✓	✓	
Commerce and Business		✓	✓	✓
Law	✓			
Financial/Accounting and Governance	✓	✓	✓	
Member of professional body in field of expertise	✓	✓	✓	✓
Gender:				
Industry Experience:				
Resource industry (resources, mining, exploration)	✓	✓	✓	✓
Risk management and compliance	✓	✓	✓	✓
Corporate Governance	✓	✓	✓	✓
ESG		✓		✓*
Capital raising	✓	✓		✓
Financial acumen	✓	✓	✓	✓
Safety, environment and community relations	✓	✓	✓	✓
Strategy	✓	✓		✓
Leadership	✓	✓	✓	✓

* Specifically appointed for ESG

Source: FYI / *MST*

Management: Experience in All the Right Places

FYI has put together an exceptional management team, in our view, with experience that covers everything needed to fund, develop and operate large Australian HPA and rare earths production projects.

Board of Directors

Edmund Babington, Non-Executive Chairman, specialises in the law relating to mining and resources, plus capital raisings, stock exchange requirements, corporate governance and compliance for public companies. He is Nomination and Remuneration Committees Chair and on the Audit and Risk Committee.

Roland Hill, Managing Director, has extensive experience in resources as well as investments, finance and funds management. He has been involved in the mining and exploration sector for over 20 years in contracting roles, and with Western Mining Corporation, Normandy Poseidon, and a 7-year role as Managing Director and Chairman of Crescent Gold – an ASX-listed gold producer (production of ~100,000oz pa). Prior to this, he was employed by several Australian national and international stockbroking firms and investment banks in ECM and as a senior mining analyst before his senior role as a Portfolio Manager with Deutsche Bank in its Australian and international resources equity fund.

David Sargeant, Independent Non-Executive Director, has held a range of senior positions, including that of senior geologist with Newmont and senior supervisory geologist with Esso Australia during the Harbour Lights Gold Mine discovery and development. He was Tefler Gold Mine's first chief geologist during its exploration, development and production, as well as exploration manager for the Adelaide Petroleum group of companies, manager of resources development for Sabminco and a technical director of Western Reefs as it became a successful producer at the Dalgaranga Gold Project.

Dr Sandy Chong, Independent Non-Executive Director, has significant ESG experience in leadership roles and was 2020 Executive of the Year at the US Stevie® International Business Awards and 2016 Singapore Management Consultant of the Year. She founded and chaired WA's UN Sustainable Development Goals Forums series and has served on industry councils and non-profit boards. She has advised Australian and Singaporean government trade agencies and businesses in international market and communication strategies and is an Adjunct Professor at Curtin University of Technology.

Senior Management

Raj Kandiah, Head of Commercial, holds a Bachelor of Science (Chemistry) from Deakin University and an MBA (Executive) from the AGSM, and is a graduate of the Australian Institute of Company Directors. He is pursuing a Master of Sustainable Development degree at Murdoch University. Mr Kandiah has over 30 years' experience in commercial roles including as GM: Argyle Pink Diamonds; GM – Marketing: Rio Tinto (based in Perth); and Head of Commercial for various iron ore, bauxite and steel scrap companies. Most recently he was Director - New Market Development for Alcoa, investigating HPA.

Phil Thick, Strategic Advisor, had a 20-year career with Shell, both in Australia and overseas. For the last three years, he was on the board of Shell Australia as downstream director. Five years as a director and CEO of Coogee Chemicals followed, then four as MD of New Standard Energy. He headed up Tianqi Lithium Australia (a subsidiary of China's Tianqi Lithium, one of the world's largest lithium companies which owned 51% of the WA Greenbushes mine, the world's best hard-rock lithium resource) in 2016–2020. He was charged with building the world's largest lithium hydroxide plant in Kwinana, a nearly A$1bn investment. He chairs the boards of the Chamber of Arts and Culture WA and Perth Symphony Orchestra.

Phil MacLeod, Company Secretary, has over 30 years' commercial experience working and consulting in many organisations and industries: resources, technology, healthcare, manufacturing, property, insurance and financial services. As a company secretary and director, he has given corporate, compliance and management advice to listed and unlisted companies in Australia and overseas.

Hans op den Dries, Chief Financial Officer, is a CPA with corporate, business advisory and company secretarial experience. He has over 30 years' experience providing financial and strategic advice and services to a wide range of small-cap, unlisted and listed public companies and privately owned businesses in WA's resource-driven industries. His experience spans most commodities including the basic and specialty chemicals industry. Since 2010, he has been focused on early-stage development companies, assisting them with their feasibility studies and getting them ready for construction.

Claudio di Prinzio, Manager (Operations & Technology), spent 20 years with Alcoa in operational and technical roles in the alumina refineries in Australia and overseas, as well as the Alcoa Technology Development group, then 6 years with Rio Tinto Iron Ore as Metallurgy Manager for the Resource Development group, helping develop several new mines and plants. He was later Operations Manager at Tianqi Lithium Australia. He was responsible for the technical and operational streams during the detailed design through to plant commissioning for the lithium hydroxide plant in Kwinana.

Valuation: DCF-Driven SOTP = A$0.43/Share

Methodology: SOTP valuation largely driven by the HPA Project

We value FYI using a sum-of-the-parts (SOTP) methodology. Our base-case, risked NPV valuation for FYI is A$0.43/share on a fully diluted basis (see Figure 28). We believe FYI shares are trading at a substantial discount to fair value based on our assessment of the fundamental value of the flagship HPA Project, given that this is the most material component of our overall FYI valuation. We value the HPA Project using a risked discounted cash flow (DCF) at A$719m (A$0.43/share).

We have given the Minhub operations a high-level valuation of A$20m (A$0.01/share). FYI will complete a feasibility study for the Minhub Project in early CY2024, with the goal of developing it in parallel with Arafura's Nolans Project. At this stage we see this project as an option; however, we will monitor its progress and adjust our valuation accordingly upon the release of the feasibility study.

Figure 28: FYI valuation summary

NPV OF PROJECTS	A$M Valuation (Unrisked 100% Ownership)	Ownership %	Risk Probability	A$M Risked Valuation	Equity Value A$/Share Fully Diluted	Valuation Methodology
High Purity Alumina Project	1,439	100%	50%	719	0.43	Risked Project NPV
Rare Earths Project	20	100%	100%	20	0.01	MST Estimate
ENTERPRISE NPV	**1,459**			**739**	**0.44**	
Add: Cash	9	100%	100%	9	0.01	As at 31 March 2023
EQUITY VALUE PRE SG&A	**1,468**			**748**	**0.45**	
SG&A	(30)	100%	100%	-30	-0.02	NPV of Corporate Costs
EQUITY VALUE	**1,438**			**718**	**0.43**	

Source: FYI, MST estimates.

Base-case for HPA project component: DCF

We apply a risk weighted DCF analysis, which represents FYI's primary value driver. The project is well advanced. An updated DFS is completed, outlining a robust project with a 25-year mine life, and pilot plant that can consistently produce high-quality HPA.

We have risked the project at 50% given the need to fund over A$300m of capex and to ramp up to 10,000tpa of production. A key to enhancing the valuation is for FYI to de-risk the project through steps such as delivering the demonstration plant and engaging strategic partners and/or offtake partners.

Key assumptions for HPA DCF valuation

Our base-case NPV valuation is built upon a mine plan which aligns with the recently published updated DFS and assumes 100% ownership of the project. Key headline assumptions in our valuation (see Figure 29) are:

- construction of the demonstration plant in FY2024–5; first production in FY2025
- demonstration plant production of 1,000tpa of HPA
- construction of the full commercial plant in FY2026–7; first full year of production in FY2028
- demonstration plant rolling into the full commercial plant – capex is the combined cost of both
- A$314m pre-production capex
- In funding of the project, we have assumed 50/50 Debt / Equity and have taken the additional shares into the fully diluted share count. Our assumed raising price is A$0.12.

Figure 29: Key assumptions for our valuation

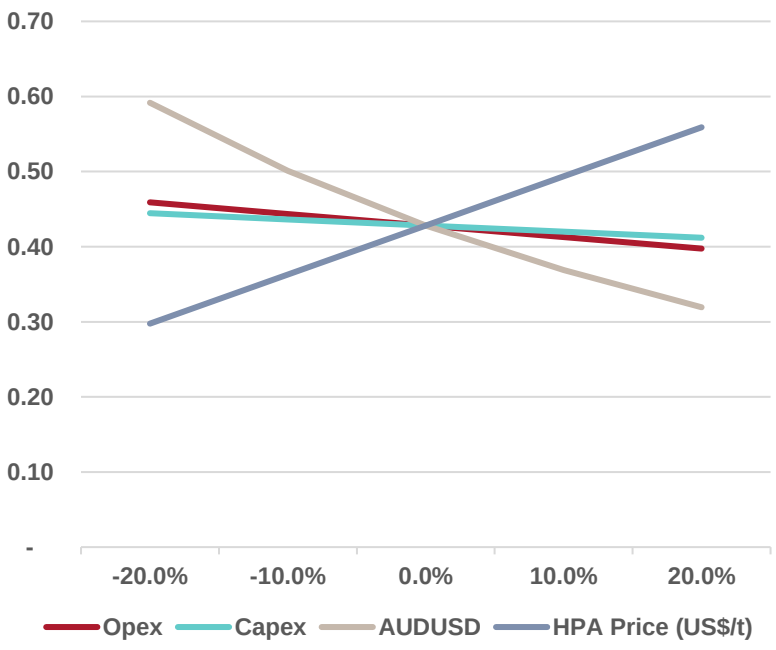
Assumptions	
PROJECT ASSUMPTIONS	
Project Ownership (%)	100%
Grade (% Al_2O_3)	25.9%
Average Production (ktpa)	10
Mine Life (years)	25
Capex (A$m, real)	314
COST & FINANCING ASSUMPTIONS	
Discount Rate (%)	10%
Inflation Rate (%)	2.5%
AISC (US$/lb)	8,881
Debt / Equity Ratio	50/50
PRICING & EXCHANGE RATE ASSUMPTIONS	
AUDUSD	0.70
HPA Price (US$/t) Escalated with inflation	26,400
Corporate Tax Rate (%)	30.0%

Source: MST estimates.

Key sensitivities: commodity prices, forex, costs, discount rate

The key sensitivities for our valuation are HPA prices, operating costs, capital costs and the AUD/USD exchange rate. Figure 30 illustrates how our base-case valuation changes from a variation in these assumptions.

Figure 30: Key sensitivities for our valuation



Source: MST estimates.

A Look at Comparative HPA Companies – All a Bit Different

A common cross check when looking at valuations of metals and mining companies is to look at the relative value of the resources in the ground, on Enterprise Value (EV) to Resources basis, and compare the relative valuation. This works well with companies that are in the terminal base metals markets such as copper, nickel, lead and zinc, as well as the precious metals markets such as gold and silver. With these markets and projects it is quite simple to compare projects with the same commodity and at similar stages.

However, when it comes to the HPA comparables on the ASX the task of comparison is more difficult due to the different sources of ore (Bauxite v Kaolin), the different stage of development, different processes and size of project.

We can look at a broad overview of each company and show the similarities and differences to FYI. The following companies are HPA related and listed on the ASX.

ALPHA HPA (ASX:A4N)

Market Cap: $982m

Company Summary

A4N's HPA First Project is aiming to supply high-purity alumina (HPA) at a purity of greater than 99.99% (or 4N) to the lithium-ion battery and light emitting diode (LED) manufacturing sectors. Results of a March 2020 DFS outlined a 10,000tpa 4N HPA project with a capital cost of A$308m and pre-tax annual cash flow of A$133-280m at 4N HPA prices ranging US$15,000-25,000/t. In June 2021, a HPA First Project Stage 1 was estimated to have revenues of $10-15m and generate free cash flow of $1.5-5.0m from aluminium precursor production of 200tpa. This project was subsequently scaled up to produce +350ktpa aluminium nitrates and additional high purity alumina and high purity boehmite. Production at Stage 1 commenced in late 2022. When integrated into the full HPA First Project, this free cash flow increases to $8-11m. The HPA First Project is a solvent extraction process using an aluminium chemical feedstock purchased on globally traded markets. In March, the Queensland high purity alumina (HPA) project developer was awarded a $45m government grant, all part of a wider $250m program designed to build Australian industrial capacity and reduce reliance on China for critical metals.

Comparison to FYI – More Advanced but Similar Strategy

A4N is at a more advanced stage than FYI. However with a similar path to market via a demonstration plant it demonstrates the value that the market is prepared to pay for a more advanced project that has government support.

ALTECH (ASX: ATC)

Market Cap: $133m

Company Summary

ATC has been attempting to source financing for its 4,500tpa Johor HPA project in Malaysia for several years. It requires some $200m on top of the committed senior loan facility of US$190m from German government owned KfW IPEX-Bank.The project aims to generate $US76 million of free annual cash flow at full production. ATC has also advanced an agreement with German battery institute Fraunhofer IKTS to commercialise the CERENERGY Sodium Alumina Solid State (SAS) Battery and commercialise a 100 MWh project to be constructed on Altech's land in Schwarze Pumpe, Germany.The target market for this project will specifically focus on the grid (stationary) energy storage market which is expected to grow from US$4.4 billion in 2022 to US$15.1 billion by 2027.

Comparison to FYI – Higher Risk HPA Location, Seeking Alternative paths

ATC has chosen a different path to FYI, linking with a German partner to prioritise the battery project in Germany. The HPA project remains a focus for the company however finding funding has become challenging given the higher risk jurisdiction. The project still looks attractive with strong EBITDA generation despite being approximately half the size of HPA's project.

SUVO STRATEGIC MINERALS (ASX: SUV)

Market Cap: $23m

Company Summary

Suvo Strategic Minerals Limited is an Australian hydrous kaolin producer and exploration company. Suvo is focused on production at, and expansion of, their 100% owned Pittong hydrous kaolin operation located 40km west of Ballarat in Victoria. Suvo's exploration focus is on near-term kaolin and high purity silica assets with 100% owned Gabbin (kaolin), Eneabba and Muchea (silica sands) projects located in Western Australia.

SUV is acquiring a 26% share in green HPA player Dingo, which is developing a technology to produce HPA from recycled aluminium feedstock. The transaction provides Suvo with the opportunity to develop a novel, green HPA process. Dingo's IP is currently at the concept study level. A scoping study has been designed to assess the techno-economic viability of Dingo's proposed flowsheet to produce HPA and validate the feasibility of a near-term project. Suvo has a pathway to acquire up to 76% of the issued capital of Dingo, subject to various milestones being met.

Comparison to FYI – Far less advanced, new technology

Suvo / Dingo technology is looking at the recycling of scrap aluminium into HPA. The concept has merit given the potential ease of source material. Proof of the concept is some time away and there are no firm indications of capital costs, operating costs or EBITDA. SUV also have had cash issues and have prioritised other parts of the business.

ANDROMEDA METALS (ASX: ADN)

Market Cap: $118m

Company Summary

Andromeda Metals is an Australian company with a vision to lead the world in the sustainable supply of superior quality industrial minerals. With its large, high-quality halloysite-kaolin resources, ADN seeks to build long-term relationships with customers globally, supporting them to produce premium products and clean technologies. The company's core asset is the Great White halloysite-kaolin Project.

Comparison to FYI – HPA work done, but secondary under new management

ADN has spent some R&D on the use of its kaolin in the HPA process. A patent application was made by ADN in July 2022 for a novel manufacturing process for HPA and smelter-grade alumina (SGA) using kaolin as a feed material. A recent change in CEO has seen a change in strategy with ADN focusing on the ceramic tile and concrete market for its kaolin products. The HPA strategy has been given a lower priority and will now be several years down the track.

CHEMX MATERIALS (ASX: CMX)

Market Cap: $6m

Chemx is an advanced materials technology company and is developing materials to enable the energy transition and decarbonisation processes through the development of its HiPurA HPA technology, the Kimba Kaolin / Halloysite project and Jamison Tank Manganese project.

CMX says a key competitive advantage is that the HiPurA process is not tied to mine production, with the feedstock being a widely available chemical. Following a successful pre-feasibility study, the company is now building a $2.5m, 50tpa pilot plant in Perth to produce larger quantities for customer qualification.

Comparison to FYI – Far less advanced, technology to be proved

Chemx is at a far less advanced stage than FYI, and its new technology is yet to be proven. FYI has advanced past the pilot plant stage and is going to the next step of commercial production.

Positive catalysts for share price and valuation

We believe that FYI has significant potential for further share price and valuation upside and highlight a number of key milestones/catalysts which may deliver this upside over the near term.

Development of the SSP: Over the remainder of CY2023, the SSP will be planned, with costs and capex to be announced to the market by the end of the year and a clear pathway to delivery of the first larger-scale production project of HPA.

Construction of SSP and customer acceptance of product: The delivery of the SSP, at which time product testing with customers can begin and significant levels of HPA can be produced, will be a step towards de-risking the project.

Funding options for the HPA Project: With capex for the 10,000tpa plant of US$202m, FYI will seek a number of funding options including a strategic partner, offtake funding, government grants and low-interest loans, export credit finance and commercial banks. Any non-equity-related funding progress would be positive for the share price and a de-risking event for our valuation.

Early project delivery: The early commencement of projects relative to stated development timelines would provide earlier cash flows and reflect positively on the management team, which would likely increase the valuation.

HPA market developments: The HPA market is aligned with the decarbonisation and electrification thematic. Further positive developments in the market and pricing will be a positive for FYI.

Capital and operating cost optimisation: Capital and operating cost savings would have a positive impact on margins, cash flows and the valuation and would be a positive reflection on the company's management team.

Downstream opportunities: As exemplified by its MoU with emerging graphite producer EcoGraf to develop HPA-doped carbon coatings material on carbon (graphite) anodes for application, other opportunities may be available for the company to pursue downstream.

Minhub Operations development: The Minhub rare earths project is a key strategic option for FYI. Further development and increasing information flow into the market will allow more substantiation of the project and valuation guidelines.

Risks to share price and valuation

The project's location in WA with beneficial access to existing critical infrastructure, as well as the simple technical aspects of the mining/processing, are all notable positives for the project and provide an offset to the risk inherent to a mining development in general as well as project-specific risks identified.

Concentrated commodity exposure: The asset base has a concentrated product exposure. However, we believe this risk is offset by the company's operations in a Tier-1 jurisdiction, its strong ESG fundamentals, strong market fundamentals, and the company's proposed development of the rare earths Minhub Project.

Delays to, or lack of development of, SSP: The delivery of the SSP will be a key step towards de-risking the project and beginning product testing with customers. Any delay or cancellation of the project will add further risk to FYI's capacity to deliver a full project to the market and customer acceptance of the product.

Project funding: Funding is the key step to development of the project. Any delays or funding issues pose a key risk to its development.

Project delivery delay: The later-than-expected commencement of projects relative to stated development timelines would delay cash flows and reflect negatively on the management team, which would likely decrease the valuation.

Commercially unproven process: Although FYI has been able to produce very high-quality HPA at its pilot plant, the acid leach HPA process is still unproven on a commercial scale for production of the high-purity 4N product.

Price decreases in key commodities: The valuation is sensitive to the underlying commodity price of HPA. Price decreases would have a negative effect on the valuation and share price.

Capital and operating cost increases: Capital and operating cost increases would have a negative impact on margins, cash flows and the valuation and would be a negative reflection on the company's management team.

Financials: Project Funding Focus; A$9m in Bank

Project funding

FYI indicated in its updated DFS that it will need approximately US$202m to bring the project into production. The company is actively pursuing a suitable funding package via a structured process to align with detailed engineering, construction and operational readiness plans.

Funding options for overall HPA Project

FYI will consider a number of project funding options. The final project financing package will likely include a combination of funding options, potentially including:

- equity
- debt
- offtake advance payments
- ESG financing
- export credit finance
- a joint venture contribution at the project level.

Funding of SSP

FYI plans for the SSP to produce 1,000tpa of HPA, a level at which customers can test the product for acceptance and which will deliver some revenue prior to the implementation of the full-scale plant.

The details of the capital and operating costs for the project will be released later in CY2023.

We have estimated a capital cost of A$30m for the project based on a pro rata of the estimated cost of the full-scale plant.

FYI will need to fund this project and will seek innovative funding solutions. For the purposes of our estimates, we have assumed the plant will be funded by 50% debt and 50% equity.

Current cash position sufficient to fund up until SSP

As at 31 March 2023, FYI had A$9.1m in the bank. The cash is sufficient for FYI to support current operations and to take the company to the point of funding the SSP in CY2024.

Appendix 1: Resources and Reserves Definitions

Mineral Resources

A **Mineral Resource** is a concentration or occurrence of material of intrinsic economic interest in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. Mineral Resources are sub-divided, in order of increasing geological confidence, into the categories of Inferred, Indicated and Measured.

- An **Inferred Mineral Resource** is the part of a Mineral Resource for which quantity, grade (or quality) and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological or grade continuity.
- An **Indicated Resource** is simply an economic mineral occurrence that has been sampled (from locations such as outcrops, trenches, pits and drill holes) to a point where an estimate has been made, at a reasonable level of confidence.
- A **Measured Resource** is an Indicated Resource that has undergone enough further sampling that a 'competent person' (defined by the norms of the relevant mining code, usually a geologist) has declared it to be an acceptable estimate, at a high degree of confidence.

Mineral Reserves

A **Mineral Reserve** is the economically mineable part of a Measured Mineral Resource and/or Indicated Mineral Resource.

- A **Probable Mineral Reserve** is the economically mineable part of an Indicated Mineral Resource, and in some circumstances, a Measured Mineral Resource. It includes diluting material and allowances for losses which may occur when the material is mined. A Probable Mineral Reserve has a lower level of confidence than a Proved Mineral Reserve but is of sufficient quality to serve as the basis for a decision on the development of a deposit.
- A **Proved Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which occur when the material is mined.

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