

# INVESTOR NOTICE

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The PFS referred to in this presentation is a study of the potential viability of the Cadoux Project. It has been undertaken to understand the technical and economic viability of the Project. The PFS is based on the material assumptions outlined in the PFS announcement released to ASX on 25 September 2018 and summarised in the Summary of Material Assumptions and Modifying Factors description and tables (appendix 2 and 3) attached to the PFS document. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this PFS will be achieved. To achieve the range of outcomes indicated in the PFS funding in the order of US\$197 million will likely be required. Investors should note that there is no certainty that the Company will be able to raise the amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other "value realisation" strategies such as a sale, partial sale or joint venture of the Project. If it does, this could materially reduce the Company's proportionate ownership of the Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS. The contents of this presentation reflect various technical and economic conditions, assumptions and contingencies which are based on interpretations of current market conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly and without notice over relatively short periods of time. Consequently, actual results may vary from those detailed in this presentation. Some statements in this presentation regarding estimates or future events are forward-looking statements. They include indications of, and quidance on, future earnings, cash flow, costs and financial performance.

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# INVESTOR NOTICE

#### **COMPETENT PERSONS' STATEMENTS**

The information in this report that relates to Ore Reserves is based on information compiled by Mr. Steve Craig, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Steve Craig is a full-time employee of Orelogy Consulting Pty Ltd and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". The information is extracted from the Ore Reserve announcement released 29 October 2018 and is available to view on the Company's website at www.fyiresources.com.au

The information in this report that relates to Mineral Resources is based on information compiled by Mr Grant Louw, under the direction and supervision of Dr Andrew Scogings, who are both full-time employees of CSA Global. Dr Scogings is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. He is a Registered Professional Geologist in Industrial Minerals. Dr Scogings has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves". The information is extracted from the PFS announcement dated 25 September 2018 and is available to view on the Company's website at www.fyiresources.com.au

The information in this report that relates to metallurgy and metallurgical test work is based on information reviewed and compiled by Mr Daryl Evans, a Competent Person who is a Fellow of the Australian Institute of Mining and Metallurgy (AuslMM). Mr Evans is an employee of Independent Metallurgical Operations Pty Ltd, and is a contractor to FYI. Mr Evans has sufficient experience that is relevant to this style of processing and type of deposit under consideration, and to the activity that he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves". Announcements in respect to metallurgical results are available to view on the Company's website at www.fyiresources.com.au .

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the findings in the relevant market announcements continue to apply and have not materially changed and that all material assumptions and technical parameters underpinning the estimate in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcement.



# FYI SNAPSHOT OVERVIEW

Fully integrated WA high grade / quality mining and HPA processing pathway

> 25 year project / close to Perth

Leveraging off excellent infrastructure and participating in the Kwinana Battery Alley

Timing – surging long term global HPA demand

Robust technical and economic study delivers excellent PFS results

BFS is underway – due September 2019

Integral pilot plant studies commencing / due for completion July 2019

Advanced discussions with potential off-take parties and customers



# INTRODUCING FYI RESOURCES

# FYI is aiming to become a dominant participant in the global HPA market



Developing the world-class Cadoux project with with the goal of becoming a leading producer of HPA globally



Simplified, innovative and efficient flowsheet deriving HPA from kaolin



Located in a tier 1 mining jurisdiction in close proximity to infrastructure and WA's merging "Battery Alley"



The global HPA market is experiencing rapid global demand growth that is forecast to continue



Outstanding PFS results:

- low opex and capex
- high margin operation
- high quality
- sought after product

**Achievements** 



Metallurgical results exceeded 99.99% HPA targets



Process flowsheet optimised to reduce OPEX and CAPEX



Positive environmental study completed



Positive reception received from Asian HPA marketing trips



Delivered outstanding PFS for Cadoux



Commenced fully funded BFS for Cadoux



# FYI RESOURCES INVESTOR CHECKLIST

# 

#### PRODUCT AND MARKET FUNDAMENTALS

- ☐ HPA product quality to be validated by pilot plant and locked cycle testwork
- ☐ Market experiencing growing demand and broader applications
- ☐ Strong focus on market engagement and offtake
- ☐ Established relationships with key potential customers

#### **EXEPTIONAL PROJECT ECONOMICS**

- ☐ Outstanding commercial PFS outcomes
- ☐ Elevated commercial operating parameters, margins
- ☐ Significantly derisked and efficient process flowsheet
- ☐ Long-term, sustainable production profile (>25 years)

#### **BOARD & MANAGEMENT**

- ☐ Delivering key milestones on time
- ☐ Strong management alignment incentivized to maximise value
- ☐ Technical and commercial ability to bring an asset into production
- ☐ Strong corporate and industry presence

#### **PROJECT QUALITY**

- ☐ Proximity to relevant infrastructure
- ☐ Significant resource size, long-term producing asset
- ☐ High-quality and simple flowsheet
- $\hfill \square$  Easy-to-mine deposit with excellent geology and geochemistry





# HIGH PURITY ALUMINA (HPA)



HPA is a processed premium non-metallurgical alumina product characterised by its purity level – i.e. 99.99% (4N), 99.999% (5N).



HPA is mainly used for its superior properties, such as corrosion and scratch resistance, high brightness, and its ability to withstand extreme temperatures.

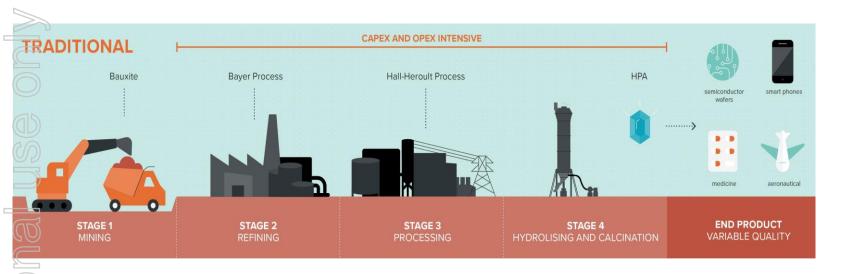


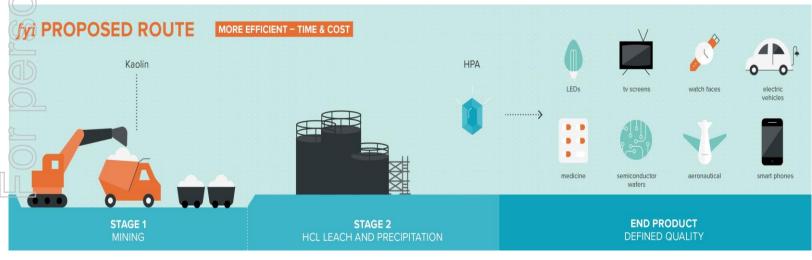
Currently HPA is sourced from expensive feedstock, such as refined aluminium metal, using old processes, FYI plans to produce low-cost HPA from kaolin using optimised processing methods.



Applications include: light emitting diodes (LEDs), in the manufacture of artificial sapphire glass and in certain battery and power storage components, aeronautical and medical applications

# FYI RESOURCES TECHNICAL AND COMMERCIAL ADVANTAGE





- The traditional method of processing HPA is extremely capex and opex intensive
- FYI's kaolin innovative HPA processing route has many advantages over the traditional bauxite derived HPA
- Replaces inefficient 1880's process design
- Utilising 1940's "open file" processing flowsheet and basic chemistry adapted and refined to suit Cadoux ore characteristics
- The FYI calcining and leaching process simplifies the flowsheet reducing capex and opex in HPA production considerably
- Process utilises "off-the-shelf" / standard equipment
- Resulting in:
  - Significantly lower capital and operating costs
  - Consistent and reliable quality
  - Dependable supply



# HPA MARKET OVERVIEW

# FYI is addressing a growing HPA market

# HPA FORMS A SIGNIFICANT PART IN HIGH-PERFORMANCE ELECTRONICS



Historically a small market globallyno justification for innovation



New applications have created demand and market opportunities

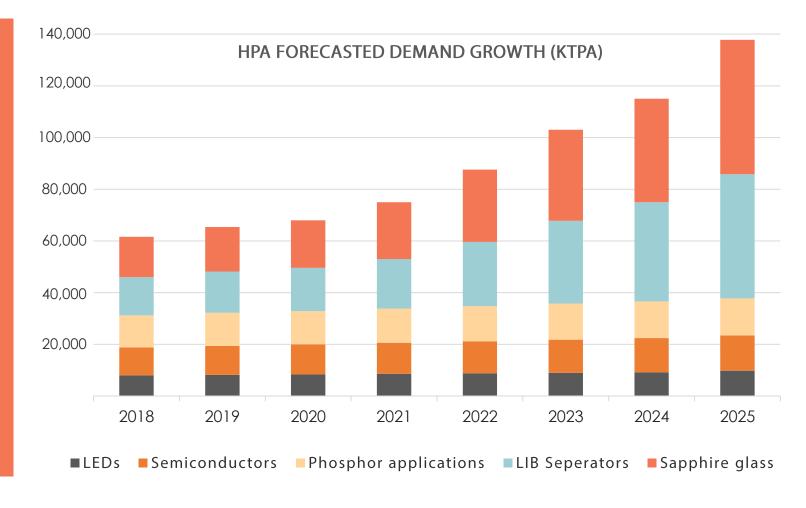


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The current global 4N HPA market demand is ~38-40ktpa; this is expected to increase to ~50ktpa by 2020 and >120ktpa by 2025\*



The market for HPA is witnessing dramatic consumer driven growth, with the HPA market forecasted to be US\$4.49Bn by 2022\*\*





# WHAT'S DRIVING THE MARKET?

- The market for HPA is witnessing dramatic growth
- HPA market forecast to be US\$4.49Bn by 2022\*
- Including a forecast volume growth of 20.5% CAGR\*

Key
applications
driving longterm growth
for HPA

#### **TRADITIONAL**



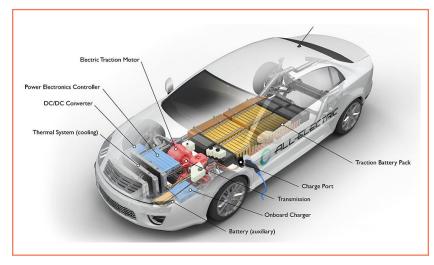
Light Emitting Diode (LED)

The LED market is forecast to grow from US\$26Bn (2016) to US\$54Bn by 2022 and progressively take the major share of the global lighting market of US\$110Bn\*\*\*

#### Driven by:

- A broad range of products and applications
- Incremental penetration into traditional markets
- Increasing per capita energy demand driving high specification energy efficient products
- Disruption issues to traditional supply
- Increasing stringent regulations on bauxite mining globally

#### **NEAR TERM**



#### **Electric Vehicles (EV)**

The EV battery market forecast to grow from US\$450Mn (2016) to US\$35Bn (2025)\*\*\*

Gigafactory capacity will surpass 1,000 GWh within the next 5 years \*\*\*\*

#### References:

- \* Allied Market Research, World High Purity (HPA) Opportunities and forecasts 2015-2022
- \*\* Goldman Sachs: Electric Vehicle Boom report, September 2017

- \*\*\* Zion Market Research LED Report 2018
- \*\*\*\* CRU Battery Market Report 2019



# FYI HAS A RESOURCE IDEAL FOR HPA

The Cadoux Kaolin Project area boasts excellent infrastructure

Deposit geology is ideal – shallow, flat lying, low strip, free digging, homogenous excellent quality & easily accessible

Extensive drilling, well understood geology and chemistry

Completed detailed Mine Study

Ideal characteristics quality, grade and low deleterious elements – very amenable to new-era HPA processing

100% owned project area private land, no native title, no EPA. **Permitting** straightforward.

Mining Reserve of 2.89 million tonnes grading 24.4% Al<sub>2</sub>O<sub>3</sub> supports PFS mine life of 25+ years\*





# FYI'S SIMPLE INNOVATIVE FLOWSHEET DESIGN



Low industry capex and opex



Developed for Cadoux's exceptional quality and characteristics



Designed for efficiency, heavy duty and long life



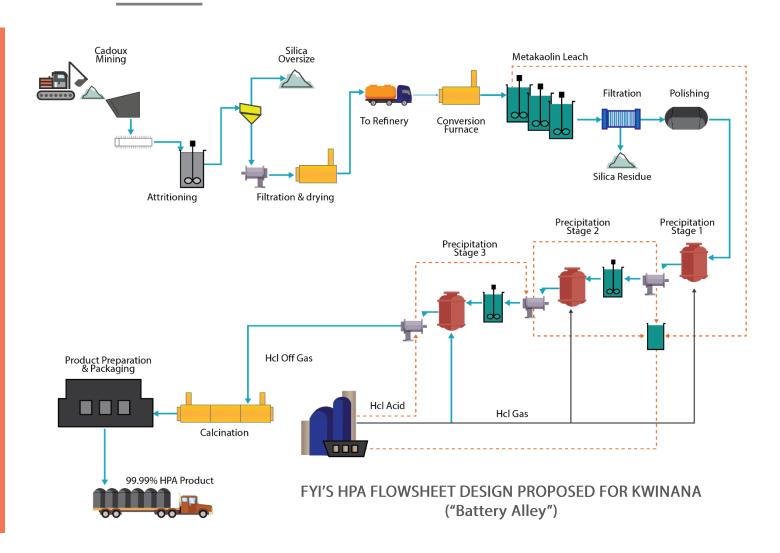
Successfully demonstrated high grade and efficient recoveries



Low environmental impact (non-toxic waste) and carbon footprint



Processing plant planned for Kwinana's 'Battery Alley'





# OUTSTANDING PFS DELIVERED IN SEPTEMBER 2018

	ITEM	UNIT	AMOUNT
	HPA production	tpa	8,000 (with capacity to expand)
	Production grade	$Al_2O_3$	> 99.99%
	Capital cost	US\$m	178.8
	Capital cost / t	US\$/t	22,344
	Forecast average cost of production (C1)	US\$/t	6,467
JO,	Assumed HPA selling price / t	US\$/t	24,000
	Operating margin	US\$/t	17,533
	Operating margin	%	~270
	Exchange rate	A\$:US\$	0.75
15)	Average annual EBITDA	US\$m	128
	First phase of operations - total revenue (> 50 years)	US\$m	11,376
	First phase of operation - annual revenue	US\$m	190
	Project NPV @10%	Us	506
	Project IRR	%	46
	Project payback	yrs	3.6

#### Market-leading project economics:

- Lowest sector quartile opex US\$6467/t & capex of US\$178m
- Lowest capital intensity of US\$22,344/t
- All-in NPV<sub>10</sub> of US\$506m
- IRR of 46%
- Margin US\$17,533/t
- Project payback of 3.6 years

### Modelled using:

- Most conservative discount (10%)
- Conservative selling price (US\$24,000)



# STRONG FOCUS ON MARKET ENGAGEMENT



TOTAL HPA DEMAND FORECAST FOR 2025					
FORECASTER	DEMAND (TPA)	MULTIPLE (OF FYI PRODUCTION)			
PERSISTENCE	62,000	7.8X			
ALLIED	86,000	10.7X			
CRU	125,000	15X			
AVERAGE	91,000	11.3X			

#### FYI IS HEAVILY ENGAGED IN PRODUCT MARKETING AND OFF-TAKE

- FYI heavily focused on market engagement
- Structured approach to achieving off-take and financing
- Multiple rounds of meetings conducted (China/Korea/Japan)
- HPA trial product to be shipped by request from market participants (HPA manufacturers, traders)

#### **FUNDING OPTIONS**

FYI is examining a number of funding options to finance its future activities and development costs. These include:

- Off-take
- Joint venture

- Project debt
- Equity
- Cornerstone investor



# FYI'S PILOT PLANT

# For personal use

# DEMONSTRATING QUALITY END PRODUCT FOR REAL END USERS



Critical pathway to successful commercialisation of FYI's innovative process flowsheet



Continuous and upscaled production and process validation



Important data discovery and development learning process and project derisking



Essential step for project metrics / funding fully funded from R&D



# KEY RE-RATING MILESTONES

Progressing towards mine construction at the Cadoux project following an excellent PFS and commencement of a BFS.



- Cadoux ML
- Kwinana Lease option















- Pilot plant production
- HPA generated
- Address customer requests

Ongoing product marketing:

- HPA qualification
- MOU offtake discussions

Development planned to commence Dec 2019



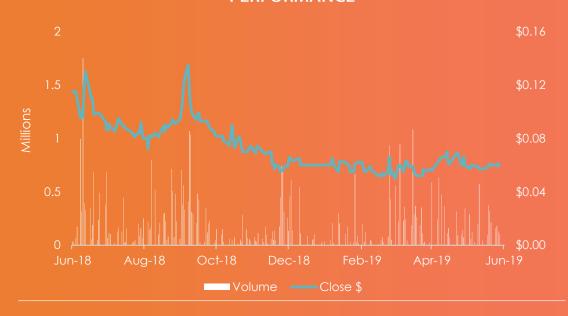
# CORPORATE OVERVIEW

# **CAPITAL STRUCTURE AMOUNT** Total issued shares 196.5m Options (unlisted) 4.25m Share price \$0.060 Market cap (fully diluted) \$11.98m Cash as at 30<sup>th</sup> April 2019 \$1.33m

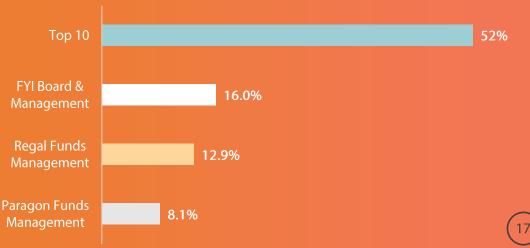


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# 12-MONTH SHARE PRICE PERFORMANCE







# FYI SUMMARY

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High purity alumina (HPA)
Cadoux Kaolin Project in
Western Australia



Innovative and "disruptive" alternative HPA production route



Positive long-term market fundamentals



Ground floor entry to an emerging growth sector with significant upside



Compelling technical & geographical HPA strategy advantages



Substantial capital, operating and product quality advantages



Demonstrable record of successful project development



Excellent exploration, development, operations, marketing and corporate capabilities





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