



*Resources Limited*

**DEVELOPING STRATEGIC HIGH PURITY ALUMINA (HPA)  
CADOUX KAOLIN PROJECT IN WESTERN AUSTRALIA**

**AGM PRESENTATION - 29 NOVEMBER 2019**



# 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 guidance on, future earnings, cash flow, costs and financial performance.

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# DISCLAIMER

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## 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](http://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](http://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 (AusIMM). 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](http://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.

# INTRODUCING FYI RESOURCES

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## STRATEGY



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

## QUALITY



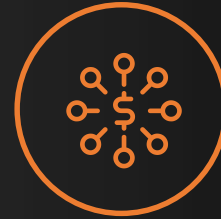
Simplified, innovative and efficient flowsheet deriving HPA from kaolin validated through extensive R&D and Pilot Plant testwork

## ECONOMICS



Building upon outstanding PFS results: low opex and capex operation

## GROWTH



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

## ADVANTAGE



Fully integrated in a tier 1 mining jurisdiction with excellent infrastructure and Kwinana "Battery Alley" footprint

FYI IS AIMING TO BECOME A DOMINANT PARTICIPANT IN THE GLOBAL HPA MARKET

# KEY ACHIEVEMENTS - 12 MONTHS

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Delivered outstanding PFS for Cadoux



Process flowsheet optimised to increase efficiencies + reduce capex & opex



Metallurgical results exceeded 99.99% target HPA



HPA DFS nearing completion



Initiated HPA offtake negotiations with customers



Pilot plant – validation of the process and de-risking the project



Project Reserves providing > 50 years mine-life



Application for Kwinana "Battery Alley" refinery site



Mining Lease granted for 21 years



Project environmental permitting completed

# OUTSTANDING PFS DELIVERED IN SEPTEMBER 2018

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## MARKET LEADING PROJECT ECONOMICS

All-in NPV<sub>10</sub> of  
**US\$506m**

IRR of **46%**

Project payback ~ **3.6  
years**

Lowest sector quartile  
opex **US\$6467/t** &  
capex of **US\$178m**

High Margin  
Project:  
**US\$17,533/t**

Lowest capital  
intensity of  
**US\$22,344/t**

# HPA MARKET OVERVIEW

## HPA FORMS A SIGNIFICANT PART IN HIGH-PERFORMANCE ELECTRONICS



Historically a small market – no justification for product innovation



New applications and technologies have created demand and market opportunities

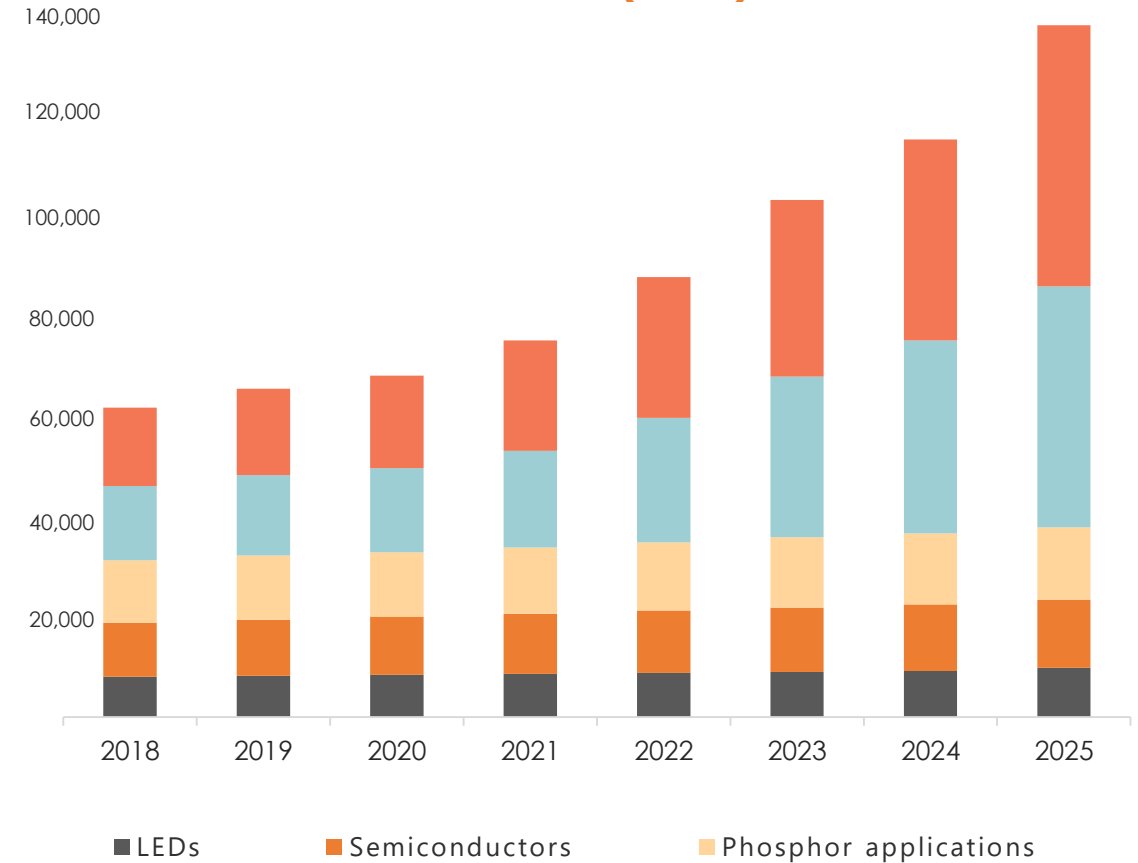


The current global 4N HPA market demand is ~60ktpa; this is expected to increase to **~90ktpa by 2022 and >130ktpa by 2025\***



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

## HPA FORECASTED DEMAND GROWTH (KTPA)



# HPA MARKET OVERVIEW

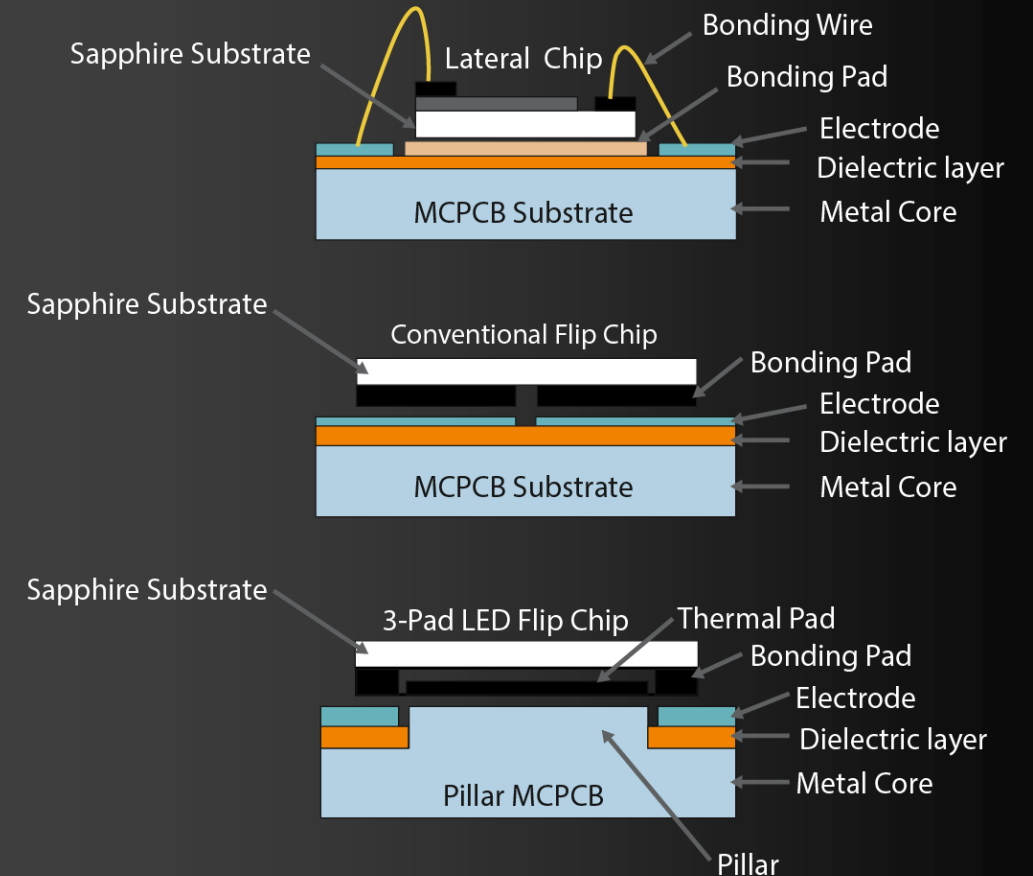
Increasing environmental awareness and strict Government power and emission policies phasing out of old and inefficient lighting applications (eg incandescent, neon, halogen)

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

## References:

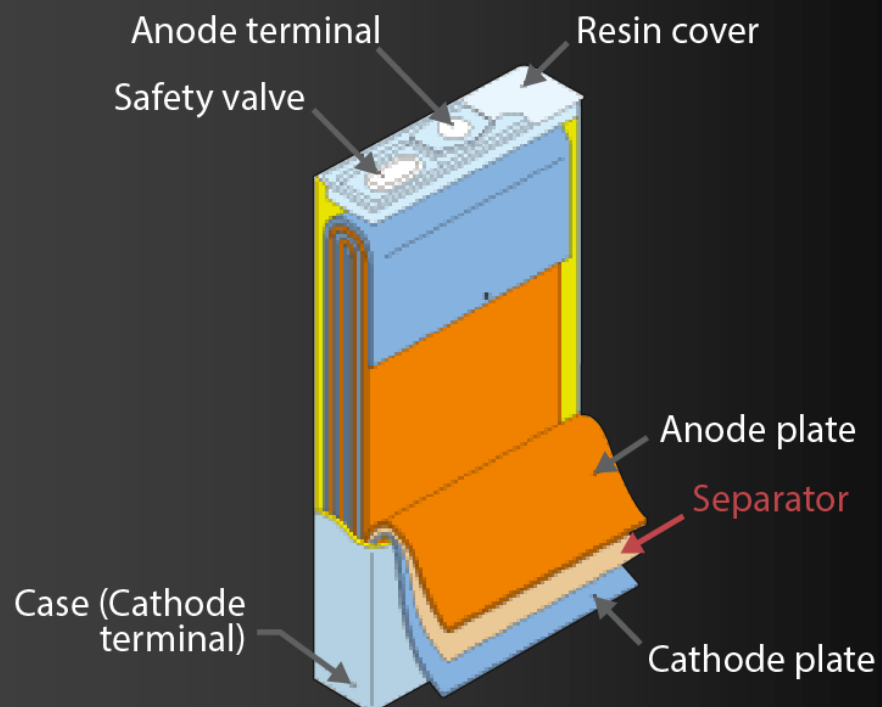
\*\* - Zion Market Research LED Report | McKinsey – Global Lighting Market Report

## CROSS-SECTIONAL VIEW OF VARIOUS LED SUBSTRATES





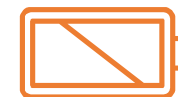
## CROSS-SECTIONAL VIEW OF LITHIUM-ION BATTERY



## HPA MARKET OVERVIEW



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



Battery performance  
(energy density) is  
increasing  
dramatically



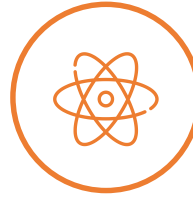
HPA is a major  
input into  
ceramic coated  
separators (CCS)  
in batteries



HPA provides  
greater protection,  
battery integrity at  
much higher  
temperatures

# HIGH PURITY ALUMINA (HPA)

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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.



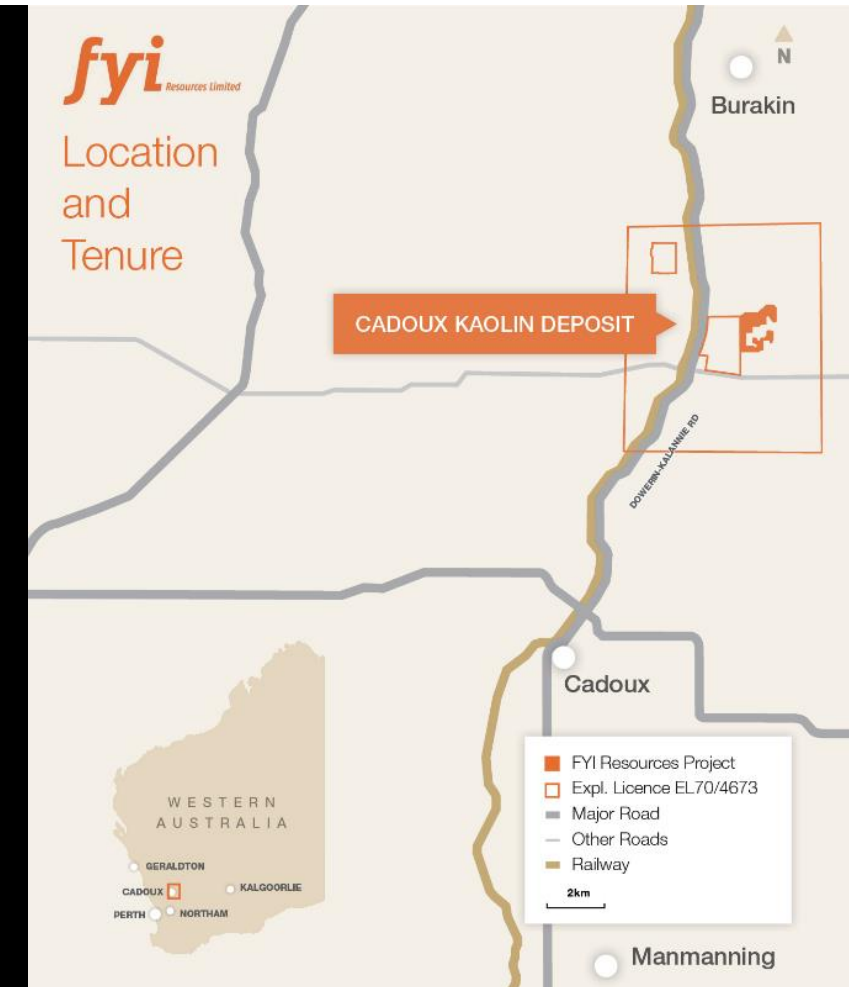
Currently HPA is sourced from expensive feedstock, such as refined aluminium metal sourced from bauxite using antiquated processing. **FYI plans to produce low-cost HPA from kaolin using an innovative processing route.**



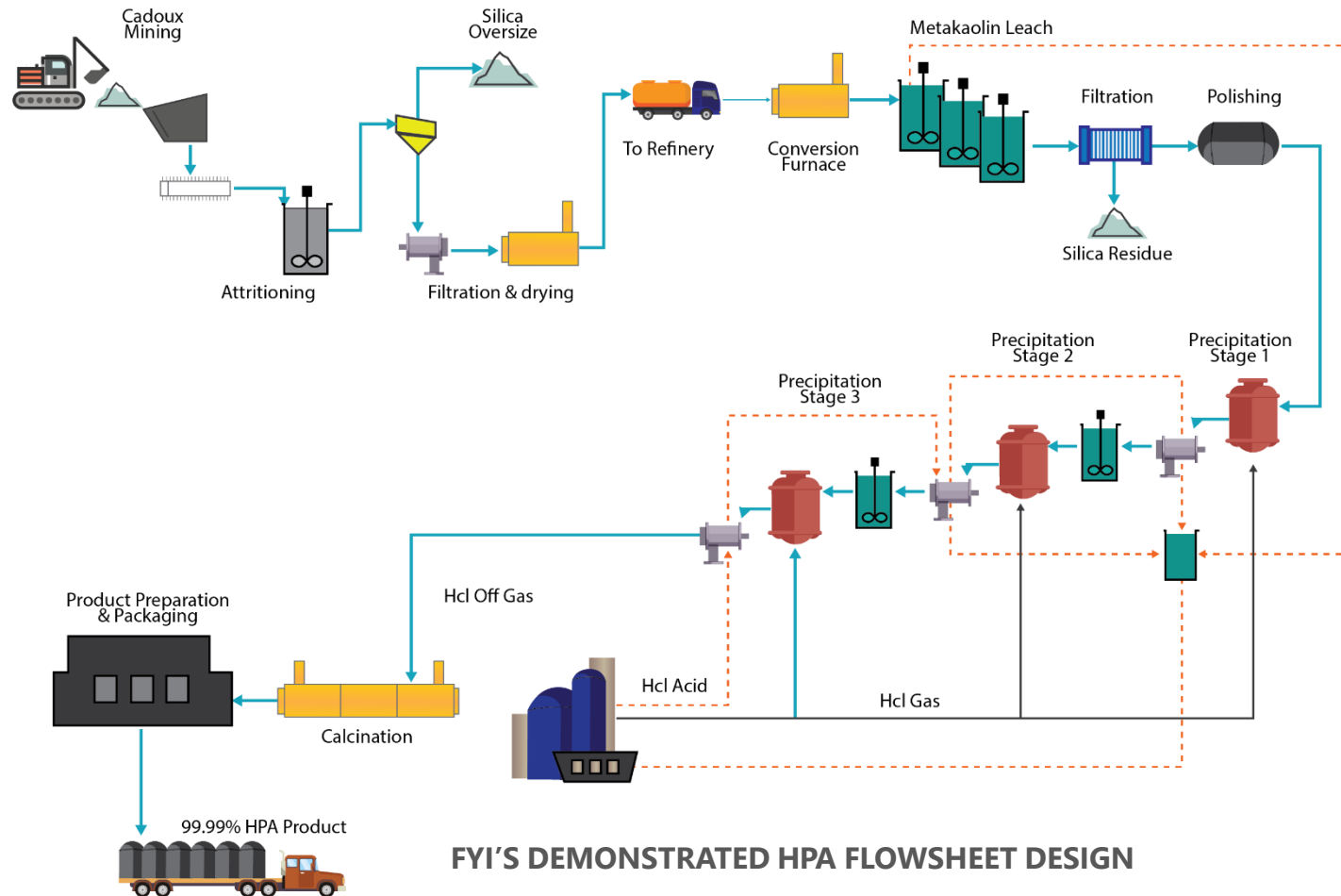
Applications include: LEDs, in the manufacture of sapphire glass and in certain battery and static power storage components, aeronautical and medical applications.

# 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** - Detailed Mine Study completed, reserves calculated, first 3 years of grade control completed
- ⇒ Excellent characteristics quality, grade and low deleterious elements – **extremely amenable to FYI's HPA innovative process design**
- ⇒ 100% owned project area, no native title, no EPA issues. **Permitting completed.**
- ⇒ Reserve of 2.89 million tonnes grading 24.4%  $\text{Al}_2\text{O}_3$  **supports PFS mine life of 25+ years**
- ⇒ Provides a fully **integrated, reliable, consistent and secure supply** of feedstock for the HPA refining



# FYI'S SIMPLE & INNOVATIVE FLOWSHEET DESIGN



Developed for Cadoux's exceptional quality and characteristics



Designed for efficiency, heavy duty, low maintenance and long life



Successfully demonstrated high target grade and excellent recoveries



Low environmental footprint (non-toxic waste)



Processing plant planned for Kwinana's 'Battery Alley'



# DEMONSTRATING QUALITY HPA PRODUCT FOR END USERS/CUSTOMERS

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Critical to  
commercialisation of  
process flowsheet and  
engineering design



Continuous  
and upscaled  
production



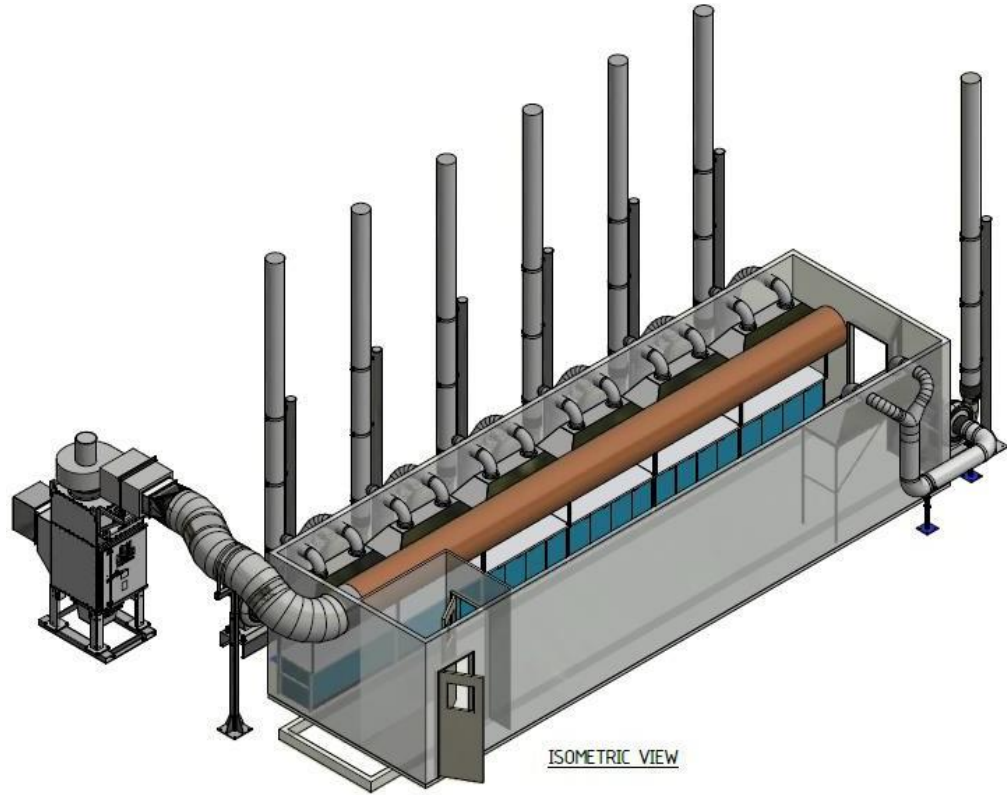
Important data  
discovery and  
development learning  
process and project  
de-risking



Essential step  
for project  
metrics and  
funding.



# FYI'S PILOT PLANT



Isometric design view

## PROCESS FLOWSHEET VERIFICATION



External view



Internal view



# PILOT PLANT DELIVERS 4N HPA

- Pilot plant is a production success
- Delivers target grade of **>99.99% HPA**
- Key outcome is HPA purity and consistency of product
- Observe operational improvements and materials handling from "end to end"
- Lowering overall project risk by verifying process and flowsheet design



**FYI's 99.99% (4N) HPA**

# STRONG FOCUS ON MARKET ENGAGEMENT

## FUNDING OPTIONS

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

- Off-take
- Joint venture
- Cornerstone investor
- Project debt
- Equity
- Strategic investor



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

Strong focus on market engagement



Structured approach to achieving off-take and financing



Multiple rounds of meetings conducted  
(China/South Korea/Japan)



HPA trial product to be shipped by request to market participants (HPA manufacturers, traders)

# KEY RE-RATING MILESTONES ACHIEVED & NEXT 6 MONTHS DELIVERY



○ Completed    ○ Current    ○ Progressing

FYI'S DEVELOPMENT STRATEGY IS PROGRESSING STEADILY



# CORPORATE OVERVIEW

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| Capital Structure                     | Amount  |
|---------------------------------------|---------|
| Total issued shares                   | 212.5m  |
| Options (unlisted)                    | 11.2m   |
| Share price                           | \$0.057 |
| Market cap (fully diluted)            | \$11.8m |
| Cash as at 30 <sup>th</sup> Sept 2019 | \$925k  |

| Substantial Holders    | %           |
|------------------------|-------------|
| FYI Board & Management | 18.0        |
| Regal Funds Management | 12.9        |
| <b>Top 40</b>          | <b>~67%</b> |



# FYI SUMMARY

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Robust HPA strategy founded on sound technical principles and project de-risking



Best-in-class project economics with lowest quartile capex and opex



Innovative processing route delivering superior quality product



Compelling technical & geographical and business model advantages



Positive long-term market fundamentals



Expert study manager team and capabilities for successful project delivery



Argument for ideal project delivery timing coinciding with forecast market growth



Ground floor entry to an emerging growth sector with significant upside

**FYI IS DEVELOPING A LONG-LIFE QUALITY ASSET AT CADOUX**



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