

Issued Capital as at 30 June 2016:

Total Shares: 141,627,312

Options granted: 17,600,000



**ASX RELEASE** 

Tuesday, 20th September 2016

#### RELEASE OF COPRORATION PRESENTATION

Please find the following Authorised Investment Fund Ltd Corporation Presentation dated  $20^{th}$  September 2016.

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On behalf of the Board

Cathy Lin

**Company Secretary** 

- Ends -



# **INVESTING IN INNOVATION**



# Investment Opportunity

Solid State Ammonia Synthesis 'Green Ammonia' Project

**ASX: AIY** 



#### **Disclaimer**

This presentation contains certain "forward-looking statements". All statements, other than statements of historical fact, that address activities, events or developments that Authorised Investment Fund Ltd. ("AIY" or the "Company") believes, expects or anticipates will or may occur in the future are forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "target", "expect", and "intend" and statements that an event or result "may", "will", "can", "should", "could", or "might" occur or be achieved and other similar expressions. These forward-looking statements reflect the current internal projections, expectations or beliefs of Authorised Investment Fund Ltd. based on information currently available to AIY.

Forward-looking statements are subject to a number of risks and uncertainties, including those detailed from time to time in filings made by AIY. with securities regulatory authorities, that may cause the actual results of Authorised Investment Fund Ltd. to differ materially from those discussed in the forward-looking statements, and even if such actual results are realised or substantially realised, there can be no assurance that they will have the expected consequences to, or effects on AIY expressly disclaims any obligation to update or revise any such forward-looking statements.

# Overview of Authorised Investment Fund Ltd.

# **A Unique Investment Opportunity**

- Authorised Investment Fund Ltd. (AIY) is a Pooled Development Fund (PDF)
  - Only 6 PDF's on ASX and new PDF's cannot be created



- Pooled Development Funds offer several compelling tax advantages:
  - Maximum 15% corporate tax on profits
  - Zero capital gains tax for investors
  - Zero capital gains tax on dividends
- AIY invests in leading-edge, innovative companies ready for step-change growth
  - 4 x existing investments in energy, pharmaceuticals and manufacturing
- Recently signed agreement with Alchemy of Air for the 'Green Ammonia' project
- Several new investment offers under consideration in cyber / defence, advanced materials and med-tech

# **Investment Mandate**

# **Innovative Companies Primed for Immediate Growth**

### **AIY's investments must:**

- A) Directly and immediately catalyse step-change growth.
- B) Have potential for turnover of \$10 million per annum within 3 years of investment
- C) Form part of a balanced portfolio between straight-line and exponential growth opportunities
- D) Have exceptional management

# Primary focus is on 'Big 3' themes:

- (A) Health
- (B) Defence / Cyber / Security
- (C) New energy



# **Capital Structure**

# **Issued Capital**

Shares: 141.6 million

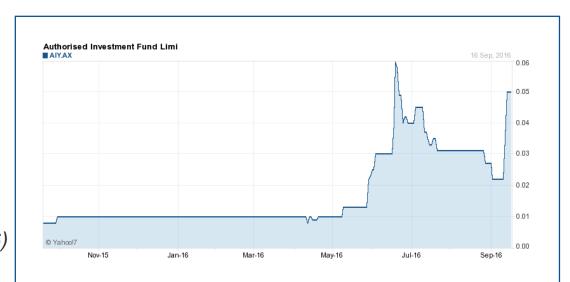
Options: 17.6 million

Market Capitalisation: Approx. \$7 million (@ 5c - 16/09/16)

*52 week range:* \$0.01 – \$0.06

Shareholders: Approx. 500

Management and Insiders: >60%





ASX Code: AIY

# Founders and Key Advisors

# A Highly-Experienced Team

### **Board of Directors**

### Ben Genser, Chairman

B.Arch, MD of property development company Belgrave Group



B.Econ, 40 years' experience in the investment and securities industry, Director Endless Solar Corp.

### Chris Baring-Gould

MBA, CPA, Accountant CFO of Anglicare, ex JB Were, Director Endless Solar Corp

## **Key Advisors**

### Charles Fridlender

A.I.Med Sc, A.I.Mkt, F.I.M.S, IPWEA, EIANZ, Advanced manufacturing executive. Director of Pharmachal, Australasean Technologies, Water Technology Systems Asia-Pacific, technical advisor to AIY

### Andrew Mendelawitz

MBA, B.Marketing & Media, Investment and marketing executive, Director 8th Avenue, VP ANZMEX Chamber of Commerce





ASX: AIY

# **INVESTING IN INNOVATION**



# Investment Opportunity Solid State Ammonia Synthesis 'Green Ammonia Project'

# **A Compelling Opportunity**



### A Hundred Billion Dollar Market

- Ammonia is the 2<sup>nd</sup> most produced industrial chemical. Used for fertilisers, explosives and industrial processes.
  - Over 150 million tonnes produced per annum globally at \$400/t \$800/t
  - A hundred billion dollar market and growing
- Ammonia may fuel the hydrogen economy
  - More stable and safer to transport and store than hydrogen gas
  - Ammonia has a 45% higher energy density than hydrogen gas
  - Can utilize current LPG infrastructure
  - Ammonia as fuel would have huge effect on demand
- Japan aims to become hydrogen powered country.
  - Committed \$400 million toward hydrogen infrastructure for 2020 Olympics.



Fastest manned flight reached Mach 7 with ammonia-based fuel

# Green Ammonia Project The Right Teams - Combined

# ALCHEMY of AIR

**Rick Stroud** – (B. Eng. Mining) Mining engineer with over 40 years' experience worldwide. Director of Cleveland Mining. Non-Executive Chairman of Fodere Mining Formerly General Manager for P&H Minepro for WA, SA and South-East Asia; Manager Mining and Alternate Resident Manager for Argyle Diamonds; Group General Manager Engineering for Snowden Mining Consultants. Previous directorships include Paget Gold Mining, International Brick and Tile and A1 Minerals Limited..

**Conrad Gaudin** (Master Science, Aquaculture, B.Bus, B.Arts). General Manager, First Class Capital - Eastern Suburbs. Director The Halkin Group, Empire Management Consulting, Dermsol Health Care, Numsbar Business Consulting; Technical Director, Otec Pacific Pty Ltd (aquaculture)



**John Holbrook** (PhD, Materials Engineering, Stanford University). Materials scientist developing hydrogen energy, particularly storage and transport. Executive Director, Ammonia Fuel Network, USA.

**Jason Ganley** (PhD, Chemical Engineering, University of Illinois at Urbana-Champaign); Teaching Associate Professor of Chemical and Biological Engineering at the Colorado School of Mines. Published experimental work related to the design and fabrication of microreactors to use anhydrous ammonia for fuel cell power plants, as well as studies of heterogeneous catalytic ammonia decomposition.

Doug McKinley (MBA, University of Utah; JD, Willamette University College of Law)

# A Breakthrough 100 years in the Making

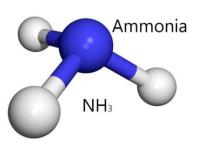
## **Opportunity**

- AIY will take a 20% stake in AOA, with an option for a further 10%.
- AIY and AOA are commercialising a unique 'green ammonia' production process that may revolutionise the hundred billion dollar ammonia production industry.
- AIY seeks corner-stone investor/s to fund pre-commercialisation (a pilot plant) and post-commercialisation infrastructure i.e. (large-scale manufacturing of commercial scale SSAS ammonia plants)
  - Suitable cornerstone investors will be invited to directly invest in a SSAS Plant Company
- AOA has the exclusive rights to commericalise the process for the Australian, Asian and Middle East markets.

### AIY has committed to assist AOA to:

- Fully commercialise the process, starting with a 1tpd and a 10tpd SSAS Ammonia plant in Australia
- Become a manufacturer of commercial-scale SSAS ammonia plants across the "Territory"
- Develop a pipeline of projects for SSAS-based ammonia plants.





# **A Revolutionary New Production Process**

### <u>Unique Patented Production Process</u>

- SSAS demonstrated to work by several parties since 1999
- NHThree LLC has produced unique break-though in production process
  - Favourable results in laboratory conditions
  - Strong likelihood of working very well at larger scale
  - Patented process

### Potential Advantages Over Current Process

- ✓ Lower temperature and pressure requirements for production
- ✓ Lower energy requirements
- ✓ Lower capital costs
- ✓ Modular Plug and Play design
- ✓ No Hydrocarbon feed source required
- ✓ Zero greenhouse gas emissions
- ✓ Can utilise current LPG infrastructure



Ammonia can utilise current LPG infrastructure

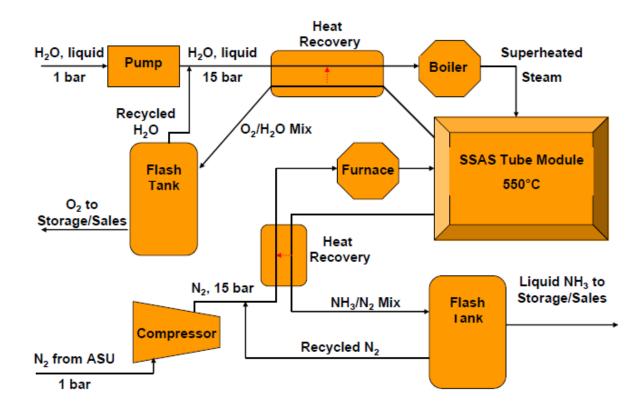


Ammonia-fueled Toyota GT86-R Marangoni

# The Process

### Solid State Ammonia Synthesis in a Nutshell

- Solid-state electrochemical process
- Water (steam) decomposed at anode
- Hydrogen atoms adsorb, stripped of electrons
- Hydrogen conducts (as proton) through proton-conducting ceramic electrolyte
- Protons emerge at cathode, regain electrons, and react with adsorbed, dissociated nitrogen atoms to form NH3



# Indicative Economic Comparison for NH3 production Methods\*

	Haber-Bosch Natural Gas Feed	Electroliser + H-B	SSAS*
Energy required per tonne of NH₃	10,600 kWh	13,000 kWh (H <sub>2</sub> production only)	7-8,000 kWh*
Capital cost, \$/tne/day NH₃ capacity	\$500,000	\$750,000	\$200,000*
"Fuel"cost to produce 1 tonne of NH₃ at large scale (1)	Depends on location and NG cost	\$460 (Power cost – 3.5 c/kWh) \$260 (Power cost – 2.0 c/kWh)	\$270 (Power cost – 3.5 c/kWh)* \$155 (Power cost – 2.0 c/kWh)*
Total cost to produce 1 tonne of NH <sub>3</sub> at moderate to large scale (2)	Depends on location and NG cost	>\$660 (Power cost – 3.5 c/kWh) >\$440 (Power cost – 2.0 c/kWh)	\$345 (Power cost – 3.5 c/kWh)* \$230 (Power cost – 2.0 c/kWh)*
Tonnes of CO2 emitted per Tonne of NH <sub>3</sub> produced	1.8	0	0

<sup>•2.0</sup> c-3.5c/kWh for power on close proximity to a Hydro source

\*Indicative figures only, calculated by NHThree LLC from published peer reviewed research. Projections unsubstantiated by AOA or AIY. Note: tonnes and kWh have been up-scaled from US tons to reflect metric tonnes produced

<sup>•</sup>Using a Capital recovery factor of 12% and N2 purchased @\$30/tN2

<sup>•</sup>All in USD

<sup>•</sup>Estimated, 2007.



# **INVESTING IN INNOVATION**



# **Existing Investments**

# **Innovative Companies primed for Growth**

# <u>Speedpanel (Construction technology -- 10% ownership)</u>

- Used for walls in buildings, tunnels, stadiums and industrial facilities. Turnover approx. \$30million p.a.



# Pharmachal (Pharmaceutical manufacturing / R&D -- 20% ownership)

- Eight TGA-registered products and other therapeutic cream-based products ready for marketing.
- Lignocaine cut and wound spray and creams is being processed for TGA registration.
- Distribution agreements for Chinese, Japanese and Korean markets.



# Endless Solar (Solar technology -- 10% ownership)

- Evacuuated tube solar technology used to heat water.
- Used in 5 Star energy rated buildings



# Roo-Pex Technologies (Plumbing product manufacturer -- 20% ownership)

- Manufacture of pex piping for plumbing industries.
- Setting up new facilities in Victoria, along with national sales network.







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