

## ASX RELEASE

## COMMERCIALISATION UPDATE – SUCCESSFUL PROGRESS & MILESTONES ACHIEVED

- Formal documentation with the University of Sydney completed
- Successful commissioning of large scale reactors (capable of up to 1kg /day production) completed
- Over 400g graphite produced for further characterisation and testing

**PERTH, AUSTRALIA; 23 May 2016:** Hazer Group Limited ("Hazer" or "the Company") (ASX: HZR, HZRO) is pleased to provide the following update to the market on its activities and successful progress for the commercialisation of the Hazer Process, the Company's core low cost and low emission hydrogen and graphite production technology.

## ARRANGEMENTS WITH SYDNEY UNIVERSITY

Hazer and the University of Sydney have finalised and executed all necessary paperwork for the ongoing research collaboration, which has enabled Hazer to rapidly accelerate the scale up work necessary for ongoing commercialisation of the Hazer Process. Hazer has now established its core development operations within the state of the art Laboratory for Sustainable Technology at the University of Sydney.

### **COMMISSIONING OF REACTORS**

Since commencing development operations at the University of Sydney, the Company has successfully commissioned the following reactor systems:

## 1. Static Bed Reactor

The Company has, constructed and commissioned (including completing all necessary HAZOP requirements), a Static Bed Reactor (SBR), capable at operating at pressures exceeding 10 bar. The SBR enables Hazer to assess effect of different iron ore types and sizes on the hydrogen and graphite product yield and graphite quality over a wide range of operating temperatures and pressures. The SBR reactor is capable of operating at more than 150x the capacity of the pre-IPO reactor.



Hazer Process Static Bed Reactor system, University of Sydney

E: contact@hazergroup.com.au W: www.hazergroup.com.au A: Suite 7, 29 The Avenue, Nedlands, Western Australia 6009 A: PO Box 1458, West Perth WA 6872 ACN: 144 044 600



## 2. Fluidised Bed Reactor

In addition to the SBR, the Company has completed construction and commissioning of a Fluidised Bed Reactor (FBR) for the further scale up of the Hazer Process. Operating at atmospheric pressure only, the FBR is capable of generating more than 1 kg of graphite per day, over 3,000 times the amounts that were able to be produced using pre-IPO reactors Fluidised Bed Reactors are widely used in industrial chemical operations, and development of a FBR system at this scale is seen as a key component in the ongoing commercialisation of the Hazer Process.

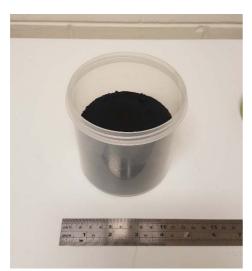


Hazer Process Fluidised Bed Reactor system, University of Sydney

# 3. Graphite production

Current operations have seen Hazer produce over 400g of graphite product through the initial operations of the reactor systems described above. The Company is currently undertaking characterisation and testing of this graphite as well as further optimising the reaction conditions to improve the yield and quality of hydrogen and graphite produced.







Hazer – graphite sample

#### FURTHER DEVELOPMENT UNDERWAY

Hazer is currently developing a pressurised fluidised bed reactor for further development work, and is working towards the design and construction of a demonstration plant, expected to be capable of production of some 500kgs/day of combined hydrogen and graphite products, to be constructed and commissioned during 2017.

For further information, please contact

### Mr Geoff Pocock, Managing Director, Hazer Group Limited

Email: gpocock@hazergroup.com.au

### Hazer Group Limited - Social Media Policy

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