

## MINERAL RESOURCES PROJECT UPDATE

- **Concept designs for MRL Stage 1 Pilot Plant and commercial scale reactors completed**
- **Pilot Plant design consultant appointed, and design commenced**
- **Pilot Plant site preparation and installation planning commenced**
- **Schedule remains on track for commissioning in Q3 2018**

**PERTH, AUSTRALIA 7<sup>th</sup> June 2018:** Hazer Group Limited ("Hazer" (ASX:HZR)) is pleased to announce the graphite project with Mineral Resources Limited ("MRL" (ASX: MIN)) is progressing well, and the joint development of the MRL Pilot Plant has commenced and is on track to be commissioned in Q3 of 2018. In December 2017, Hazer and MRL executed a binding Cooperation Agreement to work together for the purposes of developing and commercialising the Hazer Technology. Under the terms of the agreement, MRL is providing all capital required for a staged development project for graphite production and Hazer has given MRL access to the existing Hazer IP portfolio, as well as technical assistance and support. (refer to ASX announcement "Hazer signs binding agreement with Mineral Resources Ltd" released 20 December 2017).

### PROPOSED DEVELOPMENT PATHWAY

The proposed stages of the development pathway is as follows:

#### Stage 1 – MRL Pilot-Plant

The first stage of the project is the design, construction and operation of a pilot scale facility capable of producing 1tpa of high quality graphite, suitable for high value applications including lithium ion batteries. Since execution of the agreement, Hazer and MRL have formed a joint project team to design the MRL Pilot Plant. The initial concept design phase has completed and the MRL Pilot Plant is expected to start commissioning in the 3rd quarter of 2018, with a target to operate for several months. The MRL Pilot Plant will target production of graphite suitable for purification and then commercial testing. This will allow MRL to potentially negotiate off-take agreements towards the end of 2018, leading into Stage 2 of the development project.

#### Stage 2 – Commercial Scale Plant

Upon establishing final design and performance parameters of the pilot plant, MRL will design and construct a 1,000tpa commercial scale production facility, capable of modular expansion that will enable more efficient scale-up if required.

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### **Stage 3 – Large Scale Commercial Plant**

Once satisfied with the performance of the 1,000tpa commercial plant, MRL aims to progressively ramp up production capacity, utilising modular expansion or designing a larger facility with a nominal commercial production target of 10,000tpa and beyond.

#### **STAGE 1 CONCEPT DESIGN PHASE COMPLETED**

The initial concept design of the reactor and drawings for the MRL Pilot Plant (Stage 1) have been completed. Having successfully established this final design, a commercial size reactor concept has also been designed for the Commercial Scale Plant (Stage 2) and is being developed in parallel to the Stage 1 reactor.

Starting the commercial reactor design in conjunction with the pilot scale reactor will improve certainty on the scalability of the equipment and accelerate Stage 2 readiness. The Commercial Scale Plant (Stage 2) is targeted to produce ~1,000tpa and be capable of modular expansion that will enable more efficient scale-up if required.

MRL have appointed FE Consultants Pty Ltd (FEC) to deliver the detailed design of the Stage 1 reactor system. FEC is an Australian mechanical engineering firm who specialise in advanced mechanical design, and were previously engaged for the detailed design of the 2nd generation Hazer Group reactor currently under construction.

#### **SITE PREPARATION**

Planning and preparation has commenced at MRL's Kwinana facilities in Western Australia in anticipation of construction of the MRL Pilot Plant (Stage 1).



*Photo: MRL site for the new pilot plant located in Kwinana, Perth.*

**[ENDS]**

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## **ABOUT HAZER GROUP LTD**

Hazer Group Limited (“Hazer” or “The Company”) is an ASX-listed technology development company undertaking the commercialisation of the Hazer Process, a low-emission hydrogen and graphite production process. The Hazer Process enables the effective conversion of natural gas and similar feedstocks, into hydrogen and high quality graphite, using iron ore as a process catalyst.

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