

## HAZER COMMERCIAL DEMONSTRATION PLANT UPDATE

# **Highlights:**

- Commercial Demonstration Plant ("CDP") hot start-up remains on schedule for H2 2023
- Plant debugging and performance testing ahead of hot operations is complete
- Replacement heat-exchanger materials (800HT) arrived in Australia and final fabrication is underway
- Hot-wall reactor materials successfully forged and heat-treated, passing a significant manufacturing milestone

**PERTH, AUSTRALIA; 30 May 2023**: Hazer Group Ltd ("Hazer" or the "Company", ASX: HZR) is pleased to provide the following update regarding the Company's Commercial Demonstration Plant ("CDP") and operations.

The Company confirms that the Commercial Demonstration Plant is progressing on schedule to commence the second phase of its planned operation ('hot operations') and be Ready-For-Start-Up ("RFSU") in 2H 2023. The key enabler for the transition to hot operations is the delivery and installation of the reactor and heat exchanger equipment. These items are progressing in accordance with the delivery schedule.

The CDP Operations team has successfully completed the first phase of the testing program (including plant debugging and performance testing) with the final phase nearing completion and ahead of schedule. This has provided targeted and valuable information to inform hot operations. Key technical data has been obtained as a result and de-risking operations with several process optimisations implemented to assist RFSU. Importantly, extended stable flow of methane at design rates through the plant and prototype reactor under operating pressure has been achieved in both single-pass and full recycle mode, two key objectives of the CDP testing.

**Glenn Corrie, Managing Director of Hazer Group, said**, "Our Commercial Demonstration Plant is the cornerstone of our growth strategy, enabling us to accelerate the commercial roll-out of Hazer technology providing a deployable decarbonisation solution to meet the needs of our customers in North America, Asia and in Europe.

Our dedicated team continue to drive forward our CDP to start-up this year which will demonstrate that we can once again scale-up our novel technology and operate it on a continuous basis at industrial scale. Our plan, while aggressive, remains robust and we continue to make very good progress on the procurement of our heat-exchanger and reactor technologies. At the same time mitigating risk by developing multiple contingency options that also support our technology development staircase.

**Mr. Corrie continued,** "The hydrogen sector is gaining momentum and Hazer is well positioned with an advanced technology that is disruptive in a market today that requires an immediate innovative and cost-effective low-emissions solution."

## **Heat-Exchanger Procurement**

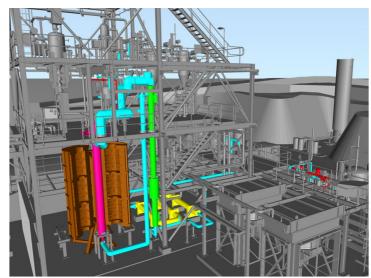
Procurement activities for the replacement heat exchanger and piping materials have progressed in line with the project schedule. Due to favorable lead-times and stock availability, the high temperature alloy material (800HT) supplied by Tubacex has arrived at the Uniquip workshop in Australia where final fabrication of the heat-exchangers are underway, accelerating and de-risking the Phase 2 construction schedule.

The order for the second set of heat-exchange material (Inconel 617), a higher specification alloy, being supplied by Specialty Metals Wiggin (UK) is also progressing as scheduled. Manufacturing of these materials is ongoing and expected to be completed and ready for shipping in early 3Q 2023.

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Having two high quality heat exchanger units available during the lifespan of the CDP will contribute greatly to research and technical development enabling the optimization of the plant configuration for commercial scale-up, providing important testing using alternative material selection while mitigating risk of operational interruptions to production.



CDP process model highlighting hot construction work scope commencing shortly

#### **Reactor Procurement**

As previously announced, Hazer is developing multiple reactor technology options for CDP operation, risk mitigation and to also accelerate ongoing technology development required for the commercial scale-up.

The materials for the existing hot-wall reactor design, being supplied by Forgiatura Morandini ('FM'), have successfully undergone forging and completed the heat treatment process marking a significant milestone in the preparation of the advanced materials. Final machining and third-party quality checks is currently underway and preparations are being finalized for the logistics and export to Australia for final fabrication. Callidus, an Australian company with extensive advanced material, reactor and exotic material piping experience has been selected for final fabrication of the reactor shell and piping spools. The nominated completion date for the reactor has been maintained allowing for the delivery of equipment to the CDP in-line with the installation schedule.

Concurrently, global engineering leader, Hatch, continued to make good progress with the improved reactor technology concept which is also being adopted for the Burrard commercial scale-up project in Canada. Detailed engineering of the reactor has advanced, and the procurement process will commence shortly to align delivery with the CDP start-up schedule. While the delivery of this reactor is aligned with the CDP start-up and commissioning schedule, it is planned that this reactor (designed for scale-up development) will be installed following the performance and testing of the initial hot-wall reactor.

#### **Hot Engineering Update**

In preparation for the commencement of the start-up phase, Primero have progressed remaining engineering activities to allow integration of installation of hot equipment arriving in early 2H 2023. Early installation of the currently available equipment, including the furnace for the hot-wall reactor will commence in June. Primero's familiarity with the project provides important continuity and strength to the construction and commissioning components of the start-up schedule. The project delivery and execution team has been expanded to include a construction and commissioning superintendent and a variety of engineering resources to accelerate the minor plant modifications and improvements required ahead of the transition to hot operations.

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Hazer Expected Key Activity Timeline

This announcement was authorised for release by the Board of the Company.

## [ENDS]

## **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 graphitic carbon production process. The Hazer Process enables the effective conversion of natural gas and similar methane feedstocks, into hydrogen and high-quality advanced carbon materials, using iron ore as a process catalyst.

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