



Joint Media Release

Keppel to develop Singapore's first hydrogen-ready power plant, with construction undertaken by Mitsubishi Power Asia Pacific and Jurong Engineering consortium

30 August 2022, Singapore – Keppel Infrastructure Holdings Limited (Keppel Infrastructure), through its wholly owned subsidiary Keppel Energy, has reached final investment decision (FID) to develop a 600MW state-of-the-art, advanced combined cycle gas turbine (CCGT) power plant, and has awarded an engineering, procurement and construction (EPC) contract to a consortium comprising Mitsubishi Power Asia Pacific and Jurong Engineering for the construction of the plant. To be built in the Sakra sector of Jurong Island, the Keppel Sakra Cogen Plant will be the first hydrogen-ready power plant in Singapore.

In line with Keppel's asset-light business model, the Keppel Sakra Cogen Plant will be owned by Keppel Sakra Cogen Pte. Ltd. (KSC), presently a wholly-owned indirect subsidiary of Keppel Infrastructure. It is intended that Keppel Asia Infrastructure Fund LP (KAIF)¹ and Keppel Energy will hold 70% and 30% equity interests in KSC respectively. In addition, KSC and Keppel Energy are scheduled to enter into a turnkey contract for the development of the Keppel Sakra Cogen Plant. The total investment for the Keppel Sakra Cogen Plant is expected to be around S\$750 million.

Running initially on natural gas as primary fuel, the Keppel Sakra Cogen Plant is also designed to operate on fuels with 30% hydrogen content and has the capability of shifting to run entirely on hydrogen. In addition, as a CCGT power plant, it will be able to produce steam, for use in industrial processes for the energy and chemicals customers on Jurong Island. Expected to be completed in 1H 2026, the Keppel Sakra Cogen Plant will be the most cutting-edge and energy efficient power plant in Singapore, which will translate into superior performance, such as lower emission intensity and higher operation flexibility. This advanced CCGT will be the most efficient among the operating fleet in Singapore and will be able to save up to 220,000 tons per year of CO₂ as compared to Singapore's average operating efficiency for equivalent power generated. Such savings in CO₂ equivalent translates to taking about 47,000 cars off the road per year.

A long-term service (LTS) contract for major maintenance of the turbine was also awarded to Mitsubishi Power Asia Pacific.

With the energy sector accounting for almost 40% of Singapore's carbon emissions², decarbonising electricity generation is at the core of the global climate change effort and one of the key features of Singapore's Green Plan.

In addition to the EPC and LTS contracts, Keppel New Energy Pte Ltd, a wholly owned subsidiary of Keppel Infrastructure, also signed a memorandum of understanding (MOU) with Mitsubishi Heavy Industries, Ltd. to carry out a feasibility study on the development of a 100% ammonia-fuelled power plant on a selected site in Singapore. This collaboration seeks to address the energy trilemma and contribute to building a more resilient and sustainable energy sector in Singapore and the region.

The FID on the Keppel Sakra Power Plant as well as the MOU on 100% ammonia-fuelled combined cycle power plant are aligned with Keppel's Vision 2030, which places sustainability at the core of the company's strategy.

¹ Managed by Keppel Capital Alternative Asset, a private fund manager under Keppel Capital.

² <https://www.nccs.gov.sg/singapores-climate-action/singapore-emissions-profile>

“Singapore’s electricity demand is projected to grow with increasing electrification and economic growth. As such, the Energy Market Authority welcomes investments by the private sector to bring in best-in-class technologies in power generation. Being hydrogen-ready, this power plant by Keppel will contribute towards greater efficiency and lower carbon emissions. This will support Singapore’s transition to a more sustainable energy future while ensuring the security and reliability of electricity supply to consumers,” said Mr Ngiam Shih Chun, Chief Executive, EMA.

Ms Cindy Lim, CEO of Keppel Infrastructure, said, “The 600MW Keppel Sakra Cogen Plant will be Singapore’s first hydrogen-ready and most advanced, high-efficiency combined cycle gas turbine power plant, placing Keppel Infrastructure at the forefront of the effort to decarbonise Singapore’s power sector. When completed, this asset will grow Keppel’s power generation portfolio from the current 1,300 MW to 1,900 MW, allowing us to capture a larger market share as the demand for reliable energy continues to rise with Singapore’s economic development.

Ms Christina Tan, CEO of Keppel Capital, the parent company of the manager of KAIF said, “The joint investment by Keppel Infrastructure and KAIF in the Keppel Sakra Cogen Plant reflects the Keppel Group’s asset-light business model as we seize opportunities in the energy transition. We believe that hydrogen, as a low-carbon fuel, will play a critical role in supporting Singapore’s commitment to decarbonise its power sector. Keppel Capital will continue to leverage the synergies of the Keppel Group to identify and invest in such future-ready projects to create value for our investors.”

Mr. Osamu Ono, Managing Director and Chief Executive Officer of Mitsubishi Power Asia Pacific, commented, “Mitsubishi Power looks forward to supplying the Keppel Sakra Cogen Plant with our hydrogen-ready JAC gas turbine. The plant will enjoy the unmatched combination of world-class efficiency and proven reliability backed by abundant operation hours of the fleet worldwide, T-Point 2 grid-connected combined cycle power plant verification facility located at Takasago Hydrogen Park in Japan, and our extensive experience with power generation using hydrogen-rich fuel for over half a century. As an innovative low- and zero-carbon fuel, there is immense potential for hydrogen to be used in power generation systems to enable emissions reduction. It is our honour to partner with Keppel Infrastructure, a visionary in the energy sector, to achieve our aligned net zero vision and build a sustainable energy future for Singapore.”

Mr Koichi Watanabe, Managing Director and Chief Executive Officer of Jurong Engineering Limited, commented, “We are glad to have a hand in the establishment of the Keppel Sakra Cogen Plant that is part of a concerted effort towards the decarbonisation of our future power generation. Jurong Engineering will continue to diversify and strengthen our engineering capabilities by providing innovative solutions while contributing to a greener future.”

The abovementioned developments are not expected to have any material impact on its earnings per share and net tangible asset per share of Keppel Corporation Limited, the parent company of Keppel Capital and Keppel Infrastructure, for the current financial year.

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About Keppel Infrastructure

Keppel Infrastructure (KI) is a wholly-owned subsidiary of Keppel Corporation, a Singapore flagship multinational company providing solutions for sustainable urbanisation. KI provides solutions for some of the world’s most pressing challenges through its power & gas,

environment and new energy businesses by leveraging its proprietary technology, strong technical expertise and proven operating capabilities.

KI has a track record of developing energy and environmental infrastructure end-to-end, including power generation assets, waste-to-energy (WTE) facilities, large-scale district cooling systems, as well as NEWater and desalination plants. In Singapore, it operates a 1,300-megawatt high efficiency gas-fired combined cycle power plant and a utility pipe rack and pipeline network in Jurong Island. It is also Singapore's leading electricity retailer, and the first and largest district cooling systems developer and service provider. Globally, through Keppel Seghers, it is one of the leading WTE technology providers with more than 100 project references in 20 countries.

KI is expanding its presence, in Singapore and overseas, in areas such as power generation, waste management, district cooling, renewables and energy storage, electric vehicle charging infrastructure and other clean energy opportunities.

About Keppel Capital

Keppel Capital is a premier asset manager in Asia. It is the asset management arm of Keppel Corporation, one of Singapore's flagship multinational companies with a global footprint in more than 20 countries. Keppel Corporation provides solutions for sustainable urbanisation, focusing on energy & environment, urban development, connectivity and asset management.

With assets under management of approximately S\$42 billion³ as at end-2021, Keppel Capital has a diversified portfolio that includes real estate, infrastructure, data centres and alternative assets in key global markets.

Keppel Capital aims to create value and deliver sustainable returns for institutional and retail investors through a range of products including listed REITs, business trusts, private funds, separate accounts and pooled investment vehicles.

About Mitsubishi Power

Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI). Across more than 30 countries worldwide, Mitsubishi Power designs, manufactures and maintains equipment and systems that drive decarbonization and ensure delivery of reliable power around the world. Among its solutions are a wide range of gas turbines including hydrogen-fueled gas turbines, solid-oxide fuel cells (SOFCs), and air quality control system (AQCS). Committed to providing exemplary service and working with customers to imagine the future of energy, Mitsubishi Power is also spearheading the development of the digital power plant through its suite of AI-enabled TOMONI® solutions.

For more information, please visit <https://power.mhi.com>.

About Jurong Engineering Limited

Jurong Engineering Limited (JEL) is a leading engineering and construction company based in Singapore. Since inception in 1971, JEL has reliably delivered successful projects in power & industrial plants in more than 30 countries.

³ Gross asset value of investments and uninvested capital commitments on leveraged basis to project fully-invested AUM.

Today, JEL has been involved in over 190 power plants accruing a power capacity of over 88 Gigawatts. With a strong international foothold, JEL has a network of companies spanning across Asia, Africa and the Middle East. Its global initiatives have provided the added advantage to establish strategic collaboration with multinational corporations in the same field.

With an outstanding track record, strong engineering expertise, and extensive range of experience, our core vision is centred on providing reliable, superior, and comprehensive engineering solutions focused on optimising life cycle efficiency, safety and delivering maximum value to our partners.

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