



Media Release

Wednesday, 22 December 2021

Woodside, Keppel Data Centres, City Energy, Osaka Gas Singapore and City-OG Gas Energy Services to Study the Feasibility of a Liquid Hydrogen Supply Chain

Potential Impact of Lowering Carbon Emissions in Cities

Woodside Energy Ltd (Woodside), Keppel Data Centres Holding Pte Ltd (Keppel Data Centres), City Energy Pte Ltd. (as Trustee of City Energy Trust) (City Energy), Osaka Gas Singapore Pte Ltd. (Osaka Gas Singapore) and City-OG Gas Energy Services Pte Ltd. (City-OG Gas Energy Services) (hereinafter, the “Parties”) have signed a Memorandum of Understanding (MOU) to study the feasibility of a long-term, stable supply chain of sustainable Liquid Hydrogen (LH2) from Western Australia to Singapore and potentially Japan. This new agreement follows the announcement of the proposed H2Perth Hydrogen facility in Kwinana where Woodside will seek to establish a large-scale LH2 and Ammonia export hub. The study is expected to continue until mid-2022, at which juncture the parties will decide on the next phase of their collaboration.

Hydrogen does not emit carbon dioxide during combustion and is considered a promising next-generation, low-carbon fuel that can be used in a range of applications including power generation, town gas and as an industrial feedstock. Hydrogen can be liquefied by cooling it to below negative 253 degrees Celsius, and LH2 occupies significantly less volume than in its gaseous state so it can be stored and transported more easily.

The Parties will work collaboratively to explore both the technical and commercial aspects of developing an LH2 supply chain between Western Australia and Singapore, and potentially Japan, through collaboration using their respective expertise and knowledge.

This is an exciting development which supports the Singapore Green Plan, which charts ambitious and concrete targets over the next 10 years, strengthening Singapore’s commitments under the UN’s 2030 Sustainable Development Agenda and Paris Agreement, and positioning Singapore to achieve its long-term net zero emissions aspirations as soon as viable.

Woodside CEO Meg O’Neill said the MOU was aligned with Woodside’s strategy to develop a diversified and scalable portfolio of new energy products to help reduce customers’ emissions.

“It is important for us to work collaboratively with potential customers and end users such as Keppel Data Centres, Osaka Gas Singapore, City Energy and City-OG Gas Energy Services to collaboratively build out a sustainable hydrogen supply chain from our proposed H2Perth Project.

“H2Perth is ideally located in Western Australia for shipping to Singapore and Japan and the project site is close to existing gas, power, water and port infrastructure, as well as a skilled local residential workforce,” she said.

Mr Wong Wai Meng, CEO of Keppel Data Centres, said: “This MOU will explore the feasibility of harnessing LH2 from Australia to power our data centres in Singapore, with potential applications for other Keppel business units in future. This collaboration in the upstream LH2 supply chain complements the existing MOUs we have entered with various partners to explore the mid-to-downstream segments, including transportation, storage and regasification.”

“In line with Keppel’s Vision 2030 and carbon emission reduction targets, we are committed to the decarbonisation of data centre operations through our research efforts in LNG and hydrogen for power generation, floating data centres, and technologies for carbon capture, utilisation and sequestration.”

For piped town gas provider, City Energy, which is the national producer and retailer of town gas in Singapore, this collaboration may significantly support its carbon reduction effort in piped town gas production or combustion.

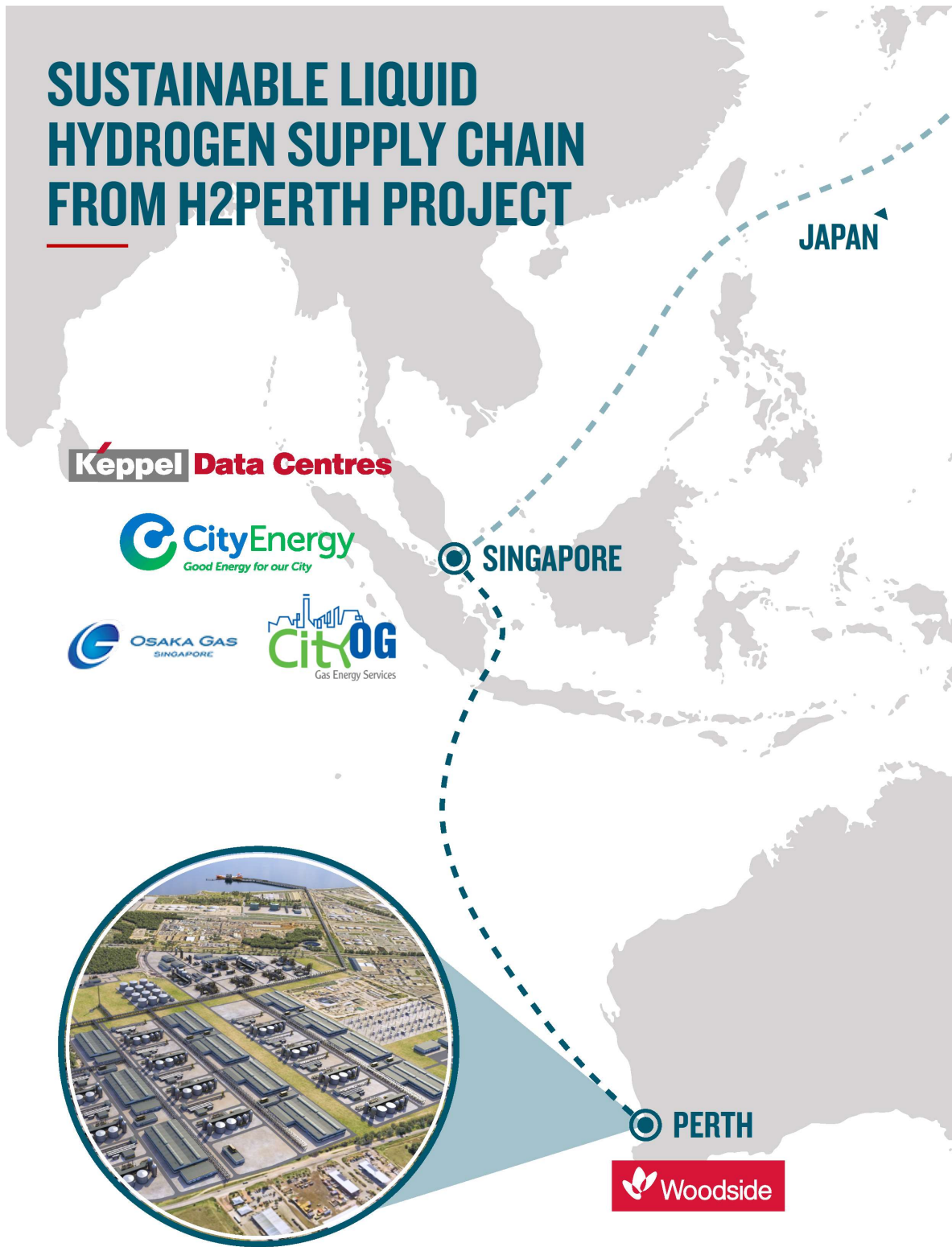
Mr Perry Ong, Chief Executive Officer of City Energy and Chairman of City-OG Gas Energy Services, said: “As the nation’s sole piped town gas provider for more than 870,000 homes and businesses, decarbonising town gas is central to City Energy’s business strategy. We look forward to collaborating with our partners in this MOU to explore a greener future for our nation, in particular in studying the feasibility of importing green hydrogen for applications in town gas manufacturing processes to further lower carbon emissions.”

“Our team at City-OG is pleased to support the increasing needs of its natural gas customers to reduce carbon emissions and is strongly committed to contributing to a low-carbon planet which is good for all. With its close relationships with City Energy and Daigas Group, of which Osaka Gas is an affiliate, City-OG is well positioned to share its expertise in helping its customers lower their carbon emissions.”

Mr Motoyuki Hirabayashi, President & CEO of Osaka Gas Singapore, said: "We have announced our Carbon Neutral Vision to be carbon neutral by 2050. Hydrogen will play a significant role in the energy transition and the development of a liquefied hydrogen supply chain is vital.

“We would like to contribute to the success of the project by utilising our experience and know-how accumulated through our LNG value chain business, including aggregation of LNG demand. We are excited to participate in this valuable project led by Keppel with Woodside Energy, and we look forward to our collaboration to contribute and to build a sustainable hydrogen supply chain between Singapore and Australia.”

SUSTAINABLE LIQUID HYDROGEN SUPPLY CHAIN FROM H2PERTH PROJECT



H2Perth conceptual image

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About Woodside

Woodside led the development of the LNG industry in Australia and is applying this same pioneering spirit to solving future energy challenges. Woodside is recognised for its world-class capabilities as an integrated upstream supplier of energy with a focus on LNG, which is a lower-emissions, competitive fuel ideally suited to supporting decarbonisation and improving air quality. Woodside is working to improve its energy efficiency, reduce and offset emissions, and explore options for lower-carbon energy in line with its aspiration to achieve net zero by 2050 or sooner. Woodside seeks out opportunities to improve business performance through innovative thinking and applying technologies developed outside its industry.

About Keppel Data Centres

Keppel Data Centres Holding (Keppel Data Centres) is a 70-30 joint venture between Keppel Telecommunications & Transportation (Keppel T&T) and Keppel Land, both subsidiaries of Keppel Corporation, one of Singapore's flagship multinational companies with a global footprint in more than 20 countries. Keppel provides solutions for sustainable urbanisation, focusing on four key areas comprising Energy & Environment, Urban Development, Connectivity and Asset Management.

Keppel Data Centres has a track record of more than a decade in owning, developing and managing high-quality carrier-neutral data centre facilities that support mission-critical computer systems. Strongly committed to environmentally sustainable business practices, Keppel Data Centres offers a comprehensive range of wholesale, build-to-suit and co-location solutions built to the highest industry standards.

Keppel T&T is also the sponsor of Keppel DC REIT, the first data centre Real Estate Investment Trust (REIT) listed in Asia and on the SGX-ST. Keppel Data Centres, together with other members of Keppel Group, owns and operates a global portfolio of more than 25 data centres located in key data centre hubs across Asia Pacific and Europe.

For more information, please visit www.keppeldatacentres.com

About City Energy

After 160 years of being Singapore's sole provider of piped town gas, City Gas has transformed into City Energy to provide innovative green energy solutions that meet the needs of a growing city and changing planet, now and into the future. City Energy continues producing and distributing piped town gas safely and reliably to more than 870,000 residents, commercial and industrial customers islandwide, while offering low-carbon home solutions and electric vehicle charging services through its sub-brands, City Energy Life and City Energy Go respectively. City Energy Life provides low-carbon solutions that are a part of everyday living. From gas water heaters to gas clothes dryers and gas hobs – our solutions are long-lasting, smart and environmentally friendly. These are available at the City Energy Life retail store at Plaza Singapura. City Energy Go is an electric vehicle charging service that powers earth-friendly rides, in line with Singapore's vision to have all vehicles running on cleaner energy sources by 2040. As its tagline "Good Energy for our City" promises, City Energy is also exploring green hydrogen as part of town gas production to lower carbon emissions. City Energy Pte. Ltd. (as Trustee of City Energy Trust) is a wholly owned subsidiary of Keppel Infrastructure Trust.

About Osaka Gas Singapore

Osaka Gas Singapore Pte. Ltd. ("OGS") was established in 2013 and wholly owned subsidiary of Osaka Gas Co., Ltd. ("Osaka Gas"). Osaka Gas is the second biggest natural gas provider in Japan. OGS provides energy solutions best suited to customer needs by fully leveraging the global network and expertise of Osaka Gas Co., Ltd. OGS Group has been in the forefront of the energy business in Asia since 2013, expanding its operations from Singapore to Thailand, Indonesia, the Philippines, and Vietnam.

About City-OG Gas Energy Services

City-OG Gas Energy Services is an energy solution provider as well as an established gas retailer with customers in various industries. Over the years, City-OG has helped their customers to optimise their energy efficiency, adopt industry best practices, improve productivity, and lower operating cost.

City-OG Gas Energy Services was established in 2013 by City Energy and Osaka Gas. The two parent companies are experienced leaders in their fields with a combined history of over 100 years. City Energy is a wholly owned subsidiary of Keppel Infrastructure Trust where the core business is the production of town gas for its distribution island-wide to residents and commercial and industrial customers. Osaka Gas is the second biggest natural gas provider in Japan and is a diversified energy company with regional presence in Southeast Asia.

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