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PETROCHEMICALS & CHEMICALS

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Could you introduce GashubUnited Utility and how does it fall under GasHub Group?

GasHub is a gas pipe engineering services company founded in 1991. For over 30 years, GasHub has offered design, installation and commissioning services of gas pipes for industrial customers. In 2017, our CEO had the foresight to diversify the business into LNG supply to retail end users. Over the past five years, we invested in a new LNG cylinder bottling plant and distribution center on Jurong Island, becoming the first company to bring LNG cylinder distribution to Southeast Asia. The plant has been in operation since October 2021 and has a capacity of 250 cylinders/day, with the optionality to increase the capacity by up to eight times in line with future growth. After more than three decades in the gas business, GasHub is proud to offer an integrated solution with lower-carbon emissions and lower costs.

Could you explain in more detail what is the scale of opportunity for small-scale LNG supply in Singapore?

Our familiarity with the gas pipe network in Singapore has allowed us to identify a gap in the natural gas grid in the country. Singapore's grid has a good penetration in industrialized areas, especially in the western part of Singapore (Jurong Island), northern and northwest regions. Outside of these locations, most users are connected to town gas, which is a manufactured gas made from natural gas and containing approximately 60% hydrogen. The reduced efficiency and higher costs of so-called town gas opens a gap for us to supply LNG in cylinder form, which is highly convenient for most of our customers who struggle with the lack of storage space. Our solutions are completely grid-free, our plant itself runs off our own LNG, and the CO₂ emitted during production is captured back for culturing spirulina as a carbon sink.

Could you elaborate on the project to convert the CO₂ generated during the combustion of LNG into cultivating spirulina?

A first-in-the-world project, GasHubUnited Utility has partnered with Spiral Energy to target achieving carbon-neutrality at our operation on Jurong Island. GasHub has a strong history of taking actions to cut down emissions, a key reason why we decided to advocate for LNG in the first place - LNG promises 30-40% less CO₂ than other traditional fossil fuel sources like coal or fuel oil. Regardless, LNG still releases CO₂. To address this issue, we researched ways to reutilize the CO₂ coming out of our plant. Rather than capturing it and then storing it, we searched for a good carbon sink that would allow us to immediately reutilize CO₂.

We found the solution in algae, a great absorber of CO₂. We came across Spiral Energy, an expert in the market that grows spirulina commercially, and together worked on a project to connect the

CO2 generated from our gas engine to produce spirulina, which is a superfood with nutrition properties of significant importance to Singapore's food security scene.

Since opening the plant last year, what have been the principal demand trends?

COP26 was a turning point for the business. Even though discussions about Kyoto Protocol and the Paris Agreement have been active before, both the pandemic and the Glasgow conference moved a lot of that talk into action, turning the switch on for those 2030 or 2050 carbon targets. MNCs started to seriously push changes toward those goals. We have seen a huge wave of enquires for our LNG supply chain solutions as MNCs seek to drive down emissions. At the same time, the rise in energy prices and the crisis in Ukraine further precipitated clients' interest in energy security and affordability. Suddenly, many industries whose profitability depends on low costs for energy and fuels are faced with two to three times higher prices, so we do our best to give them a more cost-effective and efficient option. Demand is moving fast, and the ball is rolling for big news moving forward. We have a backlog of clients waiting to get started.

Do you have a final message?

Building on the current momentum, we will continue to drive our lower costs and carbon-saving solutions. Big or small, everybody must do their part to curb CO2 emissions and realize an effective energy transition. As a solution provider in this space, we are very excited to be at the frontier of this change and enable industries to reach their climate goals.