SIEWCast Episode 3 – Keppel - Transcript

Michelle Martin (Money FM 89.3) 00:01
This SIEWCast is brought to you by Singapore International Energy Week and Money FM 89.3, in partnership with ExxonMobil. Welcome to an exclusive SIEWCast. I'm your host Michelle Martin. The Singapore International Energy Week or SIEW is an annual platform for energy professionals to share best practices and solutions within the global energy space.

Keppel Corporation made headlines recently when it announced the breaking of ground for Singapore's first hydrogen-ready cogeneration plant. Today, we look at the Group's initiatives advancing next generation power technology, both locally and regionally. I'm happy to welcome Miss Janice Bong. She's Managing Director of Power & Renewables at the Infrastructure Division of Keppel. Great to meet you, Janice. Thank you for joining me.

Janice Bong (Keppel) 00:47
Thank you, thank you for having me.

Michelle Martin (Money FM 89.3) 00:49
Janice, tell us why hydrogen is so key to being able to transition to a net zero world?

Janice Bong (Keppel) 00:55
As we know today, the energy needs of Singapore is being supplied by 95% of natural gas. Natural gas still emits carbon at the end of the day, and due to the lack of space as well as a lack of natural energy resources, Singapore is unable to harvest, for example, wind, solar at large scale. And therefore, Singapore's strategy is to look at electricity imports from neighbouring countries, as well as on a longer-term basis, hydrogen that is produced by renewable sources outside of Singapore, bringing it into Singapore in order to decarbonise the nation's power sector. And it is scalable, large-scale, we can actually source it from more than just the neighbouring countries. And that's why it's so important and pertinent to look at the feasibility and competitiveness of bringing hydrogen into Singapore for the power generation sector.

Michelle Martin (Money FM 89.3) 01:51
As the region emphasises energy security and sustainable growth, how exactly does Keppel plan to accelerate the adoption of renewable energy and promote a more resilient and interconnected energy ecosystem in support of these goals?

Janice Bong (Keppel) 02:07
As you know, Keppel has been at the forefront of the energy transition, and we are quite proud to be the first to have commenced importing renewable energy from Laos into Singapore. This started sometime in June last year, and we just marked our one-year anniversary, and this is a significant Pathfinder project, where we have been able to help to achieve Singapore's Third Switch in terms of bringing in renewable energy into Singapore. This focuses on working alongside with the various four ASEAN member countries together with Lao PDR, Thailand, Malaysia as well as Singapore.

We looked at the various frameworks, legal structures, commercial as well as technical aspects of the project in order to successfully bring this renewable energy into Singapore. And we are pleased to have imported more than 260-gigawatt hour of this renewable energy to Singapore for ~~in~~ the first year – this is really equivalent to an annual energy average consumption of over 60,000 Singapore households. This inaugural electricity import has also led to us having the strong foundation for Singapore to tap into the regional grid as one of its Four Switches, including Singapore's plans to import up to 4 gigawatts of low carbon electricity by 2035. The insights, the learnings as well as the operating experience that we have gained from this pathfinding project, thus pave the way for Keppel to scale up and support the wider ASEAN power grid vision.

Michelle Martin (Money FM 89.3) 03:50
Wonderful to hear about the moves being taken to develop the ASEAN power grid. How exactly is Keppel collaborating with government bodies and key partners as well to foster innovation and to establish a supportive framework for these clean energy projects, not only in Singapore, but also in the surrounding region?

Janice Bong (Keppel) 04:09
Energy transition is a journey where we require all stakeholders to come together. So for Keppel under the LTMS-PIP(Lao PDR-Thailand-Malaysia-Singapore Power Integration Project), we have worked with government agency, grid operators, so namely from Électricité du Laos, Electricity Generating Authority of Thailand (EGAT), ourselves, as well as Tenaga Nasional Berhad (TNB) in Malaysia, and this is with the support of all four ASEAN member countries' governments to really bring ~~to~~ fruition to such a project that crosses the various grids. And of course, we are also working with some of our like-minded partners in Cambodia, and in Laos to look at larger scale importation into Singapore. So, for example, in Cambodia, we have partnered with Royal Group Power, which is a significant player in the Cambodia Island, and both companies have signed a long-term power purchase and export agreement back in March 2023. With close collaboration, we are able to work with regulators, stakeholders, as well as the entire ecosystem partners to support the realisation of a large-scale long-term power trade.

Michelle Martin (Money FM 89.3) 05:22
Let’s bring the discussion back home to Singapore. Keppel recently announced its first hydrogen-ready cogeneration plant in Singapore. How does this project, Janice, align with the company’s net zero commitment?

Janice Bong (Keppel) 05:35
The Keppel Sakra Cogen Plant called the KSC will be a 600-megawatt state-of-art advanced combined cycle gas turbine (CCGT) power plant. This is the first hydrogen-ready cogeneration plant that is expected to be ready in the first half 2026 and the KSC Plant will be the most energy efficient among the operating fleets in Singapore. This features superior performance, such as lower emission intensity and higher operation flexibility. This helps saves up to 220,000 tonnes per year of carbon dioxide as compared to Singapore's average operating efficiency – and actually translates to taking about 47,000 cars off the road each year. This plant is designed to be able to run on 30% hydrogen content and has the capability of shifting to run entirely on hydrogen. Keppel is aligned with Singapore's goal to decarbonise the power sector as part of our national commitment to achieve net zero emissions by 2050.

Michelle Martin (Money FM 89.3) 06:44
This SIEWCast is brought to you by Singapore International Energy Week and Money FM 89.3 in partnership with ExxonMobil. I'm Michelle Martin in conversation with Miss Janice Bong, Managing Director for Power & Renewables at the Infrastructure division of Keppel. Let's talk about Keppel’s other clean energy initiatives as hydrogen gains prominence as a crucial enabler in this transition to a low carbon economy. Can you help us understand what Keppel’s strategic approach is to harnessing hydrogen’s potential and also what you envision as its impact on decarbonising industries

Janice Bong (Keppel) 07:19
To harness the potential of hydrogen for deep industrial decarbonisation, Keppel is leveraging on our existing track record of being able to develop and operate large scale infrastructure projects, while also working with international like-minded partners on supply chains for low carbon, hydrogen and hydrogen derived fuels such as green ammonia. For example, in May this year, Keppel formally joined the Central Queensland hydrogen project consortium to develop one of the largest green hydrogen projects in Australia. This project provides a reliable feedstock for a downstream green ammonia project in Gladstone, where we are partnering Incitec Pivot, an experienced industrial chemicals and fertiliser manufacturer. This ammonia will be supplied to Australia markets to support the domestic needs; and also exported to Singapore to meet Keppel’s zero or low emissions power generation needs; and also to Asia, where there is demand for green energy resources, which is rapidly growing.

Michelle Martin (Money FM 89.3)08:28
And finally, before we let you go, Janice, help us understand how Keppel Infrastructure stays ahead of the rapidly changing field of emerging technologies and innovations.

Janice Bong (Keppel) 08:37
Keppel has a one stop solution which is called Energy-as-a-Service (EAAS) for businesses to help them to decarbonise via long term subscriptions with zero or minimum upfront capital investments. This EaaS model comprises cooling-as-a-service, solar, electric vehicle charging installations, as well as the provisions of RECS (Renewable Energy Certificates), and green or brown electricity coupled with smart energy management systems. We are pleased to have launched our KI (Keppel Infrastructure) @Changi, which is really Keppel's operations nerve centre. This harnesses digital technology, AI (artificial intelligence), IoT (Internet of Things) for remote operations, predictive maintenance, and performance optimisations to enhance the efficiency and reliability of our energy assets, as well as services to our customers.

Michelle Martin (Money FM 89.3)09:29
Really fascinating. I've been speaking with Miss Janice Bong, Managing Director for Power & Renewables at the Infrastructure division of Keppel, about the significant steps Keppel is taking to provide sustainable solutions across the energy value chain. Janice, thank you so much for joining me.

Janice Bong (Keppel) 09:44
Thank you.

Michelle Martin (Money FM 89.3)09:45
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