

Keppel and NUS eye infrastructure network that reduces energy consumption

Keppel Corp, through the group's infrastructure division, has launched a multi-pronged project for the National University of Singapore (NUS) to create a network that reduces energy consumption.

The project aims to be scaled across the entire NUS campus in different phases, and eventually be replicated for third-party customers locally and abroad, said Keppel on Nov 20.

It follows a master research collaboration agreement signed between Keppel and NUS in April 2022.

Under the agreement, NUS' Kent Ridge campus will serve as a "low-carbon living laboratory" to create, test-bed and scale commercially viable climate technologies and sustainability-related in-

novation.

Keppel and NUS will implement a digital twin – a digital representation of a physical object – for this project using comprehensive sensing technologies and modelling.

The digital twin will also leverage a novel alternating current/direct current (AC/DC) hybrid microgrid that will seamlessly integrate different on-site and remote renewable energy resources, energy storage technologies and smart electric-vehicle charging solutions.

These innovations are envisaged to create an infrastructure network that reduces energy consumption while enhancing grid reliability and climate resilience, Keppel said.

The group will also implement a

districtwide innovative cooling network at the NUS University Hall and its adjacent developments. This network will comprise the use of proprietary phase change material-based thermal energy storage, interconnected cooling systems and innovative outdoor cooling technologies.

These technologies will also be integrated with the AC/DC hybrid microgrid.

Keppel expects this to lead to significant reductions in its carbon footprint, and serve as a showcase of artificial intelligence-optimised energy consumption.

Ms Cindy Lim, Keppel's chief executive of infrastructure, said such sustainability-related solutions will help businesses and communities decarbonise and work towards carbon neutrality.

Beyond these initiatives, Keppel and NUS are exploring partnerships in other energy innovations, such as ammonia cracking and solar energy-related research.

Keppel said it does not expect the collaboration to have a material impact on its earnings per share or net tangible assets per share for its current financial year.

Shares of Keppel Corp closed four cents, or 0.6 per cent, lower at \$6.43 on Nov 20. THE BUSINESS TIMES