JOINT MEDIA RELEASE

Keppel Infrastructure and NUS collaborate to jumpstart smart grid, clean power, renewables and sustainable environmental technology solutions

Singapore, 20 April 2022 – Keppel Infrastructure Holdings Pte Ltd (Keppel Infrastructure), has entered into a Master Research Collaboration Agreement with the National University of Singapore (NUS). This strategic partnership will bolster Keppel Infrastructure's low-carbon energy innovation and translational research and development of solutions in smart grid, renewables and clean energy, as well as decarbonisation technologies.

As part of the collaboration, Keppel Infrastructure and NUS will leverage the NUS Kent Ridge campus for the "Keppel Infrastructure-NUS Low Carbon Living Laboratory" by creating, test bedding, and scaling up the deployment of commercially viable innovations in distributed energy management, integration of solar photovoltaics (PV), thermal energy storage, electrical microgrids, as well as charging stations for electric vehicles (EVs) and vehicle-to-grid (V2G) trials. This partnership will also provide educational and training opportunities for NUS students, as well as opportunities for open collaboration with other ecosystem players such as start-ups, SMEs and researchers.

To jumpstart this strategic collaboration, Keppel Infrastructure and NUS have jointly identified technologically proven innovations for test bedding, demonstration and adaptation in live environments and system/subsystem integration across various technologies for data collection, analysis and performance validation with intent to accelerate commercial applications. The selected projects are:

1. Smart AC/DC hybrid microgrid: This project will ease the integration of renewable and distributed energy resources, such as solar PV and EV charging with V2G capabilities into the existing AC grid without disruption to the main power grid. The hybrid microgrid acts as a plug-in for the AC grid and will increase flexibility of diversified power interconnection, leading to greater grid reliability and efficiency.

2. Novel EV charging strategies: This project will deploy smart EV charging algorithms that will balance the needs and constraints of the existing electrical network, as well as charging demand of and charging cost to EV owners. This will accelerate the emerging readiness of V2G technology.

3. Innovative District cooling systems (DCS) for buildings integrated with thermal energy storage using proprietary phase change materials[1] as an energy storage medium, outdoor cooling technology and intelligent process optimisation. This project will provide next-generation district cooling solutions for a sustainable urban district, with substantial energy and space savings, as well as environmental benefits such as the reduction of heat island effect.

4. Experimentation and laboratory proof-of-concept on enhanced seawater desalination pretreatment technology for carbon dioxide sequestration and scalant removal. This project will be followed by potential demonstration at one of the desalination plants operated by Keppel Infrastructure.

Ms Cindy Lim, CEO of Keppel Infrastructure, said, "We are redoubling our efforts in sustainability-linked innovation and technology development to sharpen Keppel Infrastructure's competitive advantage in the low-carbon economy, and to partner and add value to industries and our customers in their green transition. To this end, we are excited to forge this significant partnership with NUS to accelerate the commercial deployment of innovative energy technologies, leveraging digitalisation and decentralisation for speed and scale. This is in line with Keppel's Vision 2030 which places sustainability firmly at the core of the Company's strategy."

Professor Chen Tsuhan, NUS Deputy President (Research and Technology), said, "NUS is very excited to harness our strong capabilities in energy and sustainability research in this collaboration with Keppel Infrastructure to co-create commercially viable solutions for a smooth green transition. The NUS Kent Ridge campus will serve as a vibrant living laboratory, where innovative solutions are tested in a realistic operational environment before they are deployed at a larger scale. These technological capabilities will in turn help enhance the climate resilience of our campuses."

In addition, Keppel Infrastructure and NUS will explore collaboration in other energy and sustainability related areas, such as decarbonisation of industrial emissions, innovative solar projects, as well as technologies and applications of carbon capture, including the use of nature-based solutions.

Keppel Corporation Limited, the parent company of Keppel Infrastructure, does not expect the abovementioned development to have any material impact on its earnings per share and net tangible asset per share for the current financial year.

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[1] Solution was jointly designed and developed by NUS and Keppel DHCS Pte Ltd (KDHCS), a wholly-owned subsidiary of Keppel Infrastructure. The project was funded by the Energy Market Authority under its Energy Resilience Grant Call in 2018.

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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 & renewables, 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.

For more information, please visit www.kepinfra.com

About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 17 faculties, schools and colleges across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. We have also established our NUS Overseas Colleges programme in more than 15 cities around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, 30 university-level research institutes, research centres of excellence and corporate labs focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

For more information on NUS, please visit www.nus.edu.sg.