First long-span wind turbine fans Singapore's renewable energy drive

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The turbine is the first in Nanyang Technological University's (NTU) Renewable Energy Integration Demonstrator - Singapore (REIDS) initiative, backed by the Economic Development Board (EDB) and the National Environment Agency (NEA). PHOTO: NTU

IN a first for Singapore's push for clean energy, a long-span wind turbine has been deployed on Semakau Landfill, which produces enough power for 45 four-room HDB units for a year.

The turbine is the first in Nanyang Technological University's (NTU) Renewable Energy Integration Demonstrator - Singapore (REIDS) initiative, backed by the Economic Development Board (EDB) and the National Environment Agency (NEA).

The initiative, managed by NTU's Energy Research Institute (ERI@N), is being co-developed with French energy company ENGIE, and is expected to attract S$20 million worth of projects over the next four years, adding to the initial S$10 million Semakau investment.

REIDS aims to develop several hybrid "microgrids" which can produce the equivalent of 100 four-room HDB flats' energy requirements, eventually occupying over 64,000 sq m of land, or about nine soccer fields, says NTU.

Each microgrid can produce power in the half-megawatt range, suitable for small islands, isolated residential areas and emergency power supplies.

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Measuring 14 storeys high, each turbine has three 10.5-metre long-span rotor blades which produce an electrical output rating of 100 kilowatts (kW), and is sensitive enough to generate power from wind speeds as low as three metres per second to 20 metres per second.

"The deployment of Singapore's first wind turbine is a big milestone in the nation's commitment in developing clean energy technologies for the region. As a leading global university, NTU is proud to support Singapore's efforts in meeting its sustainability objectives and pave the way towards a greener future," said Lam Khin Yong, NTU's acting provost, chief of staff and vice-president for research.

Goh Chee Kiong, executive director of Cleantech at EDB, said: "The diversity and scale of the investments at REIDS to date demonstrate confidence in Singapore as the leading regional hub for clean energy innovation. The strong presence of leading energy providers and adopters is testament to REIDS' success in developing an ecosystem, to pilot and develop microgrid innovations from Singapore."

Twelve new partners will sign memoranda of understanding (MOUs) with REIDS during the 2017 Singapore International Energy Week, to advance the development and eventual deployment of microgrid solutions in the region.

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