Hong Kong's First Commercial-scale Standalone Renewable Energy System on Town Island

The RE System, comprising 672 solar panels, 2 wind turbines and 576 batteries, is located in two different areas on Town Island. Its installed generating capacity is 200 kW, which is capable of lighting up 9,600 compact fluorescent lamps.

Mr. Chow Tang Fai, CLP Power Director – Power Systems and Mrs Mamre Lilian Yeh, General Secretary of Operation DAWN Hong Kong jointly activate a 6kW wind turbine, marking the formal completion of the Town Island Power Supply Project.

Poly Crystalline Silicon technology is adopted for the CLP Town Island Renewable Energy Supply Project.

The Town Island Renewable Energy (RE) Supply Project, which powers a non-profit drug rehabilitation centre run by Operation Dawn, is Hong Kong's first commercial-scale standalone RE supply system. Completed in late 2012, Town Island RE Supply Project was recently named one of the "Hong Kong People Engineering Wonders in the 21st Century". The voting campaign was organized by The Hong Kong Institution of Engineers for the Hong Kong people to select their favourite engineering wonders. Town Island project is the only RE-related project among the 10 winning works.

This HK's first project comprises 672 solar panels, two wind turbines and 576 batteries, with a generating capacity up to 200kW which is capable of lighting up 9,600 compact fluorescent lamps. As the system is not connected to the grid, it features batteries capable of storing over 1,000 kWh of electricity to provide a power supply lasting for around 30 hours. As of March 2013, the system had generated more than 66,000 kWh of electricity, equivalent to the monthly consumption of 150 four-member households, achieving a significant reduction of over 25,000 kg in carbon dioxide (CO_2) emissions.

The "zero emission" project was specially designed to optimise the use of solar, wind and land resources to meet the basic energy needs of Town Island – setting itself a goal to "get the best out of the heaven and earth and harmonise mankind's demand".

The development of RE depends on a number of environmental factors. Town Island has expansive open space for accommodating solar panels while the absence of tall buildings facilitates the absorption of sunlight. Furthermore, rich in wind resources also enables the island to make wind power generation possible. This project is more cost-effective than the traditional supply methods of overhead lines and submarine cables, with the added benefit of maintaining the area's natural scenery and marine ecology.

The Town Island project provides the industry as well as the academia with critical data and field experience of utilizing RE in Hong Kong. CLP has teamed up with local universities and shared data of the project for research and educational purposes, so to explore the applicability of similar RE projects in Hong Kong in future.