

Planned wind farm to use green technology

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An eco-friendly technology which allows building offshore windmills without dredging the seabed will be used for the first time in Hong Kong by CLP Power, which plans to spend HK\$70 million to put up a data mast off Clear Water Bay to collect necessary information for its future sea-based wind farm.

The data mast - powered by solar panels - will be installed by the middle of next year, and collect data on wind speed, wave temperature, relative humidity and air pressure. The power producer says this information is crucial to the proposed 200MW wind farm with up to 67 turbines, to be erected about 9 kilometres off Clear Water Bay no later than 2016.

CLP said they would use a new method known as suction caisson technology to build the data mast. The technology is unique to oil drilling and has never been used in offshore wind farms. It allows engineers to build the mast and avoid any dredging or drilling of the seabed, reducing damage to the environment.

The technology, though more expensive than conventional dredging, will sink the foundation of the mast down to 30 metres below the soft mud seabed by using water pressure. It takes about two days to complete the process if weather conditions allow. If the data-mast construction is successful, the same technology will be used to build the windmills.

But critics of the project yesterday said no matter what construction method was used, the offshore wind farm would have only a 'negligible' positive impact, at the expense of spoiling a region tipped to be listed soon as a global geopark.

'It is going to spoil the wilderness of the area and may affect a future reassessment of the region, even after it is selected as a world geopark,' said Young Ng Chun-yeong, who is from a concern group against the project.

An international panel of experts has visited Hong Kong to study the proposed world park. It has an estimated size of 50 square kilometres, including the sea area close to the planned wind farm. A decision by the global geopark network on the listing will be announced shortly.

Lo Pak-cheong, corporate development director of CLP, said no commercial decision had been made on the wind farm, as more data was needed to determine the layout of the farm and the size of the turbines.

'If the results are not satisfactory, we might end up slashing the scale, making some adjustments to our plan or even looking for other possibilities,' said Lo, adding that government approval was still needed.

Lo said the data could help decide if the turbines would be 125 metres or 150 metres tall. Opponents of the project are concerned about the visual impact of the turbines.

Lo said the total cost of building the wind farms would be between HK\$5 billion and HK\$7 billion, depending on the number of turbines and their size.

While the power firm is entitled to enjoy an 11 per cent return on the investment, which is higher than the 9.9 per cent of other power generation assets, electricity users would pay two per cent more on their power tariff.

CLP Power started to study the feasibility of an offshore wind farm in 2006, and an environmental impact assessment has been completed and was endorsed by the government in 2009. But the firm has yet to submit a detailed business plan for the Environment Bureau to approve.

The wind farm is expected to satisfy the power demands of 80,000 households, and reduce carbon emissions by up to 300,000 tonnes a year.

But the projects' opponents said that reduction was meagre compared to the total investment.

A spokeswoman for CLP said last night that they had regular communications with stakeholders, and had heard no adverse comments about the mast installation.

Apart from CLP Power, Hongkong Electric - a subsidiary of Power Assets Holding - is proposing to build a 100MW offshore wind farm southwest of Lamma Island.

ENERGY

CLP Power plans to insert a data mast into the sea east of Hong Kong as part of a feasibility study for an offshore wind farm.

Suction caisson technology

Mast foundation and substructure lowered onto seabed. Foundation then immersed into seabed using its own weight

Water pumped out. Pressure difference drives foundation deeper. Top section added later

Source: CLP