

**Hong Kong Offshore Wind Farm (HKOWF) in South-eastern Waters**

**Draft Minutes of the 8<sup>th</sup> Stakeholder Liaison Group (SLG) Meeting - 5<sup>th</sup> Term SLG 1<sup>st</sup> Meeting**

**9<sup>th</sup> April 2021 from 3:30 pm to 5:00 pm in**

**The Cityview, Crystal Ballroom (2/F), 23 Waterloo Road, Kowloon, Hong Kong with on-line meeting options**

**Present:**

On-site

- Ms Quince CHONG (CLP Power, Chief Corporate Development Officer)
- Mr Stephen CHAN (CLP Power, Director - Strategic Planning and Regulatory Affairs)
- Mr Gareth MILNE (CLP Power, HKOWF Project Director) – *English Channel*
- Mr Terence FONG (ERM, Meeting Facilitator)
  
- Mr CHENG King-man (Sai Kung Fishermen's Association, Chairman)
- Dr CHENG Luk-ki (Green Power, Director)
- Mr LAU Kai-hong (Hang Hau Rural Committee, Chairman)
- Mr WONG Shui-sang (Sai Kung Rural Committee, Chairman)

Virtual

- Prof CHAN Lung-sang (HKU Dept. of Earth Sciences, Honorary Professor)
- Mr Andy CHU (Greenpeace, Programme Manager)
- Mr Stephen CHUI (Hong Kong Fishermen's Youth Association, Chairman)
- Mr Wilson KWONG (HKGCC Environment and Sustainability Committee, Chairman)
- Prof Alexis LAU (HKUST Institute for the Environment, Associate Director)
- Prof Gerald PATCHELL (HKUST Division of Environment and Sustainability, Associate Professor) – *English channel*
- Mr Samson SO (Eco Institute, Director)
- Dr YAU Wing-kwong (Environmental Association, Chief Executive Officer)
- Mr Frederick YU (China HK Mountaineering and Climbing Union, Chairman)

Also present were two environmental consultants from ERM and CLP representatives.

Ref No.	Issues/Discussion	Follow-up Actions and Responsible By
1	<p data-bbox="212 264 758 293"><b>Introduction of 8<sup>th</sup> SLG Meeting Outline</b></p> <p data-bbox="212 331 1560 459">1.1 The Facilitator began the 8<sup>th</sup> Stakeholder Liaison Group (SLG) meeting by introducing the SLG members present both at the venue and virtually, and outlining that the following information would be presented in this meeting: i) Welcome and Introduction, ii) SLG Terms of Reference, iii) Project Introduction and Progress, iv) AOB</p> <p data-bbox="212 496 1560 727">1.2 Chief Corporate Development Officer from CLP Power gave a welcome address, expressing that CLP has been studying the development of offshore wind energy in Hong Kong for more than a decade. She said technology advancements have made wind energy become more economically feasible for development, and CLP is exploring to include offshore wind energy as part of Hong Kong's energy mix if the results of the study are positive. She said CLP looked forward to enhancing communications with the members in order to achieve Hong Kong's carbon neutrality target for 2050.</p> <p data-bbox="212 764 1560 963">1.3 The Project Director gave a second welcome address, recalling the original proposal of the HKOWF Project, and emphasising the exponential technological advancement has enhanced the ability to increase the energy yield and the renewable energy (RE) production of offshore wind energy in Hong Kong which are key drivers to determine the feasibility of the project. He detailed the need to revisit HKOWF's feasibility study while an Environmental Permit (EP) for the project was issued in 2009.</p> <p data-bbox="212 1000 1560 1198">1.4 The Facilitator presented the SLG's Terms of Reference, including the SLG's mission to provide an advisory forum for stakeholders to advise on the design, construction and operation of the planned HKOWF in south-eastern waters, and its objectives, as stated in the original EP-341/2009 for this project. The Facilitator also introduced the membership and structure of the HKOWF-SLG, its operating mandates, and the role of the government where they are not expected to be directly involved with the HKOWF-SLG.</p> <p data-bbox="212 1235 1560 1369">1.5 The Facilitator concluded the introduction portion of the meeting by informing the SLG members that material relating to the SLG to be uploaded to the project website, and clarified that the meeting was recorded only to assist minute taking. SLG members did not raise any questions and confirmed agreement on the meeting outline and SLG Terms of Reference.</p>	

<p><b>2</b></p>	<p><b>Renewable Energy and Wind Power in Hong Kong</b></p> <p>2.1 CLP Power’s Director for Strategic Planning and Regulatory Affairs (D-SP&amp;RA) introduced the carbon neutral targets set by the Central Government and HKSAR by presenting the energy transition in power generation (i.e. in coal, natural gas and non-fossil fuels) towards decarbonisation between 2020 and 2030.</p> <p>2.2 The D-SP&amp;RA stated that large-scale renewable energy development in Hong Kong is challenging due to limited usable land area, high population and building density, relatively limited territorial waters, and modest solar irradiance and wind speed compared to other regions and countries.</p> <p>2.3 The D-SP&amp;RA summarised main forms of renewable energy (i.e. solar, wind, waste-to-energy, and hydro) in terms of their maturity and scalability globally, and compared their potential developments in Hong Kong.</p> <p>2.4 The D-SP&amp;RA then spoke in more detail regarding wind power, and the greater development potential of offshore compared to onshore wind farms in Hong Kong, as optimal onshore sites are located on ridgelines and/or in country parks.</p> <p>2.5 The D-SP&amp;RA presented two potential offshore sites in Hong Kong: i) South East Ninepin, or ii) South West Lamma, and confirmed the final chosen site of CLP’s project to be in South East Ninepin.</p>	
<p><b>3</b></p>	<p><b>HKOWF Project Progress Review since 7<sup>th</sup> SLG Meeting and Proposed Changes</b></p> <p>3.1 The D-SP&amp;RA stated that the HKOWF Environmental Impact Assessment (EIA) Report was approved and Environmental Permit (EP) was granted in August 2009. He continued to explain that with the latest improvements in technology, the HKOWF Project was revisiting the feasibility and development potential as the offshore Meteorological (Met) Mast platform is completing its wind data collection and will be removed in 2021.</p> <p>3.2 The D-SP&amp;RA further elaborated the EIA-approved Project proposal, including the location (i.e. ~9 km from Clearwater Bay), the components of the wind farm, the cable route and landing point using array cables within the wind farm and transmission cables to connect the wind farm to the electricity grid onshore.</p>	

	<p>3.3 The D-SP&amp;RA summarised that subject to site investigation and technical constraints, the HKOWF turbines are proposed to be in larger size and fewer numbers, which improves spacing and reduces the wake effect, and thus increases energy generation. In addition, electricity generation would become more cost-effective by lowering the capital and operational cost per MW of capacity, and increasing production due to larger rotor size.</p> <p>3.4 The D-SP&amp;RA explained that the HKOWF project will adopt the suction caisson method for foundation installation, the same method as approved in the EIA report but it is proposed to increase the water pumping rate from suction caissons (buckets) during installation to improve safety and efficiency due to the increased size of turbines.</p> <p>3.5 A SLG member raised concerns about the impact of HKOWF on fishing activities. Another SLG member who is familiar with fishing operation in Hong Kong responded to the SLG member in question, stating that near-shore fishermen will receive limited influence as the project site is very far from their fishing site, and recommended the project site to remain open for fishing activities.</p> <p>3.6 A SLG member asked to clarify whether the total project area expanded from 4 km<sup>2</sup> to 16 km<sup>2</sup> since the last EP. The D-SP&amp;RA confirmed that there is no change in total project area size, which is still 16 km<sup>2</sup> as stated in the approved EIA report.</p> <p>3.7 A SLG member asked if the impact of the increase in wind turbine size and height on avifauna and noise levels because the noise and vibration would affect fishes, and if there are other potential impacts due to underwater cables and change of seabed level. The Facilitator responded that the answer to the above questions may be addressed in the following presentation on the key findings of the Environmental Review.</p> <p>3.8 A SLG member asked whether the lower wind speed in Hong Kong can support efficient wind power generation. The D-SP&amp;RA replied that Hong Kong's wind speed falls into the optimal range of wind speed for turbine operation.</p> <p>3.9 A SLG member raised concerns that fishermen may have limited alternate fishing sites, and enquired mitigation measures taken to minimise the impacts. The Facilitator replied that after the EIA approval, there are other legislative processes to be required prior to the project development. The process related to fisheries include gazettal process under Foreshore and Sea-bed (Reclamations) Ordinance will provide a clearer picture of the implication of the Project on marine navigation and fishing activities.</p>	<p>CLP will consider the full extent of environmental impacts as stipulated by Hong Kong law, and consider all stakeholder concerns carefully moving forward.</p>
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4	<p><b>Environmental Review Key Findings</b></p> <p>4.1 The Facilitator stated that a review against the approved EIA Report was conducted to support the Variation of Environmental Permit (VEP) application, and the application was submitted to the EPD in March 2021. The Environmental Review findings showed that variations, specifically the use of larger turbine size with fewer numbers and increasing water pumping speed for foundation installation, will not constitute a material change to the Project.</p> <p>4.2 The Facilitator stated that the predicted risk to avifauna is negligible according to the updated assessment, with the same conclusion as the approved EIA report and operational monitoring will be carried out as per Environmental Monitoring &amp; Audit (EM&amp;A) requirements.</p> <p>4.3 The Facilitator stated that impact of the project variations on landscape and visual would be insignificant, as there will be fewer number of turbines in a more scattered layout. There will be considerable distance between viewpoints and the proposed location of the wind farm while relevant mitigation measures will be taken. Measures include application of non-reflective materials in producing turbines, transformer and mast, minimising the lighting number and intensity, and the slender turbine tower design. Photomontages were also used to illustrate the conceptual difference between 3 MW, 5 MW, 6.45 MW and 15 MW wind turbines.</p> <p>4.4 The Facilitator stated that there is insignificant impact on water quality resulting from the increased water pumping rate for foundation installation. Extent of water quality impact associated with array cable installation would be lowered as well due to the reduced cable length.</p> <p>4.5 The Facilitator stated there is negligible change in the impact on fisheries as the total project area coverage remains similar as the approved EIA report but the total turbine footprint is actually smaller due to the reduced number of turbines. Additionally, the updated assessment concluded that the EIA conclusions and recommendations remain valid for marine ecology, waste and materials management as well as cultural heritage.</p> <p>4.6 A SLG member asked if there are any concerns regarding the Geopark raised since the last SLG meeting. The Facilitator elaborated that publications of global wind farm research indicate that Geoparks can co-exist with wind farms, and similar concerns on the HKOWF were handled in previous environmental assessments. The Facilitator stated the distance between HKOWF and Geopark islands remains the same. The Facilitator confirmed that CLP did not receive enquiries regarding Geopark issue since the last SLG meeting.</p>	
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	<p>in the approved EIA, as Hong Kong EIA systems require airborne noise impact assessment to be conducted if a Noise Sensitive Receiver (NSR) is located within 300 m from the Project boundary. The Facilitator stated that the windfarm area's surrounding 300 m does not contain any NSR, therefore no detailed airborne noise impact assessment is needed and no additional changes to EIA regarding airborne noise.</p> <p>4.13 A SLG member suggested initiate public education on HKOWF for Hong Kong citizens. The Facilitator echoed the benefits of public education on renewable energy and thanked the SLG member for the recommendation.</p> <p>4.14 A SLG member enquired if extreme weather events will affect the Project's underwater cables. The Facilitator replied that under Hong Kong requirements, underwater cables are typically required to be buried 5m below the seabed. As such, there should be sufficient protection of cables from extreme weather events.</p> <p>4.15 A SLG member enquired regarding the installation time for the wind turbines and the foundation. The Project Director replied that the construction depends on the final wind turbine size and design, the energy yield assessment and site investigation of ground conditions.</p> <p>4.16 A SLG member enquired about the presence of security measures in the wind farm site during operational phase, such as CCTV cameras, vessels and/or guards. The Project Director responded security measures and impact to traffic will be taken into consideration during the coming detailed design phase.</p>	<p>CLP will consider the SLG's suggestion for hosting HKOWF public education activities and events.</p> <p>CLP will consider the security measures for the wind farm site during the coming detailed design phase.</p>
<p><b>5</b></p>	<p><b>Conclusion</b></p> <p>5.1 The Facilitator stated that the next (9<sup>th</sup>) SLG meeting will be held in the end of 2021.</p> <p>5.2 The 8<sup>th</sup> SLG meeting closed at 5:30 pm.</p>	<p>Meeting minutes will be circulated among all SLG members for agreement and posted on website within one month of the 8<sup>th</sup> SLG meeting.  <a href="http://www.clp.com.hk/offshorwindfarm">www.clp.com.hk/offshorwindfarm</a></p>

*Note: The HKOWF SLG meetings are closed door meetings and meeting minutes are uploaded online for public review. Members are not cited in name in the minutes. The practice is commonly adopted in SLG meetings of other infrastructure projects.*