

**Hong Kong Offshore Wind Farm in Southeastern Waters
Confirmed Minutes of the Second Stakeholder Liaison Meeting
held on 26 October 2010 from 10am to 2pm in Clearwater Bay and Sai Kung**

Present:

Mr. John CHAN (CLP Power) - SLG Chairman
 Prof. CHAN Lung-sang (HKU)
 Ms. Gloria CHANG (Greenpeace)
 Mr. CHENG King-man (Sai Kung Fishermen’s Association)
 Dr. LAM Kit Ming (HKU)
 Prof. Alexis LAU (HKUST)
 Mr. LING Man Hoi (Sai Kung District Council)
 Mr. LOK Shui Sang (Sai Kung Rural Committee)
 Dr. NG Cho-nam (HKU)
 Hon. WONG Yung Gan (LEGCO Member)
 Mr. Frederick YU (HK Mountaineering Union)

Absent with Apologies:

Dr. CHENG Luk Ki (Green Power)
 Mr. Mike KILBURN (HK Bird Watching Society)
 Prof. Gerald PATCHELL (Friends of Sai Kung)
 Dr. YAU Wing-kwong (Tai Po Environment Association)

Also present were SLG Facilitator Timothy J. Peirson-Smith, selected CLP staff and technical consultants from ERM.

Ref No.	Issues / Discussion	Follow-up Actions and Responsibilities
1.	<p>The Chairman welcomed the SLG members and viewed the site of the Offshore Wind Farm (OWF) at the Golf and Country Club in Clear Water Bay. The Chairman briefly introduced Offshore Wind Farm (OWF) developments around the world and increasing global wind power capacity in recent years with offshore wind power accounting for 1% of global wind power in 2008.</p> <p>The Chairman elaborated on the location of the proposed offshore wind farm and the temporary Data Collection Mast, and explained that “suction caisson technology” will be used to install both the Data Collection Mast and wind turbine foundation due to its minimal impact to the environment and seabed. Electricity would be supplied from solar panels for the instruments on the mast, and the data collected would be telegraphically transmitted to a central office.</p> <p>A computer-animated model of the temporary offshore Data Collection Mast was shown to the SLG members, and there were no objections to the temporary offshore data collection mast from the SLG members.</p>	

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2.	<p>Progress of the OWF Project</p> <p>The Facilitator asked the Chairman to update the SLG on the progress of the OWF project since the 1st SLG meeting in April 2010. Details of the progress are as follows:</p> <p>April – Held 1st SLG meeting May – Launched the OWF project website Submitted the Short Term Tenancy application of Data Collection Mast for government's approval Commenced the tendering process for the Data Collection Mast July – Presentation to the Capture Fisheries Sub-committees on the OWF Aug – Boat trip/site visit by members of the Sai Kung District Council to explain the proposed OWF and addressed their concerns/enquiry Sep – Awarded the engineering design portion of the Data Collection Mast contract to a competent contractor Oct – Organised the 2nd SLG meeting</p> <p>Summer 2011 – Target to install Data Collection Mast.</p> <p>An SLG member asked what were the government's suggestions/comments and why was the Short Term Tenancy application is yet to be approved</p> <p>The Chairman replied that there were some technical/procedural issues outstanding and CLP is discussing with relevant government departments to straighten them out.</p>	
3.	<p>An SLG member questioned whether the position of the wind turbines would be fine-tuned. Another SLG member inquired how the OWF would affect the hikers and asked whether CLP will be able to release the layout of the plan for more information.</p> <p>The Chairman explained that the adjustment would be based on the data collected and that they would also seek the advice from wind consultants to find the optimised wind farm configuration. SLG members will be consulted once the optimised configuration is proposed.</p>	
4.	<p>An SLG member asked for the exact number of the wind turbines in the OWF.</p> <p>The Chairman explained that the two potential configurations used as base cases in the EIA report were: 67 wind turbines with 3 MW 40 wind turbines with 5 MW Both possibilities will occupy the same area. A final decision will be confirmed once data has been analysed from the Data Collection Mast.</p>	
5.	<p>An SLG member asked whether the cable landing location in Tseung Kwan O had been confirmed or not.</p>	

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	ERM answered that the general cable route is approved, but there may be fine-tuning on the routing subject to field testing/survey.	
6.	<p>An SLG member inquired whether the installation of the OWF would be done in phases or all at once.</p> <p>The Chairman replied that it was not yet confirmed and once data collected has been analysed, a refined proposal will be submitted to government for approval.</p>	
7.	<p>Fisheries Discussions</p> <p>An SLG member asked whether there would be a restricted zone for the OWF.</p> <p>An SLG member hoped that there could be continued communication between the government and fishermen to explore the potential of developing the OWF as a fishing area.</p> <p>The Chairman reported that CLP has been constantly in an ongoing dialogue with various fishermen's' representatives.</p> <p>An SLG member considered that the distance between each wind turbine was about 500m, and asked whether it would be possible to fish in these areas. Another SLG member supported this view.</p> <p>ERM explained that once government approves the OWF, the proponent is obliged to develop a 'Fisheries Enhancement Plan'.</p> <p>The Chairman concluded that the site would be restricted for vessel entry, and a license will be required for entrance for safety reasons. However, details on the criteria for licensing are still under discussion, and SLG members are welcome to provide their comments on this, and in due course on the 'Fisheries Enhancement Plan'.</p>	
8.	<p>Follow-up Actions from 1st SLG</p> <p>The Facilitator asked the Chairman to answer questions raised in the first SLG meeting.</p> <p>Q1. (Ref.6 of the 1st minutes) <i>An SLG member raised a concern over the issue of indemnity incurred by the comments in the meetings on certain specialist issues.</i></p> <p>The Chairman replied that they had researched similar SLGs in Hong Kong, and there had not been any concerns on this indemnity issue as the SLG members play only an advisory role and it was the proponent's responsibility what advice to take on board. Another SLG member who has also been a member of other SLGs shared that this indemnity issue has never been a concern.</p>	
9.	<p>Q2. (Ref. 11 of the 1st minutes) <i>Regarding other data collection, an SLG member requested the full list of environmental data. The Chairman agreed to review internally if it would be worth collecting such data and would revert to SLG on this consideration.</i></p> <p>The Chairman explained that data collected by the mast is considered sensitive and proprietary and not for circulation to the public.</p>	

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	<p>An SLG member then followed up by questioning the value of collecting data about the degree of scouring in the seabed.</p> <p>The Chairman explained that upper layer of marine mud at the OWF site has low viscosity, so unlike sand, scouring would not be a problem. An SLG member asked if the process would be monitored, and the Chairman replied that the tilt and settlement will be measured and that the data will be sent to government for reference.</p>	
10.	<p>Q3. (Ref. 23 of the 1st minutes) <i>An SLG member inquired whether there was any record of sediment movement during typhoons from the past 10-15 years and suggested that this movement's effect on the OWF be considered.</i></p> <p>The Chairman answered that they had found that the government does not have such data. An SLG member supplemented that as typhoons have minimal effect on sea current at 30m water depths, and thus it is unlikely that sediment would be affected by typhoons.</p>	
11.	<p>Q4. (Ref. 25 of the 1st minutes) <i>An SLG member inquired whether any seismic assessment is included in the design of the OWF, as an earthquake could affect the OWF.</i></p> <p>The Chairman explained that since Hong Kong is not located in an active seismic zone, the Hong Kong design codes have no requirement for seismic design to be carried out for onshore and marine structures. In fact, the wind farm will be designed to withstand wind loads of typhoon severity, which is deemed to be the more critical design issue.</p>	
12.	<p>An SLG member questioned whether the turbines could stand the strong winds of typhoons.</p> <p>The Chairman replied that appropriate wind turbine class is to be selected to withstand strong winds from typhoons.</p>	
13.	<p>Landscape and Visual Impact Discussions</p> <p>An SLG member raised concerns over possible visual impact from Ninepin Group of islands, and advised that the SLG should be transparent to the public on this matter.</p> <p>CLP replied that the approved EIA had assessed landscape and visual impact to be acceptable.</p> <p>The Facilitator added that the SLG members would be invited to comment on the turbine layout and numbers and the landscape and visual intrusion plan in due course and the Chairman supplemented that all SLG minutes would be made public on the bilingual website: https://www.clp.com.hk/offshorewindfarm/</p>	
14.	<p>Geopark Discussions</p> <p>An SLG member explained that Sai Kung District Council had established an OWF Concern Group and that there are different opinions about the OWF. Sai Kung District Council supports renewable energy, but is concerned that it will affect the UNESCO Global Geopark application of the Hong Kong Geopark nearby.</p>	

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	<p>ERM explained that a study of geoparks had recently been undertaken and results showed that there are nine global geoparks with wind farms in their boundaries. This demonstrated that global geopark and wind farms could co-exist. ERM also added that communications with Geopark Assessment Board members showed that global geoparks application would not be affected by wind farm development provided that no geosites are directly damaged by wind farm. Furthermore, the OWF site is 1000m away from the Hong Kong Geopark buffer zone, so it is unlikely that the OWF would affect the Global Geopark application.</p>	
15.	<p>Avifauna Discussions</p> <p>The Facilitator raised an absent SLG member's concerns over the impacts on birds, particularly White-bellied Sea Eagles (WBSE). The absent SLG member wished to know whether radar and CCTV would be installed in order to monitor whether WBSEs are killed and injured by the turbines. The absent SLG member also asked about what designs could be used to deter birds from landing on turbine structures, such as foldaway landing platforms.</p> <p>ERM explained that they were undertaking a study on bird detection and understood that the use of radar for bird detection is presently in the pilot testing phase and there are limitations for radar monitoring of birds in offshore wind farms, in particular data collection masts. Further, they understood, radar monitoring is still largely limited to academic research/ "experimental stage" at onshore wind farms, with fewer applications for offshore wind farms. However, as this study is still underway they will share the completed study findings in a subsequent SLG. ERM added that the renewable electricity supply comprises a limitation of installing radar on the Data Collection Mast, which is designed for the instruments for measuring the required environmental data and would be unlikely to have extra power capacity to supply a radar system.</p> <p>An SLG member pointed out that the bird monitoring was conducted during the day and lacked migratory data of birds during the night.</p> <p>The Chairman and ERM further explained that there are challenges to monitoring birds during the night. Additionally, they explained that bird migration routes are mainly along the coastline and the approved EIA concluded that OWF would have little impact on bird migration. Meanwhile, as described earlier, the Chairman reiterated that the proponent is still investigating other possibilities of using CCTV, thermal camera for bird detection and will also consider designs that deter birds from landing on turbine structures. The Chairman concluded by sharing that vessel visual monitoring of birds will be carried out during construction and operational phases.</p> <p>An SLG member reminded that the proponent should also consider other overseas bird detection examples, particularly Denmark and the Chairman agreed.</p>	<p>The Chairman agreed to share the bird detection study findings when complete in a subsequent SLG</p>
16.	<p>Subsequent SLG Meetings</p> <p>The Facilitator referred to the previous issue that was discussed in the 1st SLG meeting. (Ref. 28 of the previous minutes) <i>The Facilitator suggested the schedule of holding the upcoming meetings. The Chairman agreed to consider the Facilitator's suggestions and revert to SLG at the 2nd SLG meeting.</i></p>	

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	<p>The Facilitator stated that SLG members could consider a visit PRC to see the fabrication of the Data Collection Mast.</p> <p>The Chairman stated that the 3rd SLG meeting would be in around April 2011; the initial structure of the Data Collection Mast would be formed by that time, and the visit could be conducted in a half day.</p> <p>An SLG member asked if it would be possible to look at the OWF site from the Ninepin Group of islands in the 3rd SLG meeting. ERM explained there is no proper pier on Ninepins Group of islands and advised that it may not be suitable for vessel to land there. Another SLG member, with local knowledge, explained that in April wave conditions could be unpredictable and considered that it would not be appropriate to land on the Ninepin Group of islands.</p> <p>Another SLG member, also with local knowledge, explained that even government visitors to the Geopark did not disembark at Ninepins Group of islands, and so very few people would see the OWF from this viewpoint.</p> <p>The Chairman explained that the Data Collection Mast would likely be installed in the 3rd quarter of 2011 and, thus, the 4th SLG meeting could be suitable for a site visit to the offshore data collection mast.</p> <p>The Facilitator concluded that the 3rd SLG meeting will be held in 6 months and that due to uncertainties of sea conditions, it would be better to for the SLG to visit the fabrication of the Data Collection Mast in April 2011 and take the 4th SLG boat trip in August or September 2011.</p>	<p>The Chairman agreed to share plans for the 3rd and 4th SLGs well in advance for SLG members' consideration</p>
17.	<p>The Facilitator inquired if there were any further questions and thanked everyone for sharing their expertise and local knowledge. The SLG meeting closed at 1400hours.</p>	<p>Meeting minutes to be circulated, by Secretariat, among all SLG members and agreed and posted on website within one month of SLG meeting.</p>