

**Development of an Offshore Wind Farm in Hong Kong
Minutes of Sixth Stakeholder Liaison Group Meeting**

Held on 4 April 2014 at 2:30pm on 11/F, Hongkong Electric Centre, 44 Kennedy Road, Hong Kong

Present (in alphabetical order):

Mr. Lin-wai CHAN (Lamma Island (North) Rural Committee)

Mr. Norman CHAN (HK Electric)

Dr. Luk-ki CHENG (Green Power)

Mr. Yuk-tong CHOW (Lamma Island (South) Rural Committee)

Mr. Prentice KOO (Green Peace)

Mr. Ying-leung KWAN (HK Electric)

Ms. Lai-fan YU (Islands District Council Member)

Mr. Chi-kwong LAU (HK Electric) – Chairman

Mr. Kwok-wo LAU (The Lamma Island Fishermen's Recreation and Sport Association)

Ms. Kwai-chun LEE (Islands District Council Member)

Ms. Samantha LEE (WWF-Hong Kong)

Prof. Dennis Yiu-cheong LEUNG (Department of Mechanical Engineering, The University of Hong Kong)

Mr. John Chung-ping LIAUW (HK Electric)

Mr. Chun-leung LO (Cheung Chau Rural Committee)

Dr. Chi-tong TSE (Academia on Electrical Engineering)

Mr. Rico WONG (The Conservancy Association)

Ms. Frances YEUNG (Friends of the Earth (HK))

Absent with apologies:

Dr. Cho-nam NG (Hong Kong Bird Watching Society)

Mr. Yung-kan WONG (Hong Kong Fishermen Consortium)

Ref. No.	Issue/Discussion	Follow-up Actions & Responsibilities
1.	<p>The Chairman Mr. C.K. Lau (HK Electric) welcomed all Stakeholder Liaison Group (hereafter referred to as “SLG”) members to attend the 6th SLG meeting. As Dr. Alan Leung had stepped down from the SLG upon his resignation from his affiliation effective from 8/10/2013, Ms. Samantha Lee of WWF Hong Kong had accepted our invitation to join this SLG as replacement.</p> <p>The Chairman briefly went through the agenda and introduced the updated SLG membership list at the meeting.</p>	<p>Meeting minutes to be circulated among all SLG members for agreement and posted onto HK Electric’s website within one month after SLG meeting.</p>
2.	<p>The Chairman invited Mr. Y.L. Kwan (HK Electric) to present the background and progress of the offshore wind farm project, followed by a report on the wind monitoring campaign.</p>	<p>--</p>
3.	<p>Mr. Kwan briefly introduced the project background and the basic information as well as the progress of the proposed offshore wind farm project. Regarding the project progress, Mr. Kwan reported that the first year of wind monitoring campaign was completed in February 2013 and a Project Feasibility Study Report was submitted to the Environment Bureau in April 2013 seeking for government approval of this offshore wind farm project. The gazette for ground investigation work was authorized under Section 7 of the Foreshore & Seabed (Reclamation) Ordinance in end 2013. Meanwhile, discussion with the Buildings Department on the preliminary concepts and design criteria for the offshore wind turbine foundation had already commenced.</p>	<p>--</p>
4.	<p>Mr. Kwan continued to recap the wind data collection work and reported findings of the Project Feasibility Study Report. Mr. Kwan stated that operation of the wind monitoring station was currently in continuation for the purpose of capturing additional information for optimization of the wind farm design.</p>	<p>--</p>
5.	<p>The Chairman invited members for questions concerning the project.</p>	<p>--</p>
6.	<p>A SLG member enquired the cut off wind speed of the wind turbine and asked whether wind data exceeding this cut off value had been included to assess the average wind speed at the wind farm site.</p> <p>HK Electric replied that the cut off wind speed for most wind turbines was about 25 m/s and the turbines would be shut down when the cut-off wind speed was reached. HK Electric further stated that wind resource data exceeding 25 m/s had already been screened out in the course of predicting the wind farm annual energy production given the fact that wind speed beyond this value would not produce any energy output. HK Electric confirmed that the long term wind resources measured at the proposed offshore wind farm site was higher than that in Waglan Island.</p>	<p>--</p>
7.	<p>A SLG member enquired whether operation of the offshore wind farm would impose noise impact to the surrounding environment.</p>	<p>--</p>

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	<p>HK Electric replied that noise impact had already been assessed in the project EIA. The approved EIA report had also confirmed that noise impact would be very low and would not cause any negative impact to the surrounding residents and the marine mammals.</p>	
8.	<p>A SLG member enquired how the offshore wind farm could enhance bio-diversity at the surrounding waters.</p> <p>HK Electric replied that different profiles and types of artificial reefs would be deployed both in the voluntary no-take zones (i.e. within 50m boundary from the wind turbines) and in other fishable zones within the offshore wind farm area as agreed in the 2nd Fisheries Review & Consultation Committee (FRCC) Meeting. In addition, quarry rocks placed around every turbine monopile acting as scour protection would also provide a new habitat for the marine species. Based on findings of the dive surveys along the rock berms deployed for HK Electric’s existing submarine gas pipeline, there was in general an increase in both species and numbers of fish counts as well as other marine ecological resources along the rock berms. Besides, the rock berms were colonized by marine organisms including different species of groupers, reef fishes, soft corals, crabs and lobsters. In this regard, it was believed that the scour protection and the artificial reefs to be deployed within the offshore wind farm area would have a positive impact to the bio-diversity at the surrounding waters.</p>	--
9.	<p>The SLG member continued to enquire the time it might take to enhance the bio-diversity after deployment of the scour protection as well as the artificial reefs and whether there was fishery management plan agreed with the fishermen.</p> <p>HK Electric stated that it might take about 1 year to nurture the marine ecological resources upon deployment of the artificial reefs. Regarding the fishery management plan within the offshore wind farm area, fishery operations would be allowed within the offshore wind farm area except for the 50m no-take zone around each wind turbine. The arrangement to establish a no-take zone within the 50m area around each wind turbine had been discussed and agreed by the fishermen groups at the FRCC Meetings.</p>	--
10.	<p>The SLG member further enquired whether an enhancement plan was in place for further development of the artificial reefs.</p> <p>HK Electric replied that additional enhancement features would be added. This enhancement design would be implemented as an experimental trial around one or two monopiles with the placement of frond mats and low-relief artificial reef structures within the no-take zone around the monopiles in the shallowest waters at the northwest corner of the offshore wind farm. HK Electric added that a monitoring programme would be implemented to evaluate the initial effectiveness of the artificial reef deployment. Details of the monitoring programme would be incorporated in the Fisheries Enhancement Plan for submission to EPD/AFCD under the requirements of the Environmental Permit.</p>	--
11.	<p>Another SLG member complemented that according to his understanding from the fishermen, the fishermen had agreed that the proposed arrangement could lead to enhancement of fisheries resources at the no-take zone while at the same time providing beneficial effects to the fishery community by allowing them to operate fishing within the fishable zone.</p>	

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12.	<p>A SLG member enquired whether the wind direction measured at the wind farm site was stable as compared with the historical data. Another SLG member enquired whether there was an upward or downward trend of wind speed at the wind farm site for the recent years.</p> <p>HK Electric advised that the long term wind direction at the offshore wind farm site had remained stable over the years which were mainly within the range from east-northeasterly to easterly. This was similar to the historical wind direction data measured at Waglan Island. HK Electric further stated that long term wind profile had been taken into consideration in the wind farm array design. With regard to the wind speed trend, HK Electric replied that the wind speeds for the past twenty years were considered stable without noticeable upward or downward trends.</p>	--
13.	<p>A SLG member enquired and HK Electric replied that around 10 expertise positions including technical and managerial staff would be required for the wind farm operation according to the experience from overseas offshore wind farms.</p>	--
14.	<p>A SLG member expressed concern over marine safety as well as livelihood of the fishermen and reiterated the importance in opening up of the offshore wind farm waters for fishing operations.</p> <p>HK Electric advised that the proposed offshore wind farm site was located away from the marine channels. A marine traffic impact assessment had already been completed which concluded that the offshore wind farm would pose a low impact to the adjacent marine traffic. HK Electric further reassured that fishery operation could be carried out within the offshore wind farm area except for the 50m no-take zone around each wind turbine in view of the safety concern.</p>	--
15.	<p>A SLG member stated that the fishermen would support the project taking consideration of the fishery resources enhancement after deployment of the artificial reefs. The SLG member further enquired the tariff impact for developing this offshore wind farm project.</p> <p>HK Electric replied that the electricity generated by the offshore wind farm only accounted 1-2% of the total electricity generation and it was anticipated the overall impact on electricity tariff would be insignificant. As such, it was worthwhile to develop this project in particular taking consideration of its social and economic benefits the project could bring along as a whole. HK Electric further reminded that the target for Guangdong region was to develop 1-2% of its electricity generation from wind and it was justified to proceed with this project to demonstrate Hong Kong's effort and contribution towards development of renewable energy within the region.</p>	--
16.	<p>A SLG member recapped the discussion at the previous SLG meeting that construction of the offshore wind farm would commence in 2014 and enquired the latest project programme and the implementation schedule of the baseline surveys.</p> <p>HK Electric advised that the offshore wind farm could be put into operation 4 years after receiving Government's approval. Baseline surveys would be carried out at least 12 months prior to commencement of construction of the project. As the date for Government's approval of this project had not been fixed at this stage, HK Electric encouraged all SLG members to show their support of this project to the Government in order to warrant early implementation of the project.</p>	--

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	<p>In reply to the SLG member’s further enquiry on the project cost, HK Electric replied that it would depend on various factors including the country of origin for the wind turbine machine and availability of the erection barge in the region, etc. which had yet to be finalized. By making reference to the ball park estimation for offshore wind farm development in Europe and taking consideration of the wind data collected by the wind monitoring campaign and the advancement in technology making the wind turbines more efficient, the proposed offshore wind farm was expected to generate electricity in a cost effective manner. HK Electric stressed that should other cost benefits in terms of the social, economical and health aspects that could have brought to the society by the offshore wind farm be also taken into consideration, the cost effectiveness of the wind farm project would certainly be more attractive .</p>	
17.	<p>A SLG member enquired and HK Electric confirmed that there was no carbon trading implemented in Hong Kong.</p>	--
18.	<p>A SLG member expressed his view that the offshore wind farm could promote renewable energy in Hong Kong and improve the local environment in particular the air quality, and as such he was in full support of the project despite an impact to the tariff. In addition, the SLG member considered that the deployment of the artificial reefs within the wind farm area might not be the best option, and suggested the AFCD should establish relevant policy for enhancement of the fishery resources in Hong Kong as a whole.</p>	--
19.	<p>A SLG member enquired and HK Electric replied that the offshore wind farm would generate electricity without consuming any fuel and its tariff would not be affected by fluctuation of natural gas prices.</p> <p>HK Electric further added that despite of the economic competitiveness of the project, local development of offshore wind farm could also demonstrate Hong Kong’s social responsibility in sustainable development. China itself is pushing strongly in developing more wind energy in particular in the Pearl River Delta region to help alleviate air pollution problem in the southern China. Hong Kong as a core member of the Pearl River Delta should also bear a responsibility to contribute towards this sustainable goal.</p>	--
20.	<p>A SLG member advised that the wind energy generated could only account 1-2% of the total electricity generation which was not significant in the overall energy portfolio. The SLG member noted that the focus of the consultation document was on importing grid power or increasing the local gas fired generation rather than establishing a local renewable energy portfolio.</p> <p>HK Electric concurred with the member’s comment and solicited the support from all SLG members to reflect their views by actively responding to the “Future Fuel Mix for Electricity Generation Consultation Document” on supporting offshore wind farm development in Hong Kong.</p>	--
21.	<p>A SLG member enquired and HK Electric confirmed the design life of the wind turbine was about 25 years.</p>	--

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22.	<p>A SLG member enquired whether there was any feedback or advice from the Government on the permitted return for renewable energy development through the interim review of the Scheme of Control Agreement.</p> <p>HK Electric replied that the major framework of the Scheme of Control Agreement including the permitted return for renewable energy development remained unchanged after the interim review.</p>	--
23.	<p>A SLG member expressed his view that the Government should take a lead in initiating wider application of renewable energy in Hong Kong. He further expressed his support on the proposed offshore wind farm project in view of its environmental as well as the social and economical benefits.</p>	--
24.	<p>A SLG member expressed his concern on whether the project would cause irreparable loss to the fishery industry and enquired about the standpoint of AFCD. Another SLG member expressed his concern on overfishing in Hong Kong.</p> <p>HK Electric advised that the above concerns had already been discussed and addressed at the FRCC Meetings in the presence of representatives from the AFCD & fishermen organizations.</p>	--
25.	<p>A SLG member brought up the importance of consultation with the Lamma residents and their feedback should be duly considered in the project planning. Another SLG member echoed that the views of the fishermen should also be consulted.</p> <p>HK Electric reassured that consultations and engagement with project stakeholders in particular the fishermen and the local residents would continue should the project be approved by the Government.</p>	--
26.	<p>A SLG member supported the setting up of no-take zone within the offshore wind farm area to mitigate the threat of overfishing. The SLG member also expressed his support to set a target of 1-2% electricity generation from renewable sources. Another SLG member supported the development of renewable energy in a cost effective manner.</p>	--
27.	<p>The Chairman thanked the active participation of the SLG members and counted on all members' support to the renewable energy development in Hong Kong.</p>	--
28.	<p>This meeting adjourned at 4:10 pm.</p>	--