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**DEVELOPMENT OF AN OFFSHORE WIND FARM IN HONG KONG**  
**MINUTES OF FIRST STAKEHOLDER LIAISON GROUP MEETING IN 2022**  
**HELD ON 8 APRIL 2022 AT 3:30PM BY ONLINE MEETING**

<b><u>Present</u></b>		<b><u>Abbreviation</u></b>
Mr. Y.L. KWAN (Chairman)	General Manager (Projects)	HK Electric
Mr. Norman CHAN	Head of Mechanical Engineering, Projects Division	HK Electric
Mr Eric KWAN	Senior Project Engineer, Projects Division	HK Electric
Ms. Michelle LIN	Mechanical Engineer, Projects Division	HK Electric
Ms. Mimi YEUNG	General Manager (Public Affairs)	HK Electric
Mr. John LIAUW	Senior Manager, Media & External Affairs	HK Electric
Ms. Ivy LEUNG	Manager (External Affairs)	HK Electric
Mr. Yuk-tong CHOW	Chairman, Lamma Island (South) Rural Committee	SLG member
Mr. Lin-wai CHAN	Chairman, Lamma Island (North) Rural Committee	SLG member
Ms. Kwai-chun LEE	Executive Member, Cheung Chau Rural Committee	SLG member
Ms. Shun-ting LAU	Councillor, Islands District Council (Lamma & Po Toi)	SLG member
Prof. Dennis LEUNG	Professor, Department of Mechanical Engineering, University of Hong Kong	SLG member
Prof. Kevin TSUI	Associate Professor, Clemson University	SLG member

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Prof. Jonathan WONG	Director, Hong Kong Organic Resource Centre Certification Limited/ Member, Council for Sustainable Development	SLG member
Mr. Siu-keung CHEUNG	Chairman, Hong Kong Fishermen Consortium	SLG member
Mr. Sheung-chun YEUNG	Chairman, Hong Kong Fishermen's Association	SLG member
Mr. Cliff TANG	Environmental Consultant/ Member, Energy Advisory Committee	SLG member
Dr. William YU	CEO, World Green Organisation	SLG member
Ms. Nicole WONG	CEO, World Wildlife Fund - Hong Kong	SLG member
Mr. Edwin LAU	Executive Director, The Green Earth	SLG member
Mr. Rico WONG	Deputy Chief Executive, The Conservancy Association	SLG member
Mr. Terence FONG <b>(Facilitator)</b>	Secretariat	ERM – HK
Ms. Jessica ZHANG	Secretariat	ERM – HK
Ms. Jolene WONG	Secretariat	ERM – HK
<b><u>Absent with Apologies</u></b>		
Mr. Chi-ming YUNG	Chairman, Cheung Chau Rural Committee	SLG member

Items	Issues/Discussion	Follow-up Actions
<b>1.</b>	<b>Opening Speech</b>	
1.1	The Chairman Mr. KWAN welcomed all Members to attend the first Stakeholder Liaison Group (hereafter referred to as “SLG”) meeting in 2022. The SLG meeting served to update the latest progress of the offshore wind farm project and to offer a platform of communication with the project stakeholders.	
1.2	The Facilitator Mr. FONG sought Members’ agreement for voice recording in the meeting. The audio recordings would be destroyed after the meeting minutes were	Meeting minutes are to be circulated among all SLG members for agreement and posted onto HK

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	finalized. The Meeting minutes and meeting materials would be posted onto HK Electric's website within one month after the SLG meeting.	Electric's website within one month after SLG meeting.
<b>2.</b>	<b>Introduction to SLG Members</b>	
2.1	Mr. FONG briefed Members the meeting agenda and introduced all participants including the SLG members, HK Electric representatives and the Secretariat (ERM).	
<b>3.</b>	<b>Terms of Reference</b>	
3.1	Mr. FONG introduced the Terms of Reference of the SLG.	
<b>4.</b>	<b>Project Background and Project Timeline</b>	
4.1	HK Electric representative Mr. CHAN presented the background of the project, of which included the offshore wind farm location, basic wind farm information, components of wind turbines and the proposed timeline of the Project.	
<b>5.</b>	<b>Project Technical Studies</b>	
5.1	Mr. CHAN presented key findings from the previous wind measurement campaign.	
5.2	Mr. CHAN briefed the Members on technical studies so far undertaken and provided key findings of the study results.	
<b>6.</b>	<b>Variation on Environmental Permit</b>	
6.1	MR. FONG presented the progress and the proposed timeline of applying Variation of Environmental Permit (VEP) for this Project. The necessity of VEP application, the proposed project amendments and key findings of the environmental review were also discussed.	
<b>7.</b>	<b>Discussion</b>	
7.1	An SLG member asked whether there were any changes in the wind resources measured as compared with the original data collected ten years ago.  Mr. CHAN responded that the preceding 20-year wind data revealed the wind resources would vary year by year. However, as the height and capacity of the wind turbines were increased, the slight variation in wind resources would not reduce the wind farm output.	

7.2	<p>An SLG member enquired about the proportion of wind farm energy generation with the total energy generation by HK Electric.</p> <p>Mr. CHAN responded that the wind farm output would be around 4% of the total electricity generated by HK Electric.</p>	
7.3	<p>An SLG member asked whether it would be possible to increase the capacity of the wind farm within the current site boundary.</p> <p>Mr. CHAN stated that the current site location was selected based on a comprehensive site selection study. The site boundary of the proposed wind farm was designed taken into consideration of many surrounding constraints, therefore the wind farm could unlikely be extended in the current site in future. However, the capacity of this wind farm had been increased from originally 100MW to currently 150MW due to advancements in technology in these years.</p>	
7.4	<p>An SLG member asked whether the change in wind turbine size would have any visual impact or ecological impact.</p> <p>Mr. FONG responded that 9 species of birds were identified to have collision risk, and a bird collision risk assessment was conducted accordingly as part of the EIA. The risks were reassessed for this VEP and the results showed that there were no significant changes in the collision risk as compared to the approved EIA.</p>	
7.5	<p>An SLG member asked whether the application of VEP had considered the new marine resources data, just as the bird data did, as marine resources had been increased since trawling has been banned in 2012.</p> <p>Mr. FONG responded that for both terrestrial and marine ecological assessment, the baseline data were reviewed, and if there were any changes in the data, the impact would be reassessed in order to match with the latest baseline condition. For example, for the data on birds, it was found that the population of some species had increased. Therefore, the baseline data was adjusted accordingly in the bird collision assessment. As the height clearance between the lower blade tip of larger wind turbine and the sea</p>	

	<p>surface increased, the results of the updated bird collision assessment showed that there was no significant change from the approved EIA. For the marine mammals, the data was reviewed again with reference to AFCD’s annual marine mammal surveys. The review showed that the wind farm location experienced relatively low activity of finless porpoises, therefore the impact was not expected to have a significant change compared to the approved EIA.</p>	
7.6	<p>An SLG member mentioned that the wind farm location sited on a rather important fishery area for fishermen, while the fishing grounds in Hong Kong were decreasing continuously, the livelihoods of fishermen might be affected. Also, the piling works might have relatively significant impact.</p> <p>Mr. CHAN understood there might have fishing activities near Lamma Island, and responded that the wind farm area, apart from the exclusion zone of 50 m radius from individual wind turbines, would still be accessible to fishermen during operation of the wind farm. Besides, according to the previous discussion conducted between fisheries stakeholders, scour protection at the base of wind turbine foundations would create artificial reefs like habitats which could potentially attract fisheries resources. Finally, the number of wind turbines had decreased compared with the original proposal, the potential impact to fisheries was therefore expected to decrease.</p> <p>Mr. FONG supplemented that the piling method had been presented in the approved EIA, which induced no change in the current VEP application.</p>	
7.7	<p>An SLG member mentioned that the offshore wind farm project under CLP did not involve piling works. He asked for the differences in foundation design of the two projects and reminded any potential impacts should be addressed in a timely manner.</p> <p>Mr. CHAN responded that according to information available, CLP’s offshore wind farm would adopt suction caisson foundation instead of piling. This foundation option had also been considered by HK Electric at early stage. Mr. CHAN advised that the use of piling method could avoid using suction cans of large diameter which would reduce</p>	

	<p>the extent of loss of seabed. Mr. CHAN added that piling would be prohibited between December to May each year in order to minimize impact to the finless porpoises, and the implementation of all recommended mitigation measures could minimize the potential environmental impact.</p>	
7.8	<p>An SLG member mentioned that he had heard about a case in Guishan offshore wind farm where operation of the wind farm had to stop due to noise issue. The member enquired whether this was true.</p> <p>Mr. CHAN responded that no relative Guishan wind farm information was available. HK Electric would liaise with the related wind turbine suppliers to obtain the latest information of wind turbine performance. Furthermore, monitoring for various environmental parameters would be implemented including airborne and underwater noise during the construction and operation phases to ensure compliance of noise requirement.</p>	
7.9	<p>An SLG member asked whether the suction caisson could attract more fishes or shellfish to the base of the turbine.</p> <p>Mr. CHAN responded that both suction can and piling would have their own characteristics. The use of different piling methods for both wind farms would be helpful in providing various data on the environmental performance for both foundation options which could be valuable to future research purposes.</p>	
7.10	<p>An SLG member asked whether the wind turbine could resist strong typhoons in view of the increasing strength of typhoons in recent years.</p> <p>Mr. CHAN stated that the wind turbine model selected would be typhoon-resistant. In fact, typhoon-resistant would be a basic requirement specified in the wind turbine procurement specification.</p>	
7.11	<p>An SLG member asked that in view of the government's goal of carbon neutrality in 2050, if it was possible to speed up the development of wind farms.</p>	

	<p>Mr. CHAN responded that with a fast development pace in offshore wind worldwide, overseas wind turbine suppliers were already committed in large-scale projects. The wind farm project in Hong Kong was of relatively small-scale, which would pose difficulty in attracting overseas suppliers. Despite of this, HK Electric would keep regular communication with all potential suppliers in order to ensure keeping abreast of the latest market supply information.</p>	
7.12	<p>An SLG member asked whether HK Electric had considered integrating leisure and sight-seeing elements into the wind farm, such as painting colours or patterns on the wind turbines.</p> <p>Mr. CHAN responded that the colouring of wind turbines might be governed by statutory requirements taking consideration of factors like aviation safety and visual impact, etc. However, this suggestion could be considered if necessary. The design of the wind farm would be fine-tuned during implementation stage to promote leisure fishing and tourism.</p>	
7.13	<p>An SLG member asked about the definition of 50 m exclusion zone arrangement, the approximate distance between wind turbines and the approximate depth of the piling works.</p> <p>Mr. CHAN explained that the exclusion zone of 50 m radius from the wind turbine was established for safety reasons. The distance between turbines would be determined by the wind turbine supplier and the final selected wind turbine model. For the depth of piles could not be determined at this stage as ground investigation study which was necessary to determine the pile depth had not yet been conducted.</p>	
7.14	<p>An SLG member raised concern that the spawning season of fish was around March each year, and appealed to pay more attention on livelihoods of fishermen.</p> <p>Mr. FONG clarified that piling works would be prohibited from December to May, which would cover the spawning season of fish and piling would also be prohibited at night. Further measures to mitigate the underwater noise impacts such as ramp-up piling</p>	

	<p>procedures would be employed. For fisheries impact assessment, the assessment was conducted using the latest port survey data provided by AFCD.</p>	
7.15	<p>An SLG member asked about the cost of electricity generation for the wind farm, its cost effectiveness in reducing carbon emission, and whether the electricity tariff would be increased.</p> <p>Mr. CHAN replied that no accurate cost estimation could be provided at this stage, and the total cost information of the project was considered sensitive and confidential as this could affect the future tendering process. For impact on electricity tariff, it could only be accurately estimated after the cost was determined. However, considering that it was a long-term project and the contribution of 4% to the total electricity generated by HK Electric, the impact on tariff was not expected to be significant.</p>	
7.16	<p>An SLG member enquired if any mitigation / compensation measures would be reimbursed for the affected fishermen.</p> <p>Mr. CHAN stated that HK Electric would maintain close communication with the fishery sector in order to minimise impact resulted from the project to the fishermen. This project could potentially have positive impacts to the fishermen. For example, increase in leisure fishing and tourism activities that would increase job opportunities for the fishermen.</p>	
7.17	<p>An SLG member asked as the term of SLG memberships was two years, would the membership be reviewed and updated every year.</p> <p>Mr. FONG responded that the membership would be reviewed and updated every two years.</p>	
7.18	<p>An SLG member enquired on the duration of the piling works.</p> <p>Mr. CHAN responded that the duration of piling works depended on a lot of factors such as condition of the seabed, design of the wind turbines and methodology of the piling work, etc. and therefore the duration was difficult to determine. In view of cost,</p>	



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	safety and environmental concerns, duration of piling works would be kept as short as possible.	
7.19	<p>An SLG member enquired whether there would be any plan to introduce artificial reefs for this wind farm.</p> <p>Mr. CHAN responded that the possibility of introducing artificial reefs was discussed previously with the fishermen. It was concluded to have rock placement at the base of the wind turbines to act as scour protection as well as artificial reef to provide suitable habitats for small fishes.</p>	
7.20	<p>An SLG member enquired about the possibility to conduct further onsite surveys before commencement of the construction.</p> <p>Mr. CHAN stated that baseline survey would be conducted prior to work commencement according to conditions of the Environmental Permit.</p>	
<b>8.</b>	<b>Next Meeting Arrangement</b>	
8.1	The Chairman thanked all SLG members for their active participation.	
8.2	The next meeting would be held in around October this year, with the exact date to be confirmed at a later stage.	
8.3	This meeting was adjourned at 5:20 pm.	