

**Report on the 88th
Environmental Impact Assessment Subcommittee Meeting**

Introduction

At its meeting held on 20 September 2004, the Environmental Impact Assessment (EIA) Subcommittee considered the EIA report on “Renewable energy by a wind turbine system on Lamma Island”.

Advice Sought

2. Members are requested to advise whether the EIA report should be endorsed or not.

Views of the EIA Subcommittee

EIA report on renewable energy by a wind turbine system on Lamma Island
(ACE-EIA Paper 8/2004)

Need for the project

3. The Hongkong Electric Co Ltd (HEC) is proposing to install the first utility scale and grid-connected wind turbine as a demonstration project to utilize wind as a renewable energy for power generation in Hong Kong. The project will provide local experience on wind turbine operation and facilitate exploration of future utilization of wind energy in the territory. It will also have an educational function in promoting awareness of renewable energy among the public.

Description of the project

4. The project is proposed to be erected at Tai Ling, Lamma Island. The wind turbine will have a planned capacity of 600 to 850 kW. Based on available wind potential information, the wind turbine is estimated to harvest about 700 MWh of electricity per annum which would reduce the use of up to 240 tonnes of coal and the associated gaseous emissions per year (i.e. about 2 tonnes of SO₂, 1 tonnes of NO_x, 100

kg of particulates and 600 tonnes of CO₂ per year).

5. The project comprises the following key items of work-

- (a) site formation and foundation works affecting about 0.3 ha of shrubby grassland;
- (b) erecting a 600 to 850 kW wind turbine with hub height and rotor blade diameter of about 45m and 52m respectively, resulting in an overall height of 71m for the entire structure;
- (c) constructing a stainless steel hut of 12m² in area and 2.8m in height for housing switchgear and other devices; and
- (d) laying about 50m of underground cables connecting to the nearby existing power grid.

Consideration of alternative sites

6. HEC identified a wind power density of over 150W/m² at the proposed site which would meet the criteria for wind energy utilization. Compared to other potential sites, such as Po Toi Island and elsewhere on Lamma Island, the selected site is preferred having regard to the following considerations-

- (a) away from densely populated areas;
- (b) not on any migratory bird flight paths;
- (c) close to existing access roads and power grid;
- (d) relatively flat requiring less earthwork; and
- (e) has avoided ecologically sensitive areas such as the existing and potential country parks and Sites of Special Scientific Interest in South Lamma.

Declaration of interest

7. Mrs. Mei Ng declared interest, as the Friends of the Earth had been involved in the wind mapping study which was related to the project. The Chairman and Members of the Subcommittee agreed that since there was no direct conflict of interest involved, Mrs. Mei Ng could continue to attend the meeting

Members' views

8. Members' discussion at the Subcommittee meeting focused mainly on whether there were other better measures to protect the Romer's Tree Frogs found

within the project site other than translocating them to another suitable habitat on Lamma Island; the land status of the proposed project site and whether members of the public and tourists would be deprived of the right to visit the site; the visual impact of the project and its foot print, particularly whether the area of the cemented ground surface could be reduced; the means of transporting materials to the site during construction and operational stages and whether materials would be transported to the site by helicopters to reduce impact to the environment; the noise impact of the project, and the suggestion to reach out to the noise sensitive receivers to increase their awareness of the noise impact of the wind turbine; the uploading of the findings of the monitoring work onto the project website; and the scope of public consultation. As a separate issue outside the purview of the Subcommittee, some Members also commented on the indirect social and economic impacts of the project.

Romer's Tree Frogs

9. On the protection of Romer's Tree Frogs, the project proponent team said that they would implement control measures which would be more appropriate in the present case than habitat enhancement measures. An expert on Romer's Tree Frogs would be engaged to conduct a survey on the species within the project site and advise on the translocation exercise. In addition, good construction practices would be adopted to control surface run-off, etc. The Romer's Tree Frogs found within the project site were proposed to be translocated to a suitable habitat in stream S4 subject to further in-depth surveys. The meeting did not rule out the translocation exercise but suggested the project proponent work out a suitable and practical plan with the Agriculture and Fisheries Department (AFCD) and relevant experts.

Land issue and public access to the site

10. On the land status of the proposed project site, the project proponent explained that the site would be granted to HEC under a short-term tenancy for an initial term of five years, subject to negotiation upon renewal. As regards public access to the site, the project proponent team said that visits by the public were welcomed. In fact, the project would perform an education function to promote renewable energy among the public. Educational display boards would be provided at the site to explain the principles of power generation by wind. Members of the public, particularly students, would be welcome to visit the site.

Footprint and visual impact

11. On the issue of footprint, the project proponent pointed out that the area of the site at 55x55m was just adequate to accommodate the wind turbine rotating blades which had a diameter of about 52 m. The cemented ground surface was required for various construction works during the construction stage, and for maintenance and technical purposes during the operational stage. After discussion, the project proponent agreed to consider reducing the area of the cemented ground surface and adoption of other greening measures to reduce the visual impact after completion of construction.

Access roads and means of transportation

12. On the need for access roads, the project proponent explained that since the proposed site was close to existing cable routes, the construction of additional access roads would not be required. As regards the use of helicopter for transporting materials during the construction stage, the project proponent pointed out that the loading of the wind turbine components amounted to 5 tonnes, far in excess of the maximum loading capacity of helicopters available in Hong Kong. During the operational stage, road and sea transport would be the major modes of transportation.

Noise impact

13. Members noted that the predicted noise of the project during the operational stage would be able to meet the noise criteria, including the night-time operational noise criteria under the Environmental Impact Assessment Ordinance. Taking into consideration the background noise level, it was predicted that under normal conditions the noise sensitive receivers would not be able to hear the noise generated by the wind turbine. Despite that, Members suggested that the project proponent should, as part of the education and consultation exercise, reach out to the noise sensitive receivers as far as possible so that they would be more aware of the noise impact of the wind turbine.

Findings of monitoring work

14. To enhance transparency, the project proponent agreed to upload the findings of the one-year bird monitoring and the 6-month noise monitoring exercises onto the project website for public information. The information would also be submitted to the Environmental Protection Department on a regular basis. The project proponent also agreed to reflect to their management the request from Members for release of the findings of wind monitoring.

Scope of public consultation

15. On the scope of public consultation, Members noted that the project proponent had consulted the Lamma Rural Committee and a local green group, and the responses were positive. During the processing of the short-term tenancy, both the Southern District Council and Island District Council advised through the District Land Office that it would not be necessary for the project proponent to present the proposal to them. Noting that the EIA report was currently under public inspection in accordance with the EIA Ordinance, a Member considered that the scope of public consultation should be extended and that the relevant District Councils should be approached again on the proposal.

Conclusion

16. Members considered that the project would help promote the use of renewable energy in Hong Kong. Having regard to the findings and recommendations of the EIA report, they agreed to recommend the report to the Council for endorsement without condition. Members' overall recommendations are summarised as follows-

- (a) the project proponent should work out a suitable and practical plan with AFCD and relevant experts to protect the Romer's Tree Frogs;
- (b) considerations should be made to reduce the area of the cemented ground surface and adopt other greening measures to reduce the visual impact of the project;
- (c) the project proponent should reach out to the noise sensitive receivers as far as practicable as part of the consultation and education process so that they would be more aware of the noise impact of the wind turbine;
- (d) the project proponent should ensure that members of the public would not be prevented from making use of the site for visit purpose; and
- (e) the project proponent should extend the scope of the public consultation exercise as far as practicable.

17. Mrs. Mei Ng registered her reservation on the project and the EIA report. She considered that Po Toi was more suitable than Lamma Island as far as wind potential and social benefits were concerned since there was no electricity supply in Po

Toi Island. In addition, she considered that the consultation with the public was not comprehensive enough.

Issue outside the purview of the Subcommittee

18. Some Members expressed concern about the indirect social and economic impacts of the project which were outside the purview of the Subcommittee. A Member noted that the project, being part of the assets of HEC, would contribute towards the base for calculating the profit of HEC under the Scheme of Control agreed with the Government. He considered such arrangement less than satisfactory. While noting that the issue was neither within the purview of the Subcommittee nor the Environment, Transport and Works Bureau, Members nonetheless agreed that the concern should be passed to the Council for attention.

EIA Subcommittee Secretariat
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