

Ex-Ante Evaluation

1. Name of the Project

Country: Mongolia

Project: Tsetsii Wind Farm Project

Loan Agreement: September 28, 2016

Borrower: Clean Energy Asia LLC (This company is SPC which was established for this project)

2. Background and Necessity of the Project
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While Mongolia has been confronting the surge of power demand amid the recent economic growth and urbanization, energy supply availability is still less than the demand. The power demand is 1,143MW in 2013 though, capacity of facility is merely 1,005MW, which means that energy supply availability is still less than the demand. In addition, the actual amount of power generation is much lower than the capacity due to the deterioration of the facility. Hence, it is impossible to fulfill the power demand by generating domestic alone, then the shortfall is mainly imported from Russia.

About 90% of the country's power consists of coal, the government has been promoting the renewable energy. The State Great Khural approved a national power policy in 2015 that sets Mongolia's mid-to-long term target and plan for 2015-2030 in the energy sector. The policy aims to increase the power generation share of renewable energy to 20% by 2020 and to 30% by 2030.

Japan's Country Assistance Policy for the Mongolia (April, 2012) identifies "Sustainable development of the mining sector and enhancement of governance" as one of the priority areas. This Project is located near the world's largest coal mine Tavantolgoy as well as the world's largest gold and copper mine Oyu Tolgoi. The energy demand is likely to increase further, therefore, it is expected that this Project indirectly will support these developments. Additionally, Japanese government globally promotes "quality infrastructure investment", one of the Equity Sponsors of this Project is a Japanese company, thus this Project will contribute to expand Japanese government initiative. JICA's Country Analysis Paper for Mongolia also identifies "Sustainable Development of Mining Sector" as one of the priority areas. As discussed above, to support GoM efforts, this Project is in line with policies of Mongolia and the development issues as well as the assistance policies of Japan and JICA. In addition, this will also contribute to Sustainable Development Goals (Energy, sustainable cities and communities, and climate change) therefore, it is highly necessary for JICA to implement this Project.

3. Project Description

(1) Project Objective

The objective of this Project is to achieve stable power supply by constructing and operating total 50MW wind power plant in Tsetsii, thereby mitigating the severe power shortage as well as contributing sustainable economic growth in Mongolia.

(2) Project Site/Target Area

Tsogttsetsii soum, Umnugobi aimag, Mongolia

(3) Project Component (s)

This Project consists of the construction and operation of wind power plant (2MW × 25 WTGs)

(4) Schedule

Construction will start in July 2016 and Commercial Operation will be started in November 2017.

(5) Environmental and Social Consideration / Poverty Reduction / Social Development

1) Environmental and Social Consideration

a) Category: B

b) Reason for Categorization: The project is not located in a sensitive area, nor has it sensitive characteristics, nor falls it into sensitive sectors under the Environmental and Social Considerations guidelines (April, 2010), and its potential adverse impacts on the environment are not likely to be significant.

2) Promotion of Poverty Reduction: None

3) Promotion of Social Development: None

(6) Collaboration with Other Donors: co-finance with EBRD

(7) Other Important Issues: None

4. Targeted Outcomes

As quantitative effects, contribution to the mitigation the severe power shortage, as a result of increasing adoption of renewable energy in Mongolia.

5. External Factors and Risk Control

None

6. Lessons Learned from Past Projects

(1) Lessons Learned from Past Projects

The ex-post evaluation of “Northern Negros Geothermal Project” in Republic of the Philippines pointed out that as a specific risk of geothermal power generation, development risk of heat source has a serious effect on the effectiveness of the project. Hence, it is desirable to consider measures to reduce risks.

(2) Application on Lessons Learned to the Project

Wind conditions also directly affect the power generation as well as revenue in the wind farm project. In this Project, in order to alleviate these risks, deploying external experts to review the wind condition risk by using wind condition observation data

over the past several years.

7. Plan for Future Evaluation

(1) Indicators to be used

- ① Maximum Power (MW): 48MW
- ② Availability Factor (generating end) (%): 39%
- ③ Power Generation at Sending End (GWh/year): 162GWh
- ④ Reduction of CO₂ Emissions (tCO₂/year): 150,000 tons

(2) Timing: 2 years after project completion

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