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Response to request for review

"Bundled wind power project of Jeju Special Self-Governing Province in Korea"(1377)

Dear Members of the CDM Executive Board,

We refer to the issues raised in the requests for review by three Board members concerning KFQ's request for registration of the "Bundled wind power project of Jeju Special Self-Governing Province in Korea"(1377) and would like to provide the following clarifications for your perusal and review.
The points raised and our response to the same are indicated below.

Comment 1:
The DOE should provide a detailed description of how the NPV calculation has been validated and how the discount rate applied has been considered appropriate.

Comment 4:
The financial analysis is applying a very low discount factor, has flat values over all the crediting period which is not rationale, and does not show a sensitivity based on the price in real terms. Further clarification is required.

Response to comment 4 by PP:

The discount rate for the project has been determined as 7% according to 2nd Basic plant of long term electric supply and demand, 2004, Ministry of commerce industry and energy and this rate is usually used in national investment. According to sensitivity analysis, NPV is still below 0 in consideration of financial debentures(discount rate is 4.83%) and corporate bond(discount rate is 9.35%) which values are most low & high data at the project promoting time. Therefore this project has additionality as CDM project. Also sensitivity analysis was performed based on price of purchasing electricity (refer to the revised excel sheet for financial analysis).

Response to comment 1 and 4 by KFQ:
During the validation process the KFQ asked for a detailed sheet of investment analysis as has been shown in the validation report(see CAR9). After the revisions of the PDD and excel sheet for investment analysis, it had been validated that the NPV was properly calculated with values including total investment costs, O&M costs, discount rate, electricity tariff, and price of purchasing electricity through the related documentation.

As described above about response to comment 4 by PP, the discount rate as 7% is usually using for investment in korea. Finally, we validated that the discount rate is not low.
Also, after the revisions of the PDD and excel sheet for financial analysis in accordance with PP's responce, appropriateness of the discount rate and calculation of NPV was validated again.
KFQ provided a detailed description of validated result in the revised validation report.
(Refer to B.3.2 in Table 2 of validation report Appendix A)

Comment 2:
The start date of the project activity should be reported in accordance with the definition in the glossary of terms and the DOE should provide information regarding how the prior consideration of the CDM has been validated.

Response to comment 2 by PP:

Based on the past definition in the glossary of terms, the start date of the project, as the real action begins, has been chosen and described in the PDD.
According to the revised definition in the glossary of terms, the start date of the project activity was corrected in the PDD.(Refer to C.1.1. of the revised PDD)
It is the date agreed by the local communities as the earliest date at which either the implementation or construction or real action of a project activity begins.
The related evidence was submitted to the KFQ.

Response to comment 2 by KFQ:
During the validation process the KFQ asked for a description of the starting date as has been shown in the validation report(see CAR12). KFQ have been inappropriately verified in accordance with the past definition in the glossary of terms. But KFQ confirmed and re-verified the revised PDD and submitted evidence correctly. In addition, KFQ provided a detailed description of validated result in the revised validation report.(Refer to CAR 12 in Table 3 of validation report Appendix A)
Moreover, KFQ have validated how the CDM has been considered and provide a detailed description in the validation report.(Refer to Table2 B.3.4 of Appendix A of validation report)

Comment 3:
As the PP in this project activity use the investment analysis, the PLF factor of the 3 sites has to be shown independently using the restrictions of each site. There is no indication of the wind availability to reduce the uncertainty of reductions generation and the effect in the financial analysis. Further substantiation is required.

Response to comment 3 by PP:

The PLF factor has been conservatively determined based on "Study on Wind Power Resources in Jeju island(November 2001, University of Jeju)" and the amount of electricity generation to the grid in 2005 and 2006(Operating data on Haengwon wind power plant and Sinchang wind power plant, 2005 & 2006, Jeju Special Self-Governing Province)

For Haengwon plant, the PLF factor has been chosen in view of conservative as the data of 2006 year. It is the lowest value among the actual operating data(2004~2006). And for Sinchang plant, the PLF factor has been chosen as the data of 2006 year which is the actual operating data. The PLF factor applied in the project activity, is average values 24.5% of two sites.(Haengwon 24.7 and Singchang 24.4)
In consideration of the most values among the past actual operating values, investment analysis has been performed using the PLF factor 29.5%. Although that , NPV is still below 0.
(Refer to the excel sheet of the revised investment analysis)

Response to comment 3 by KFQ:

PLF factor is very important in renewable CDM Project. Therefore a procedure for determining PLF took a considerable time in validation. KFQ validation team member have been made sure following matters to validate uncertainty of PLF for this project;

a) We have verified the plant load factor for 2 sites (it is 2 sites for bundling not 3 sites) by the past days operating results as they are already operated.

b) We have checked PLF of each site and validated uncertainty according to wind measurement method and modeling through interviewing with the professor who were charge of the PLF study. Also we have reviewed the PLF analysis results with the objects of project's feasibility study by Jeju University Institution.

We have compared actual operating data and analysis/study results of the PLF in view of conservative and accuracy, finally average PLF, 24.5%, of the 2 sites is determined as the PLF. And it is reflected in the revised PDD.

The amount of GHG reduction is increasing with higher PLF as electricity increased. However additionality of the project is exerted a bad influence as NPV is improved. When the PLF is increased with 5% in sensitivity analysis, NPV for Sinchang is -884 million Korean Won and -2,376 million Korean Won for Haengwon according to financial analysis results (refer to the attached file: excel sheet for financial analysis). Therefore this project has the additionality as the CDM project.

We sincerely hope that the Board accepts our aforementioned explanations and we look forward to the registration of the project activity.

Your sincerely

Oh chang Kwon
Director of R & D Division