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CDM Team



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DAP-PL-2722
DAP-IS-3516.01
DPT-ZE-3510.02
ZLS-ZE-219/99
ZLS-ZE-246/99

Your reference/letter of	Our reference/name	Tel. extension/E-mail	Fax extension	Date/Document	Page
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Request for Review

Dear Sirs,

Please find below the response to the request for review formulated for the CDM project with the registration number 1390. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Werner Betzenbichler
Carbon Management Service

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Response to the CDM Executive Board

Issue 1

The DOE should explain in detail what steps it has taken to determine that the benchmark proposed by the project participants is the most suitable indicator against which to assess the financial viability of this project activity.

Response by TÜV SÜD

DOE has confirmed the proposed benchmark is the most suitable indicator based on below steps:

According to "Cleaner production standard -Coking industry" (see attached E01) issued by State Environmental Protection Administration of China on April, 18th, 2003, the purification and recovery process of coke oven gas (COG) is a measure of protecting environment in coking industry. The proposed project activity using COG for power generation belongs to the domain of coking industry.

The chosen benchmark value of equity IRR for coking industry (on equity & after income tax) amounts 13% in accordance with the official publication, "Economical Assessment and Parameters for Construction Project, 3rd edition, page 204" (See attached E02). The data officially endorsed within this book complies with the status of economic evaluation of this industry investment in China.

So the data adopted as IRR in the proposed project is the most suitable indicator. It reflects the reality Chinese economy conditions. It is also being sourced by most CDM projects for coking industry which being carried out in China.

The above evidences have been assessed and have been found to be appropriate; the translations made in the evidences have been checked and can be verified by TÜV SÜD assessment team.

Issue 2

The DOE should provide information regarding how the key input values of the investment analysis have been validated and determined to reflect the true situation facing the underlying project activity?

Response by TÜV SÜD

The key input values below do reflect the true situation of the proposed project investment analysis, and the related documents of their sources are provided by the PP and validated by TÜV SÜD assessment team. They reflect the true situation of this proposed project.

Parameters	value	Sources have been validated
Net electric power supply	68,796MWh/y	According to the Feasibility Study Report (See attached E06), 35 units are in service on average, the project operational hours is assumed to be 7200 hours per year; The lowest actual output of each capacity is 300KW according to the actual operation; The self-consumption rate of the power plants connected to North China Power Grid is 9% according to related documents issued by Shanxi province (See attached E03) and checked by DOE , so owner uses the above Parameters to calculate the electricity generation of this project activity: $300KW \times 35 \times 7200 \text{hours} \times (1-9\%) = 68796 \text{MWh}$
Installed Capacity	20MW	According to the Feasibility Study Report of proposed project (See attached E04 and E06))
Equity	RMB 27.336 million Yuan	
Annual operation and maintenance cost	RMB 11.326 million Yuan	
Crediting period	10	According to the PDD
Expected CERs price	US\$ 9.5/tCO ₂ e	Signed contract between owner and buyer has been validated by local auditor
The exchange rate	7.7Yuan/US\$	The exchange rate published by Bank of China, on 8 May, 2007. (See attached E12)
Operation guarantee fee	0.12Yuan/kWh	Operation Guarantee Agreement of the Power Generation Plant and the explanation of this parameter has been given in footnote 4 in the PDD.
Electricity tariff	0.356yuan/kWh	Electricity purchasing invoice of China Coal and Coke Jiuxin Limited which was checked during validation on site (See attached E05)
Benchmark value of IRR	13% (Equity, after income tax)	Economic Evaluation Method and Parameters for Construction Projects/Version 03, p204, China Planning Press

The above evidences have been assessed and have been found to be appropriate; the translations made in the evidences have been checked and can be verified by TÜV SÜD assessment team.

Issue 3

The DOE should clearly state how the applicability condition that “no fuel switch is done in the process” has been validated.

Response by TÜV SÜD

The project activity utilizes the excess COG for power generation. The byproduct of COG with combustible composition is generated in the coking process. Part of the COG returns to the coke oven and combusts to ensure the needed temperature for coking plant while the rest is flared to atmosphere in the absence of the project activity. With the project activity, the coking

plant technology and the production process are not changed. But the rest of COG that used to flare to the atmosphere in the past is then used for power generation now. So, the proposed project activity will not lead to any fuel switch in the coal coking process.

The power generation system had started operating at the time of on-site validation by DOE, the local auditor has confirmed that there is “no fuel switch is done in the process”. This answer is also stated in the validation report which was submitted with request for registration.

Issue 4

The methodology requires that “among the alternatives that do not face any prohibitive barriers, the most economically attractive alternative should be considered as the baseline scenario”. No such comparison has been conducted in the determination of the baseline.

Response by TÜV SÜD

In the Section B.4 within the PDD, alternatives 3, 4 and 5 face the barriers of laws and regulations, resources insufficiency, technology and finance. They have been discussed already.

The alternatives 1 and 2 comply with all legal and regulatory requirements. As the baseline scenario of alternative 2, there is no specific comparable method for choosing the most financially attractive alternative.

According to “Tool for the demonstration and assessment of additionality /Version 03”, benchmark analysis was used for the investment analysis of this project. As far as alternatives 1, the equity IRR without CDM revenues is 10.10% only, which is lower than the benchmark value (13%). It is concluded the project is not attractive from a financial point of view. It has been discussed in details in Section B.5 within the PDD. On the contrary, alternative 2 is the continued situation of the present state, and is adopted commonly by the similar coking plants. It needs no additional investment and faces no prohibitive barrier and is also most economically attractive, so it is considered as the baseline scenario.

Issue 5

The DOE shall further clarify how the appropriateness of the baseline was assessed and validated.

Response by TÜV SÜD

There was no captive generation plant found on-site during the validation conducted by DOE local auditor.

According to “Decision on strictly forbidding the illegal construction of fuel-fired power plant with the capacity 135MW and below” (See attached E07) issued by the General Office of the State Council on April 15, 2002 in china, it is strictly forbidden to build coal/diesel based captive power generation station with the capacity of 20 MW.

Besides, the annual average wind speed is 1.8m/s at the proposed project area, which making it short of wind resource for wind power generation too. (See attached E08)

According to “Eleventh Five-year Plan for Water Resources of Shanxi Province” (See attached E11), Shanxi Province is one of the most water-lacking provinces (Page 2) (See attached E10), and the Fen River basin in the project area has mainly focused on regeneration of small water conservancy works such as power-operated wells, small artesian irrigation area, small pumping irrigation station among others (Page 8). And it is unsuitable to build hydroelectric power station. So it is not realistic for new hydro based captive power generation.

There is no natural gas resource in Shanxi Province. So it is not realistic for new natural gas based captive power generation (See attached E09).

Thus, alternative 3 within the PDD section B.4 can be excluded from the baseline scenarios. The mix of alternatives 2 and 3 can be excluded from the baseline scenarios because alternative 3 is not a baseline scenario.

According to a survey, there are no suitable industrial consumers in the project area. The residential areas are far away from the project site and further be separated by mountains. Hence it is not suitable for supplying COG to residential area. This alternative can be excluded from the baseline scenarios.

It can be concluded from above identified alternatives, that alternative 2 – equivalent electricity generation from the grid with flaring of COG would be the baseline scenario, as it complies with all legal and regulatory requirements and faces no prohibitive barrier and is also most economically attractive.

The above evidences have been assessed and have been found to be appropriate; the translations made in the evidences have been checked and can be verified by TÜV SÜD assessment team.

Evidence List

- E01. Cleaner production standard -Coking industry.pdf
- E02. Economical Assessment and Parameters for Construction Project.pdf
- E03. Evidence for self-consumption rate.pdf
- E04. Evidence for the cost of the operation and maintenance.pdf
- E05. Electricity purchasing invoice.pdf
- E06. Feasibility Study Report of power generation.pdf
- E07. Decision on strictly forbidding the illegal construction of fuel-fired power plant with the capacity 135MW and below.pdf
- E08. Evidence for wind speed.pdf
- E09. Natural gas resource in Shanxi.xls
- E10. The distribution of the areas lacking of water.pdf
- E11. Eleventh Five-year Plan for Water Resources of Shanxi Province.pdf
- E12. The exchange rate published by Bank of China.pdf