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Validation Report

Hebei Construction Investment Longyuan Chongli Wind Energy Co., Ltd.

VALIDATION OF THE CDM-PROJECT:

HEBEI YUXIAN KONGZHONGCAOYUAN 49.5 WIND FARM PROJECT

REPORT NO. 1086107

2009, February 17

TÜV SÜD Industrie Service GmbH

Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Industrie Service

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Subject: Validation of a CDM Project

Accredited TÜV SÜD Unit:	**TÜV SÜD Contract Partner:**
TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany	Jiangsu TÜV Product Service Ltd., Guangzhou branch. 26/ F, Dongbao Tower No. 767 Dongfeng Road (E) 510600 Guangzhou, P.R. China
Client:	**Project Site(s):**
Hebei Construction Investment Longyuan Chongli Wind Energy Co., Ltd. Yuxin Road, Xiwanzi Town, Chongli County, Xiwanzi Town, China	Yuxian County, Zhangjiakou City, Hebei Province P. R. China

Project Title:	Hebei Yuxian Kongzhongcaoyuan 49.5 Wind Farm Project		
Applied Methodology / Version:	ACM0002 / 6	**Scope(s):**	1

First PDD Version:		**Final PDD version:**	
Date of issuance:	2007-07-28	Date of issuance:	2009-02-13
Version No.:	02	Version No.:	05
Starting Date of GSP	2007-10-08		

Estimated Annual Emission Reduction:	118,735 tons CO_{2e}

Assessment Team Leader:	**Further Assessment Team Members:**
Dr. Sven Kolmetz	Ruifeng Li Sebastian Randig Khalid Mahmood

Summary of the Validation Opinion:

☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.

☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.

Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
GHG	Greenhouse gas(es)
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
WHR	Waste Heat Recovery

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1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions by the EB published under http://cdm.unfccc.int
- Specific guidance by the EB published under http://cdm.unfccc.int
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

The validation is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a "cook-book" for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

Validation Protocol Table 1: Conformity of Project Activity and PDD				
Checklist Topic / Question	***Reference***	***Comments***	***PDD in GSP***	***Final PDD***
The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.	*Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any* ***Request*** *has to be substantiated within this column*	*Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑),* ***or a Corrective Action Request (CAR)*** *due to non-compliance with the checklist question (See below).* ***Clarification Request (CR)*** *is used when the validation team has identified a need for further clarification.*	*Conclusions are presented in the same manner based on the assessment of the final PDD version.*

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	***Ref. to table 1***	***Summary of project owner response***	***Validation team conclusion***
If the conclusions from table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".*

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	***Id. of CAR/CR 1***	***Explanation of the Conclusion for Denial***
If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.	*Identifier of the Request.*	*This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.*

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader in written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	**ATL**	☑	☑	☑
Ruifeng Li	GHG-A	☑	☑	☑
Sebastian Randig	GHG-A	☑	☑	☑
Khalid Mahmood	T	☑	☑	

Dr. Sven Kolmetz is physicist and head of the department "TÜV Carbon Management Service" located in the head office of TÜV SÜD Carbon Management Service in Munich. Furthermore he is officially authorized expert in the verification of GHG emissions in the framework of the European Emission Trading Scheme. Before entering TÜV SÜD he worked as energy consultant for industrial companies and as consultant for the German Federal Government on instruments for the reduction of GHG emissions.

Mr. Ruifeng Li is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Beijing. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in various CDM project assessments as a GHG auditor trainee.

Sebastian Randig is a GHG auditor for environmental management systems at the "Carbon Management Service" in the head office of TÜV Industrie Service GmbH, Germany. He holds a M.Sc. degree in Renewable Energy and has gathered experience in planning and installing renewable energy installations before joining TÜV SÜD. He has received training in the CDM validation process and participated in several CDM project assessments.

Khalid Mahmood is a GHG Auditor (Trainee) in "TÜV Carbon Management Service" located in the head office of TÜV SÜD Industrie Service GmbH in Munich, Germany. He is environmental scientist and responsible for the carbon market of TÜV SÜD in Middle East. He recently entered in CDM and JI market. He has got extensive training on all aspects of the flexible mechanism.

2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

On Oct. 8th, 2007 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Mr. Li Ruifeng	TUV SÜD Industrie Service GmbH CDM Auditor trainee
Mr. Yang Xiaohua	General manager of Hecic New-energy Co.,Ltd
Ms. Zhang Bo	Hecic New-energy Co.,Ltd
Mr. Feng Shijun	Hebei CDM project Office

2.4 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD`s positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

2.5 Internal Quality Control

As final step of a validation the validation report and the protocol have to undergo an internal quality control procedure by the Certification Body “climate and energy”, i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD’s Certification Body whether a project will be submitted for requesting registration by the EB or not.

3 SUMMARY OF FINDINGS

As informed above all findings are summarized in table 2 of the attached validation protocol.

History of the validation process

The audit team has been provided with a PDD in July 2007. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The revised PDD submitted in August 2008 serves as the basis for the assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Project description

The following description of the project as per the PDD could be verified during the on-site audit.

The objective of Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project (hereafter refer to the proposed project) is to generate renewable electricity using wind power resources and to sell the generated output through Hebei Southern Power Grid to the North China Power Grid. The project activity will generate greenhouse gas (GHG) emission reductions by avoiding CO2 emissions from electricity generation by fossil fuel power plants that supply the North China Power Grid. The proposed Project is located in Xiagongcun Village of Yuxian County, Zhangjiakou City, Hebei Province in North China. It involves the installation of 33 turbines, each of which have a capacity of 1500kW, providing a total installed capacity of 49.5MW. The proposed project is expected to generate approximately 111.6 GWh per year that will be sold into the North China Power Grid. The electricity generation from this wind farm will contribute to annual GHG reductions estimated at 118,735tCO2e.

Findings

In Total the Assessment team expressed the 14 Corrective Action Request. The CAR1, CAR2 and CAR3 were related to the revision history of the PDD, about the GPS coordination of the project and training schedule. The CAR4, CAR5 and CAR6 were asked for time schedule of the implementation of the project, revision of the reduction figures and serious consideration on the CDM. The CAR7, CAR8 and CAR9 were concerning the evidences of the benchmark, investment analysis of the proposed project and consistency requirement of the information in Excel sheet and PDD. The CAR10, CAR11 and CAR12 were related to all evidences of the wind farm in Hebei province as CDM project, calculation of the OM emission factor and completeness of the listed parameters in the PDD. The CAR13, CAR14 and CAR15 were asked about the main power line, the project starting date should be consistent with project starting report and stakeholder meeting. The CAR 16 was related to the comments during the stakeholder process.

All the CARs and CRs have been answered in the updated version of the PDD and new PDD is in compliance with CDM guidelines.

Baseline calculation

Following ACM0002, the Simple OM is the method used to calculate the OM. In the North China Power Grid NCPG (during years 2001 to 2005) the only low-cost/must run resource is hydropower plants that constitute less than 50% of total grid generation. The BM based on the most recent years' data on the energy balance sheet of the NCPG, calculating the weights of CO2 emissions from the coal-fired, oil-fired and gas-fired power plants in the total fuel fired CO2 emissions and based on the optimized commercial technologies which applied by the coal-fired, oil-fired and gas fired power plants, the project developer calculated the fuel-fired emission factor of the CCPG, as result the BM is obtained through the fuel-fired emission factor times the weight of the fuel-fired installed capacity over the 20 percent of the capacity additions in NCPG.
For the Grid Emission Factor calculation the use of the statistics books (China Electric Power Yearbooks 2001-2006 and China Energy Statistical Yearbooks 2000-2006) were required. The latest data from these 3 Yearbooks that correspond to years 2003, 2004 and 2005 have been used for baseline calculation. The spreadsheet has been reviewed and found to be correct.
The information and the application of the formulas are in line with the methodology. The Combined Margin used for the emission reduction has been correctly determined. The electricity from the grid which is supplied mainly from coal-fire plants is the baseline scenario.

Additionality

The additionality of this project as well as the timeline with respect to the early CDM consideration was checked thoroughly by the assessment team.

The list of the major events associated with the proposed project activity clearly indicated that CDM was seriously considered before the starting date. The project started with the Equipment Purchase Contract with Dongfang on March 31, 2007 (IRL 10). Prior to that date, CDM was seriously taken into account consideration which was demonstrated by several events and actions:

- November 21, 2006 - The decision of Board of Hebei Construction Investment Longyuan Chongli Wind Energy Co., Ltd to develop the proposed project as CDM project. As the Board of Hebei Construction Investment Longyuan Chongli Wind Energy Co., Ltd was very knowledgeable and experienced in CDM from its parent Company. Other CDM project like Kangbao, Guyuan and proposed project are all located in Hebei province. All the above mentioned projects have the same installed capacity. So the Board decided to develop the proposed project as a CDM project during the early days of the foundation of the board. (IRL 11)
- December 31, 2006 - Approval of FSR issued by Hebei Development and Reform Commission in which the project IRR both with CDM revenues and without CDM revenues were analysed in FSR. It was seen that without CDM revenues the project is not financially attractive. So, the project owner decided to develop the project with CDM (IRL 6+7).
- March 31, 2007- Equipment Purchasing contract was signed with Dongfang Steam Turbine Works (IRL 10).
- May 5, 2007 – The start construction of the proposed project, issued by Hecic New-Energy Co., Ltd (IRL 13).
- October 9, 2007 – GSP start
- October 8, 2007 – the Onsite Validation was done by TÜV SÜD team.

In summary, TÜV SÜD can confirm that CDM was seriously taken into consideration in order to proceed and implement the proposed wind farm project.

In step one of applying the tool for the demonstration and assessment of additionality (hereafter: Additionality tool) it is concluded that there exist alternatives to the proposed project activity and the additionality criteria is fulfilled.

Step two of the additionality tool, investment analysis through bench mark analysis, described in detail that the proposed project is not financially attractive without CER revenues. The assessment team has checked all sources of the IRR calculation, as presented in Sub-step 2c in the PDD. Furthermore the calculation spreadsheet and the source of the benchmark (8%) as checked. The applied 8% Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects issued by former State Power Corporation of China, China Electric Power Press, 2003 is deemed appropriate for wind power investments. The values from the Feasibility Study Report (FSR), approved by the National Authority have been the basis of the decision to proceed with the investment in the project. The IRR calculations show value of 5.85 % which is below the benchmark 8% allowing the project owner to take the decision to apply for CDM.

It has been verified that the values used in the PDD and associated annexes are fully consistent with the Feasibility Study Report. In particular the total investment cost and the operating cost have been considered acceptable because within the range of other similar plants. As discussed in footnote 5 of the PDD, the FSR which was used for the investment decision had suggested a slightly different design of 49.3 instead of 49.5MW. Also the suggested turbine type was different (850kW instead of 1500kW) (IRL 29).

The input data in the investment analysis is taken from the Feasibility Study Report (FSR), which was completed by “Hebei Electric Power Design & Research Institute” in December.16th 2006 (IRL 6).

In accordance with EB38, §54 (c), TÜV SÜD performed a thorough evaluation and review of the values of the input parameters applied for the investment analysis for this proposed project activity. As part of this evaluation, TÜV SÜD checked the actual credibility and plausibility of the input data by comparing the applied values with FSR. Further we crosschecked the values were possible with a supervision report and invoices.

According to “Audit Report of Completion Budget of Yuxian Kongzhongcaoyuan 49.5 MW Wind Farm Project” issued by Hebei Tianhua Certified Public Accountants Co., Ltd. (IRL No.30), the actual **total investment cost** is 527.83 million RMB, which is higher than 522.95 million RMB presented in the PDD requesting for registration which is consistent with the approved FSR (IRL 6). Hence, comparing to the actual total investment, the total investment cost in PDD is conservative in the CDM context.

The **applied tariff** for the IRR calculations is 0.60 RMB/kWh (with VAT) in FSR (IRL 6). The actual price is 0.54 RMB/kWh (with VAT) from the PPA (IRL No.31) which is lower than FSR and conservative in the CDM context. Further evidence like electricity invoices are not available for review at the time of validation (i.e. February 2009), because the power purchase agreement was signed on January 16th, 2009 (ILR, 31).Hence the applied tariff is considered by TÜV SÜD as plausible and conservative in the CDM context.

The source of annual **O&M cost** is FSR which has been confirmed by Hebei Development and Reform Commission (IRL 6).The statistics of similar CDM Windpower projects in China show an average O&M cost of 0.161 Million RMB/MW. Yuxian O&M costs is only 24% higher, 0.21 Million RMB/MW, and thus still within a reasonable range. It can be ensured from a more detailed analysis that O&M costs in Hebei province average at a level of 0.283 Million RMB/MW.

Furthermore it was demonstrated that the projects additionality is still proven when applying the conservative, average O&M cost, which leads to an IRR of 6.53%. The O&M costs can even be reduced by 70%before reaching the benchmark threshold.

It is assured that the O&M costs considered as also appropriate and realistic.

The **power supply** of the wind farm is derived from nearly 35 year’s statistical wind source data (in FSR). The wind farm is estimated to operate about 2264 hours per year. The operational hours does

typically depend on the wind speed. In addition, the practical operational hours of wind farm in China is in the range between 2000 and 2400 hours (IRL No.32).The operating hours can be further evidence according to The development of New Energy and Renewable Energy need Policy Support policy which is prepared on March 22th, 2005 (ILR 32) by Wen Kegang who is member of the National Committee of Chinese People's Political Consultative Conference (CPPCC), Vice Chairman of the Committee of Population, Resources and Environment of the CPPCC National Committee.

Moreover, the operational hours in the PDD are consistent with the one in the Loan Agreement between the project owner and Hebei Branch of China Construction Bank (IRL No.35).It is also ensuerd that according to the power purchase agreemnt between the project owner and Hebei Electric Power Company (HEPC), the HEPC will buy all the electric power genergated by the Yuxian Wind Farm(IRL 31). Therefore, all the electricity generated by the Yuxian Wind Farm can be delivered to the grid to get the revenue. This fulfils the criteria of the Meth panel recommendation (refer to Meth Panel report 35, Paragraph 37).Therefore, the proposed project is exactly consistent with the range.

In summary, TÜV SÜD checked the applied values thoroughly and based on its local and sectoral expertise, TÜV SÜD confirms that these values are realistic and plausible in the CDM context and appear to be valid at the time when the investment decision was made (December, 2006). Hence, criteria (c) of EB38, §54 is also fulfilled successfully.

A revised spreadsheet (IRL No. 34) has been provided to DOE, in which all basic parameters have been quoted from FSR. The parameters in “Cash flow table” have been used as formulae in the analysis can be readable and all relevant cells are viewable and unprotected. The new spread sheet allows the replication of the calculations and assumptions, which is totally consistent with the EB41, Annex 45, Paragraph 8

However, it was found that these were the values which were known at the time of the investment decision. It needs further to be stressed that, total investment of the revised design was expected to be only 2.75% higher, resulting in only 1.16% higher electricity yield. As a result, considering the circumstance in the CDM context, applying the 49.3MW figures which are representing the values known at the time of the investment decision, are seen as a conservative approach. Thus TÜV SÜD can confirm, by local and sectoral expertise that the values applied in the in the financial analysis are appropriately reflecting the projects situation at the time of investment decision.

Sensitivity analyses is performed, by taking into account +10% and -10% variations in Static total investment, Operational & maintain cost and Tariff / Annual net electricity. It deems reasonable to use the applied variation of the variables, they present well realistic variations of these key parameters. If the static Total investment drops by 10% rate the IRR of the proposed project still remain under the benchmark but if the Static Investment drops till 13.5% then IRR of the project cross the benchmark rate. However it is true that the prices of the required equipment and commodities have been increased in recent years, a significant reduction in the level of investment is unlikely, in particular a reduction greater than 13.5%. if the tariff increase by 10% the project IRR remains under benchmark rate and IRR only cross the benchmark when the tariff increase by 12.2%. But according to the approval letter of tariff by National Development and Reform Commission, the tariff is 0.54yuan/kWh (exclude VAT) further confirmed by the PPA (IRL 31) which will be fixed before the accumulated total utilization time reach 30,000hours and will be declined after 30,000hours. So, the tariff increase by 12.2% is not likely to happen. As compared to the tariff and static total investment, the annual O&M cost not so much impact on the project of IRR. If the O&M costs drop to 70% then the proposed project reach the benchmark. If Annual net electricity increases by 10% (as suggested in the investment analysis of the Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project), the project IRR is still below the benchmark rate 8%, when the Annual net electricity increase by 12.2%, the IRR of proposed project can reach the benchmark 8%. However, according to the statistical data of wind speed (1975-2004) from Laiyuan meteorological station, there is not a single year which the

annual average wind speed exceeded the average with more than 12.2%. Therefore, the annual power supply would not consistently exceed the 12.2% in the complete lifetime of the proposed project. To conclude the sensitivity analysis it can be stated that under none of the assumed variation of variables the benchmark of 8% is met. We thus conclude the project is financially unattractive without CER revenues.

In step 4, common practice analysis, the wind farms which have the installed capacity from 20MW to 60MW and in operation in Hebei Province since 2002 are listed in the table 3 of the PDD. According to the Statistics of Chinese Wind Energy Installed Capacity in 2006, the install capacity of the similar activities is identified from 20MW to 60MW. The site of similar activates is identified in Hebei province with different factor like regulatory framework, investment climate etc. The operational date of the similar activities is identified since 2002 because the plant-Grid separation began to implement in China power industry from 2002. Chengde Hongsong and Shangyi Damanjing both got the carbon financing from the Voluntary market. Chengde Huifeng and Haixing are applying for being CDM projects. Chengde Songshan, Shangyi Manjing East, Zhangbei Manjing, Zhangbei Mijiagou, angbao Wolongtushan and Guyuan project have been registered in EB successfully. Similar wind farms in Hebei province are mostly CDM project and some are carbon financed. The existence of these project which are mentioned above does not contradict the claim that proposed project is financially unattractive. The above analyses clearly demonstrate that the proposed project activity is not the baseline scenario. Without the support from CDM, the proposed project scenario would not occur. Thus the proposed project is additional.

All the information could be evidenced by the assessment team. To conclude the additionality assessment we can state that, according to all the documents we have reviewed, the additionality of the project based on the available information is fulfilled.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<table>
<tr><td colspan="2">webpage:

http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3864&Ebene1_ID=26&Ebene2_ID=1171&mode=1</td></tr>
<tr><td colspan="2">Starting date of the global stakeholder consultation process:

2007-10-09</td></tr>
<tr><td>Comment submitted by:

none</td><td>Issues raised:

-</td></tr>
<tr><td colspan="2">Response by TÜV SÜD:

-</td></tr>
</table>

5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Hebei Yuxian Kongzhongcaoyuan 49.5 Wind Farm Project

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 2009 – 02 - 17

Certification Body “climate and energy”
TÜV SÜD Industrie Service GmbH

Munich, 2009 – 02 - 17

Assessment Team Leader

ANNEX 1: VALIDATION PROTOCOL

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Table 1 Conformity of Project Activity and PDD

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of project activity					
A.1. Title of the project activity					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	1, 2	The project is titled with the name of the project location, the power capacity and the energy source of the project. Hence, it can be clearly identified.	☑	☑
A.1.2.	Are there any indication concerning the revision number and the date of the revision?	1, 2	The available PDD is indicated as version 02, dated 28/07/2007. **Corrective Action Request No. 1:** The revision history on page 3 of the PDD should comprise the history of the PDD for the project.	CAR1	☑
A.1.3.	Is this consistent with the time line of the project's history?	1, 2	Yes. The GSP was started with this version.	☑	☑
A.2. Description of the project activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1, 2 6-12	The project is described transparently and the project activities described have been proven during the audit.	☑	☑
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2 6-14	The project activity is the displacement of electricity generated by coal fired power plants through electricity generated by the wind power plant. The following documents deliver evidences for the project activity: - EIA and EIA Approval - Feasibility Study and Approval - Approval of the Grid Connection System These documents have been evidenced during the audit.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	There is no contradiction between the information provided by these proofs and the PDD.	☑	☑
A.2.4.	Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	Yes, there is no inconsistency in the PDD,	☑	☑
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1, 2	The form is correctly applied Hebei Construction Investment Yuzhou Wind Energy Co., Ltd and Shell Trading International Limited and CEZ a.s. are the project participants of the project.	☑	☑
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2	**Open Issue** Pls. deliver the LoA issued by China and Netherlands&UK together with MoC countersigned by both parties to DOE before raising the request of registration.	Open issue	☑
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2	Yes. Information on project participants is in consistency with details provided by further chapters of the PDD.	☑	☑
A.4. Technical description of the project activity					
A.4.1.	*Location of the project activity*				
A.4.1.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2	The project location could be identified according to the PDD. The project located in Xiagong Village, Yuxian County, Zhangjiakou City, Hebei Province in North China. GPS coordinates are indicated. However, it is not clear from which place the GPS coordinates were taken. **Corrective Action Request No. 2:** The PDD should clearly inform from which place the GPS coordi-	CAR2	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			nates were taken.		
A.4.1.2.	How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 2 8, 9, 11	The 33 sets of 1500KW turbines are successfully installed at the project site, there is no sets has been put into test operation in Oct. 2007, this has been proved by the auditor.	☑	☑
A.4.2.	*Category(ies) of project activity*				
A.4.2.1.	To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1, 2	Yes, the project falls into scope 1. The category is correctly identified and indicated in A.4.2 of the PDD.	☑	☑
A.4.3.	*Technology to be employed by the project activity*				
A.4.3.1.	Does the technical design of the project activity reflect current good practices?	1, 2	Yes, the project design reflects the current good practices. The project will employ large turbines with a capacity of 1500KW.	☑	☑
A.4.3.2.	Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 2	Yes, the project activity comprises the use of wind power for the substitution of grid supplied electricity mainly from coal fired plants. There is no doubt that this technology will reduce the GHG emissions significantly.	☑	☑
A.4.3.3.	Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?	1, 2 14	No, there is no technology transfer required.	☑	☑
A.4.3.4.	Is the technology implemented by the project activity environmentally safe?	1, 2 7, 8	Yes. The main possible environmental problem produced by the technology implemented is noise. The proposed project is located in the desert area which is 12km far from Anxi county. Therefore, there will be no noise disturbance issue. Based on the formula of declining of sound emitted from a non-directional source, it is estimated that the maximum noise effective distance of the project is 200m to 500m. The closest residential area to the site of the project is over 12km away. Therefore, the noise of the project will not have impact on nearby residents.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 2 13	Yes. The main turbine-generator purchasing contract has been reviewed by the auditor, and it is compliance with the planning in the feasibility study.	☑	☑
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2	The common practice for electricity generation is still coal-fired power plant. Hence, the project definitely would result in a better performance than the common practice.	☑	☑
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 9	The life cycle of a wind turbine is under normal circumstances longer than the project period.	☑	☑
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 2	Yes, the training program has been designed for the power plant staff regarding operational, financial and CDM knowledge. As the construction work has not been finished yet the training program will be held in 2008. The relating documents have been reviewed by the auditor	☑	☑
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1, 2	Yes, please see A.4.3.8 **Corrective Action Request No. 3:** The training schedule should be included in the PDD.	CAR3	☑
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2 13, 14	The wind farm has been put into test operation at the end of 2007, there is no risk for delay, but the time schedule is not available in the PDD. **Corrective Action Request No. 4:** The time schedule of the implementation of the project should be included into the PDD.	CAR4	☑
A.4.4. Estimated amount of emission reductions over the chosen crediting period				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly	1, 2	Yes. The form is correctly applied according to the version 3 of PDD template.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	applied?				
A.4.4.2.	Are the figures provided consistent with other data presented in the PDD?	1, 2	Yes, The figures provided are consistent with other data presented in the PDD. **Corrective Action Request No. 5:** However, the emission reduction figures should be revised, as the emissions factor calculated under consideration of "TUEV´s findings after checking NDRC emission factors on August 9th, 2007" is slightly more conservative (1,0751 tCO2e/MWh) as the applied emissions factor (1,0755 tCO2e/MWh).	CAR5	☑
A.4.5.	*Public funding of the project activity*				
A.4.5.1.	Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered by bank loans and private equity. The bank loan contract from China construction Bank Of China has been reviewed by the auditor.	☑	☑
A.4.5.2.	Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2	The statements are consistent within the PDD.	☑	☑
B. Application of a baseline and monitoring methodology					
B.1. Title and reference of the approved baseline and monitoring methodology					
B.1.1.	Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	Yes, the latest version of ACM0002 (version 6) has been applied and the reference is clearly indicated. The additionality tool, version 3 is applied.	☑	☑
B.1.2.	Is the applied version the most recent one and / or is this version still applicable?	1, 2	Yes, it is	☑	☑

<table>
<tr><th colspan="2">CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PDD in GSP</th><th>Final PDD</th></tr>
<tr><td colspan="6">B.2. Justification of the choice of the methodology and why it is applicable to the project activity</td></tr>
<tr><td>B.2.1.</td><td>Is the applied methodology considered the most appropriate one?</td><td>1, 2</td><td>Yes. The approved methodology ACM0002 is exactly applicable to the wind farm project.</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="6">Fill in the required amount of sub checklists for applicability criteria as given by the methodology applied and comment at least every line answered with “No”</td></tr>
<tr><td>B.2.2.</td><td>Criterion 1:
Type of capacity addition by renewable energy</td><td>1, 2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.2.3.</td><td>Criterion 2:
Exclusion of fuel switching activities</td><td>1, 2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.2.4.</td><td>Criterion 3:
Defined electricity grid boundaries</td><td>1, 2</td><td><table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table></td><td>☑</td><td>☑</td></tr>
</table>

<table>
<tr><th colspan="2">CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PDD in GSP</th><th>Final PDD</th></tr>
<tr><td>B.2.5.</td><td>Criterion 4:
Approved inclusion in other methodologies (if applied only)</td><td>1, 2</td><td>Not applicable</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="6">B.3. Description of the sources and gases included in the project boundary</td></tr>
<tr><td colspan="6">Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”</td></tr>
<tr><td>B.3.1.</td><td>Source:
Fugitive Emissions from non-condensable gases (geothermal activities only)
Gas(es): CO_2, CH_4
Type: Project Emissions</td><td>1, 2</td><td><table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.3.2.</td><td>Source:
Emissions from combustion of fossil fuels (geothermal activities only)
Gas(es): CO_2
Type: Project Emissions</td><td>1, 2</td><td><table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.3.3.</td><td>Source:
Emissions from the reservoir (new hydroelectric activities only)
Gas(es): CO_2, CH_4
Type: Project Emissions</td><td>1, 2</td><td><table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Source and gas(es) discussed by the PDD?</td><td>N/A</td></tr><tr><td>Inclusion / exclusion justified?</td><td>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.3.4.</td><td>Source:</td><td>1, 2</td><td></td><td>☑</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	Emissions from electricity generation in fossil fuel fired power plants of the project electricity system Gas(es): CO_2 Type: Baseline Emissions		Boundary checklist / Yes / No Source and gas(es) discussed by the PDD? Yes **Inclusion** / exclusion justified? Yes Explanation / Justification sufficient? Yes Consistency with monitoring plan? Yes		
B.3.5.	Source: Emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO_2 Type: Baseline Emissions	1, 2	Boundary checklist / Yes / No Source and gas(es) discussed by the PDD? No **Inclusion** / exclusion justified? No Explanation / Justification sufficient? No Consistency with monitoring plan? No According to the statistics of NDRC, North china grid has been power-supplied from Northeast china. Hence baseline emissions from the imported electricity can be included.	☑	☑
B.3.6.	Source: Emissions from electricity generation in fossil fuel fired power plants of imported electricity(project electricity consumption) Gas(es): CO_2 Type: Baseline Emissions	1, 2	Boundary checklist / Yes / No Source and gas(es) discussed by the PDD? N/A Inclusion / exclusion justified? N/A Explanation / Justification sufficient? N/A Consistency with monitoring plan? N/A	☑	☑
B.3.7.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1, 2	Yes. The project boundary for the proposed project is represented by the North China Power Grid, 6 provinces of Hebei province, Shandong province, Shanxi province, Beijing city, Tianjin city and Inner Mongolia	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario					
B.4.1.	Is it clearly described that the baseline is represented by the combined margin of the grid the activity will be connected to?	1, 2	Yes, it is clearly described in chapter B.6.1 that the baseline emission factor is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$) of the North China Power Grid.	☑	☑
B.4.2.	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?	1, 2	Not applicable.	☑	☑
B.4.3.	In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?	1, 2	Not applicable.	☑	☑
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):					
B.5.1.	Is evidence provided, that CDM has been considered seriously in the decision to proceed with the project activity? (CDM decision before project start)	1, 2 3	**Corrective Action Request No. 6:** B.5. of the PDD should clearly mention (including the evidence) that CDM was considered before starting the project activity.	CAR6	☑
B.5.2.	Have realistic and credible alternatives been identified providing comparable outputs or services? (step 1a)	1, 2 3	The following baseline scenarios are discussed: - Construction of a fossil fuel-fired power plant with equivalent installed capacity. - The proposed project not undertaken as a CDM project activity but as a commercial project. - Construction of a power plant using other renewable energy with equivalent installed capacity or annual electricity genera-	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			tion. - Provision of equivalent annual power generation by the grid which the proposed project is connected to. These scenarios are the only ones that are making sense.		
B.5.3.	Is the project activity without CDM included in these alternatives? (step 1a)	1, 2 3	Yes, see B.5.2	☑	☑
B.5.4.	Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations? (step 1b)	1, 2 3	Yes, the national policy about strictly prohibiting the installation of coal-fired generators with the capacity of 135MW or below is identified in the PDD.	☑	☑
B.5.5.	In case the PDD argues that specific laws are not enforced in the country or region: Is evidence available concerning that statement? (step 1b)	1, 2 3	Not applicable.	☑	☑
B.5.6.	In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2 3	Yes, the benchmark analysis is applied. It is chosen a benchmark of 8 % referenced by the Economic Assessment Method and Parameters for Construction Project (version 3). **Corrective Action Request No. 7:** Project participants are requested to submit the evidence for the chosen benchmark of 8 %. The evidence should clearly identify the time period for which the benchmark was calculated.	CAR7	☑
B.5.7.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1, 2 3	The simple cost analysis does not apply as the proposed project not only obtains CDM revenue but also revenue through electricity sales.	☑	☑
B.5.8.	In case of Option II (investment comparison analysis): Is the most suitable finan-	1, 2 3	The investment comparison analysis is also not applicable for the proposed project, as the project owner has no investment options	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	cial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		to compare with. The baseline scenario of the proposed project is the North China Power Grid rather than a similar investment project alternative to the proposed project, so investment comparison analysis method (Option II) is neither appropriate.		
B.5.9.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2 3	Yes, the IRR indicator is selected. However, it is nothing mentioned in the PDD whether it is applied the project or equity IRR. **Corrective Action Request No. 8:** The PDD should explicitly mention whether project or equity IRR is applied for the investment analysis.	CAR8	☑
B.5.10.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1, 2 3	The calculation of the IRR is correctly done. However, not all figures of the sensitivity analysis are consistent between the excel calculation sheet and the PDD. **Corrective Action Request No. 9:** Project participants are requested to provide consistent information in excel sheet and PDD regarding the sensitivity analysis.	CAR9	☑
B.5.11.	In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 2 10	The basic data for the IRR calculation are based on the data from Investment Estimation and Financial Assessment for the Feasibility Study of Yuxian 49.5 MW Wind Farm Project (approved version).	☑	☑
B.5.12.	In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2 3	Not applicable.	☑	☑
B.5.13.	In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2 3	Not applicable.	☑	☑
B.5.14.	In case of applying step 3 (barrier analysis): Is it transparently shown that the ex-	1, 2	Not applicable.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	ecution of at least one of the alternatives is not prevented by the identified barriers?	3			
B.5.15.	Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1, 2 3	The common practice analysis in the PDD is incomplete. **Corrective Action Request No. 10:** Project participants are requested to submit the evidence that all wind farms in Hebei province are CDM projects or apply for registration as a CDM project.	CAR10	☑
B.5.16.	If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1, 2 3	All similar activities are CDM projects or apply for registration as a CDM project.	☑	☑
B.5.17.	Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers?	1, 2 3	The CDM registration will make the project more financial attractive.	☑	☑
B.6. Emissions reductions					
B.6.1.	*Explanation of methodological choices*				
B.6.1.1.	Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	The calculation of the emission reduction is applied according to the steps described in ACM0002: - Calculation of the Operating Margin (OM) Emission Factor - Calculation of the Build Margin (BM) Emission Factor - Calculation of the Combined Baseline Emission Factor - Calculation of the Emission Reduction These steps are described in a transparent manner. However, there was identified one error in the explanation in step 1 (of B.6.1.): calculation of the OM emissions factor.	CAR11	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			Besides, it is not explained why options (b) and (d) are excluded in step 1 (of B.6.1.). **Corrective Action Request No. 11:** • It should be explained in step 1 (of B.6.1.) why options (b) and (d) for the calculation of the OM emissions factor have been excluded.		
B.6.1.2.	Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1, 2	Yes, the selection of options offered by ACM0002 is correctly justified which has been verified during on-site audit. However, see B.6.1.1.	CAR11	☑
B.6.1.3.	Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	No project emissions have to be considered according to the methodology. Therefore the question is not applicable.	☑	☑
B.6.1.4.	Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Yes, formulae to calculate the baseline emissions are correctly presented in chapter B6.1.	☑	☑
B.6.1.5.	Is the choice of options to determine the emissions factor (OM, BM) justified in a suitable and transparent manner?	1, 2	Yes. The choice of options to determine the emission factor is justified. The default weights for wind projects in the 6th version of ACM0002 (OM 0.75 and BM 0.25 respectively) are used.	☑	☑
B.6.1.6.	In case of alternative weighing factors for the Combined Margin: Is the quantification of the alternative weighing factor justified in a suitable and transparent manner?	1, 2	Not applicable.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
B.6.1.7.	In case of alternative weighing factors for the Combined Margin: Is the guidance for the PDD concerning the acceptability of alternative weights considered in the discussion?	1, 2	Not applicable.	☑	☑
B.6.1.8.	Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	No leakage is considered according to the methodology.	☑	☑
B.6.1.9.	Are formulae required for the determination of emission reductions correctly presented?	1, 2	Yes. The formula is correctly presented in chapter B.6.1 and B.6.3.	☑	☑
B.6.2.	*Data and parameters that are available at validation*				
B.6.2.1.	Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1, 2	**Corrective Action Request No. 12:** The list of parameters presented in chapter B.6.2. is not considered to be complete. The following parameters have to be included in the PDD (B.6.2.): - Emission factor of the grid (EF_{CM} in tCO2/MWh) - Emission factor of the grid (EF_{OM} in tCO2/MWh) - Emission factor of the grid (EF_{BM} in tCO2/MWh) - emission coefficient of each fuel - CO_2 emission coefficient of fuels used in connected grids	CAR12	☑
B.6.2.2.	Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1, 2	B.6.1. of the PDD mentions that OM and BM factors are calculated ex-ante.	☑	☑
Fill in the required amount of sub checklists for monitoring parameter and comment any line answered with “No”					

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PDD in GSP</th><th>Final PDD</th></tr>
<tr><td>B.6.2.3. Parameter Title:
Annual electricity supplied to the grid prior to retrofit
(applicable only for retrofit and modification activities)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.6.2.4. Parameter Title:
Emission factor of the grid (EF_{CM} in tCO_2/MWh)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>
See B6.2.1</td><td>CAR12</td><td>☑</td></tr>
<tr><td>B.6.2.5. Parameter Title:
Operating margin (EF_{OM} in tCO_2/MWh) emission factor of the grid</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr></table></td><td>CAR12</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Has this value been verified? No Choice of data correctly justified? No Measurement method correctly described? No See B6.2.1		
B.6.2.6. Parameter Title: Build margin (BM) emission factor of the grid	1, 2	Data Checklist / Yes / No Title in line with methodology? No Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? No Correct value provided? No Has this value been verified? No Choice of data correctly justified? No Measurement method correctly described? No See B6.2.1	CAR12	☑
B.6.2.7. Parameter Title: fuel consumption of each power source (F, mass or volume unit)	1, 2	Data Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided? Yes Has this value been verified? Yes Choice of data correctly justified? Yes Measurement method correctly described? Yes	☑	☑
B.6.2.8. Parameter Title: emission coefficient of each fuel (COEF of grid, in tCO_2 / mass or volume	1, 2	Data Checklist / Yes / No Title in line with methodology? No	CAR12	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
unit of the fuel)		Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? No Correct value provided? No Has this value been verified? No Choice of data correctly justified? No Measurement method correctly described? No See B6.2.1		
B.6.2.9. Parameter Title: electricity generation of each power source(GEN in MWh)	1, 2	Data Checklist: Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided? Yes Has this value been verified? Yes Choice of data correctly justified? Yes Measurement method correctly described? Yes	☑	☑
B.6.2.10. Parameter Title: surface area of full reservoir level (for new hydroelectric activities only)	1, 2	Data Checklist: Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided? N/A Has this value been verified? N/A Choice of data correctly justified? N/A Measurement method correctly described? N/A	☑	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PDD in GSP</th><th>Final PDD</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>B.6.2.11. Parameter Title:
fraction of time with low costs /must run plant at the margin
(for simple adjusted OM only)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table></td><td>☑</td><td>☑</td></tr>
<tr><td>B.6.2.12. Parameter Title:
electricity imports from connected grid to the grid (in MWh)</td><td>1, 2</td><td><table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>According to the statistics of NDRC, North china grid has been power-supplied from Northeast china. Hence baseline emissions from the imported electricity can be included.</td><td>☑</td><td>☑</td></tr>
<tr><td>B.6.2.13. Parameter Title:
CO_2 emission coefficient of fuels used in connected grids(COEF of connected grid,</td><td>1, 2</td><td>See B.6.2.1.<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table></td><td>CAR12</td><td>☑</td></tr>
</table>

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	in tCO_2 / mass or volume unit of the fuel)		Data unit correctly expressed? No Appropriate description of parameter? No Source clearly referenced? No Correct value provided? No Has this value been verified? No Choice of data correctly justified? No Measurement method correctly described? No		
B.6.3.	*Ex-ante calculation of emission reductions*				
B.6.3.1.	Is the projection based on the same procedures as used for future monitoring?	1, 2	Yes, the procedures are the same as used for future monitoring.	☑	☑
B.6.3.2.	Are the GHG calculations documented in a complete and transparent manner?	1, 2	The GHG calculations are documented in a complete and transparent manner. The most recent NDRC emissions factor data (published on August, 2007) have been used. However, see A.4.4.2.	CAR5	☑
B.6.3.3.	Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 2	Yes. The data provided in this section is consistent with data presented in other chapters of the PDD. However, see A.4.4.2.	CAR5	☑
B.6.4.	*Summary of the ex-ante estimation of emission reductions*				
B.6.4.1.	Will the project result in fewer GHG emissions than the baseline scenario?	1, 2	Yes. The project will definitely result in fewer GHG emissions than the baseline scenario.	☑	☑
B.6.4.2.	Is the form/table required for the indication of projected emission reductions correctly applied?	1, 2	Yes, the form is correctly applied according to the PDD template.	☑	☑
B.6.4.3.	Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting	1, 2	Yes, it is. However, see A.4.3.10.	CAR4	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	period?				
B.6.4.4.	Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	Yes, no contradiction. However, see A.4.3.10.	CAR4	☑
B.7. Application of the monitoring methodology and description of the monitoring plan					
B.7.1.	*Data and parameters monitored*				
B.7.1.1.	Is the list of parameters presented by chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 2	The list of parameters presented by chapter B.7.1. may be considered to be complete.	☑	☑
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with "No"					
B.7.1.2.	Parameter Title: Electricity supplied to the grid(in MWh)	1, 2	Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? Yes Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes	☑	☑
B.7.1.3.	Parameter Title: Electricity imported from the grid (in MWh)		Monitoring Checklist / Yes / No Title in line with methodology? Yes Data unit correctly expressed? Yes	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Appropriate description of parameter? Yes Source clearly referenced? Yes Correct value provided for estimation? Yes Has this value been verified? Yes Measurement method correctly described? Yes Correct reference to standards? Yes Indication of accuracy provided? Yes QA/QC procedures described? Yes QA/QC procedures appropriate? Yes		
B.7.1.4. Parameter Title: Quantity of steam produced (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A	☑	☑
B.7.1.5. Parameter Title: Fraction of CO_2 in steam produced (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A		
B.7.1.6. Parameter Title: Fraction of CH_4 in steam produced (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A	☑	☑
B.7.1.7. Parameter Title: Quantity of steam generated during well testing (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A		
B.7.1.8. Parameter Title: Fraction of CO_2 in steam during well testing (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A	☑	☑
B.7.1.9. Parameter Title: Fraction of CH_4 in steam during well testing (for geothermal projects only)	1, 2	Monitoring Checklist — Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A		
B.7.1.10. Parameter Title: CO_2 emission coefficient of fuel used by the geothermal plant (for geothermal projects only)	1, 2	Monitoring Checklist / Yes / No Title in line with methodology? N/A Data unit correctly expressed? N/A Appropriate description of parameter? N/A Source clearly referenced? N/A Correct value provided for estimation? N/A Has this value been verified? N/A Measurement method correctly described? N/A Correct reference to standards? N/A Indication of accuracy provided? N/A QA/QC procedures described? N/A QA/QC procedures appropriate? N/A	☑	☑
B.7.2. Description of the monitoring plan				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisoned situation?	1, 2	Yes, the operational and management structure of data monitoring is clearly described in B.7.2.	☑	☑
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2	Yes. Electricity supplied to the grid and consumed from the grid are measured continuously and monthly recorded at on-site control center using a computer system. The project owner will be responsible for recording this set of data. Receipts from electricity sales will also be obtained for double check.	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes. The monitoring plan provides current good monitoring practice. However, the main power line in Figure 4 is not clearly illustrated. **Corrective Action Request 13:** Figure 4 in B.7.2. should more clearly illustrate the main power line (in colour)	CAR13	☑
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisoned monitoring provisions?	1, 2	Not applicable.	☑	☑
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1. Is there any indication of a date when the baseline was determined?	1, 2	Yes. The baseline was determined on July 28, 2007 according to the PDD.	☑	☑
B.8.2. Is this consistent with the time line of the PDD history?	1, 2	Yes, it is consistent.	☑	☑
B.8.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1, 2	Yes, Mr. Feng Shijun and Ms. Sun Hui from Hebei CDM Project Office are responsible for the application of the methodology.	☑	☑
B.8.4. Is information provided whether this person / entity is also considered a project participant?	1, 2	The mentioned persons are not project participants.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
C. Duration of the project activity / crediting period					
C.1. Duration of the project activity					
C.1.1.	Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 2 15	Yes, the project starting date is 1st Jan, 2007 and the operational lifetime is expected to be 20 years. **Corrective Action Request 14:** The project starting date should be consistent with project starting report.	CAR14	☑
C.2. Choice of the crediting period and related information					
C.2.1.	Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1, 2	7 years is chosen as the crediting period. The start of the crediting period is defined for May 01, 2008. This is reasonable.	☑	☑
D. Environmental impacts					
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts					
D.1.1.	Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 2 7, 8	Yes, the environmental impacts of the project activity during the construction period and operation period are analyzed in the PDD.	☑	☑
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 2 7, 8	Yes, EIA is a must in P. R. China for new wind farm projects. The EIA of the proposed project was approved by Hebei EPB on 21th, Aug. 2006. The documents have been reviewed by the auditor.	☑	☑
D.1.3.	Will the project create any adverse envi-	1, 2	Referred to the EIA and the approval of EIA, the project will create	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	ronmental effects?	7, 8	no negative environmental impacts.		
D.1.4.	Were transboundary environmental impacts identified in the analysis?	1, 2 7, 8	There is no trans-boundary impact described in EIA report or approval of EIA.	☑	☑
D.2.	**If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party**				
D.2.1.	Have the identified environmental impacts been addressed in the project design sufficiently?	1, 2 7, 8	Referring to the EIA and the approval of EIA, there is no adverse environmental impact from the project activity.	☑	☑
D.2.2.	Does the project comply with environmental legislation in the host country?	1, 2 7, 8	Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by authorized organization.	☑	☑
E. Stakeholders' comments					
E.1.	**Brief description how comments by local stakeholders have been invited and compiled**				
E.1.1.	Have relevant stakeholders been consulted?	1, 2 16	The formal stakeholder consultation meeting was held on 20th, Jun 2007. Questionnaires have been distributed during the consultation meeting.	☑	☑
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 2 16	A concerned village Xiagong was informed via the village chiefs. To ensure the vide participation of the consultation meeting, broadcast has been used. **Corrective Action Request 15:** The PDD (E.1.) should inform that broadcast has been used for the purpose of vide participation of the consultation meeting.	CAR15	☑
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host	1, 2	There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	16			
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 2 16	Yes. Confirmed with the detailed documents, the process is described in a complete and transparent manner.	☑	☑
E.2. Summary of the comments received					
E.2.1.	Is a summary of the stakeholder comments received provided?	1, 2 16	Yes, E.2. of the PDD give a summary of stakeholder comments received during the meeting. E.2. mentions that the stakeholders are all supportive of this project and no negative comments have been received. This is not completely right as some of the stakeholders don´t have any opinion and some find wind projects in the area as bad. **Corrective Action Request 16:** The conclusion in E.2. should be revised and it should be also considered those stakeholders which don´t have any opinion to certain questions or which find wind projects as “bad” in the area.	CAR16	☑
E.3. Report on how due account was taken of any comments received					
E.3.1.	Has due account been taken of any stakeholder comments received?	1, 2 16	The overall comments with regards to the project were positive and the relevant stakeholders are satisfied with the compensations regarding land expropriation.	☑	☑
F. Annexes 1 - 4					
Annex 1: Contact Information					
F.1.1.	Is the information provided consistent with the one given under section A.3?	1, 2	Yes	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1, 2	Yes, Hebei Construction Investment Yuzhou wind energy Co.,Ltd, Shell Trading International Limited and CEZ a.s. are presented.	☑	☑
Annex 2: Information regarding public funding					
F.1.3.	Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered by bank loans and private equity.	☑	☑
F.1.4.	If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	Not applicable.	☑	☑
Annex 3: Baseline information					
F.1.5.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1, 2	Yes. The input data to calculate OM and BM are provided in Annex 3. However, see A.4.4.2.	CAR5	☑
F.1.6.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	Yes. The data are consistent with the NDRC issued data and have been verified by the audit team. However, see A.4.4.2.	CAR5	☑
F.1.7.	Does the additional information substantiate / support statements given in other sections of the PDD?	1, 2	However, see A.4.4.2.	CAR5	☑
Annex 4: Monitoring information					
F.1.8.	If additional background information on monitoring is provided: Is this information consistent with data presented in other	1, 2	Not applicable.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	sections of the PDD?				
F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	Not applicable.	☑	☑
F.1.10.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1, 2	Not applicable.	☑	☑

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
Open Issue Pls. deliver the LoA issued by China and Netherlands&UK together with MoC counter-signed by both parties to DOE before raising the request of registration.	A3.2	**The PP's LoA and MoC have been delivered to DOE**	☑
Corrective Action Request No. 1: The revision history on page 3 of the PDD should comprise the history of the PDD for the project.	A1.2	**The revision history has been added in page 2 of the updated PDD.**	☑ Yes, the revision history has been shown in PDD page 2.
Corrective Action Request No. 2: The PDD should clearly inform from which place the GPS coordinates were taken.	A4.1.1	**The GPS coordinates of the project has been indicated in page 3 of the updated PDD.**	☑ The GSP coordinates of the project has been marked as diagonal, which can describe the all of wind farm.
Corrective Action Request No. 3: The training schedule should be included in the PDD.	A4.3.9	**The train schedule has been added in page 5 of the updated PDD.**	☑ Training schedule has been described in PDD page 5.
Corrective Action Request No. 4: The time schedule of the implementation of the project should be included into the PDD.	A4.3.10	**The implementation schedule of the project has been added in page 6 of the updated PDD.**	☑ The key events have been included in implementation schedule table.

Corrective Action Request No. 5: However, the emission reduction figures should be revised, as the emissions factor calculated under consideration of "TUEV´s findings after checking NDRC emission factors on August 9th, 2007" is slightly more conservative (1,0751 tCO2e/MWh) as the applied emissions factor (1,0755 tCO2e/MWh).	A4.4.2	**The emission factor of coke in NDRC is IPCC default value and is correct.** **The emission factor of refinery gas in IPCC is Japanese data(have been noted in IPCC).the data issued by NDRC is 18.2 tc/TJ which is in the range of IPCC value (lower 13.3-upper19.0).** **So, the data issued by NDRC is correct.**	☑
Corrective Action Request No. 6: B.5. of the PDD should clearly mention (including the evidence) that CDM was considered before starting the project activity.	B5.1	**The incentive from the CDM in the decision to proceed with the project activity was added in page 13 of the updated PDD.**	☑ The date of CDM consideration decision is Nov.21st 2006 when before starting the project activity.
Corrective Action Request No. 7: Project participants are requested to submit the evidence for the chosen benchmark of 8 %. The evidence should clearly identify the time period for which the benchmark was calculated.	B5.6	**The evidence is the book named Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects which was issued by China Electric Power Press in 2003.**	☑ Yes, the benchmark is chosen from Interim Rules on Economic Assessment of electrical engineering retrofit project.
Corrective Action Request No. 8: The PDD should explicitly mention whether project or equity IRR is applied for the investment analysis.	B5.9	**The project IRR was explicitly mentioned in page 10 of the updated PDD.**	☑

Corrective Action Request No. 9: Project participants are requested to provide consistent information in excel sheet and PDD regarding the sensitivity analysis.	B5.10	**All the consistent parameters regarding to the sensitivity analysis have been listed in the excel sheet.** **DOE's:** **Please deliver the <Investment Estimation and Financial Assessment for the Feasibility Study of Yuxian kongzhongcaoyuan 49.5 MW Wind Farm Project>(The approved version) and its approval to DOE.**	☑ The approval of <Investment Estimation and Financial Assessment for the Feasibility Study of Yuxian Kongzhongcaoyuan 49.5 MW Wind Farm Project> from NDRC has been delivered to DOE
Corrective Action Request No. 10: Project participants are requested to submit the evidence that all wind farms in Hebei province are CDM projects or apply for registration as a CDM project.	B5.15	**The evidence was shown in Page 13 of the updated PDD.**	☑ The website for common practice is from National Windpower Engineering Technology Research Center.
Corrective Action Request No. 11: It should be explained in step 1 (of B.6.1.) why options (b) and (d) for the calculation of the OM emissions factor have been excluded.	B6.1.1	**It has been explained in page 14 of the updated PDD.**	☑ option b and d have been analyzed in PDD page 14.

Corrective Action Request No. 12: The list of parameters presented in chapter B.6.2. is not considered to be complete. The following parameters have to be included in the PDD (B.6.2.): - Emission factor of the grid (EF_{CM} in tCO2/MWh) - Emission factor of the grid (EF_{OM} in tCO2/MWh) - Emission factor of the grid (EF_{BM} in tCO2/MWh) - emission coefficient of each fuel - CO_2 emission coefficient of fuels used in connected grids	B6.2.1	**The parameters mentioned in the left have been included in page 19 of the updated PDD.** **DOE's:** **The monitoring parameters of B6.2 and B7.1 should totally comply with the methodology** **PP's** **The monitoring parameters of B6.2 and B7.1 have complied with the methodology.**	☑
Corrective Action Request 13: Figure 4 in B.7.2. should more clearly illustrate the main power line (in colour)	B7.2.3	**The color of main power line has been revised in page 25 of the updated PDD.**	☑ Yes, please make the format of Simplified electrical grid connection diagram adjusted.
Corrective Action Request 14: The project starting date should be consistent with project starting report.	C1.1	**The project starting date has been revised according to the project starting report in page 28 of the updated PDD.**	☑ According to "The starting construction report Hebei Chongli Qingsanying 49.3MW Wind Farm Project", the project starting date is reasonable and credible
Corrective Action Request 15: The PDD (E.1.) should inform that broadcast has been used for the purpose of vide participation of the consultation meeting.	E1.2	**The TV was used to invite the stakeholders comments.**	☑ Yes, relevant document has been delivered to DOE.

Corrective Action Request 16: The conclusion in E.2. should be revised and it should be also considered those stakeholders which don´t have any opinion to certain questions or which find wind projects as "bad" in the area.	E2.1	**Other comments of stakeholders were invited in the TV advertisement.**	☑

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

ANNEX 2: INFORMATION REFERENCE LIST

Reference No.	Document or Type of Information
1	Project Design Document for CDM project “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project”, version 2, dated 28th, July 2007, final PDD version 4 dated 2008-08-05
2	Consolidated baseline methodology for grid-connected electricity generation from renewable sources ACM0002, version 06.
3	Tool for the demonstration and assessment of additionality, version 03.
4	Participant list of on-site interview, signed on Oct 12th, 2007.
5	On-site interviews at the project site in Yuzhou county, Zhangjiakou City, Hebei province, P.R China., conducted on Oct. 12th 2007 by auditing team of TÜV SÜD: Validation team: Mr. Li Ruifeng TUV SÜD Industrie Service GmbH CDM Auditor trainee, Interviewed persons: Mr. Yang Xiaohua General manager of Hecic New-energy Co.,Ltd Ms. Zhang Bo Hecic New-energy Co.,Ltd Mr. Feng Shijun Hebei CDM project Office
6	Feasibility study of Hebei Yuxian Kongzhongcaoyuan 49.3MW Wind Farm Project, issued by Hebei electric power design&research institute, dated Dec. 2006.
7	Approval of feasibility study of Hebei Yuxian Kongzhongcaoyuan 49.3MW Wind Farm Project, issued by Hebei DRC, dated 31th, Dec 2006.
8	EIA of Hebei Yuxian Kongzhongcaoyuan 49.3MW Wind Farm Project, issued by State environmental protection administration of china. dated Aug. 2006.
9	Approval of EIA of Hebei Yuxian Kongzhongcaoyuan 49.3MW Wind Farm Project, issued by Hebei EPB, dated Aug. 2006.
10	Purchasing contract of Dongfang Steam Turbine Works, signed Mar. 2007.

Reference No.	Document or Type of Information
11	CDM resolution meeting minute, dated 21th, Nov 2006.
12	Grid connection agreement, signed with Hebei power grid company, dated Oct. 8th 2006
13	The starting construction Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project, issued by Hecic New-energy Co.,Ltd, dated May.20th 2007
14	Training plan and management policy, issued by Hecic New-energy Co.,Ltd,dated Nov.20th 2006
15	Business License of Hecic New-energy Co.,Ltd
16	The national policy about strictly prohibiting the installation of coal-fired generators under the capacity of 135MW.
17	Agreement of expropriated land signed with Hebei province department of land&resource dated Sept. 22th, 2006
18	Bank loan contract, signed with China construction Bank, dated 25th May. 2006
19	Notice concerning feed-in tariff of wind farm plant issued by Pricing Bureau of Hebei Province, dated June 26th, 2007
20	Stakeholder consultation meeting minute and attendance list, dated 20th Jun. 2007.
21	IRR calculation sheet
22	OM&BM calculation sheet
23	IPCC: Revised 2006 Guidelines for National Greenhouse Gas Inventories
24	Copies of LOAs, issued by China
25	The state council, issue of the power system reform plan circular
26	Statistics of china wind energy installed capacity in 2006
27	Regulation of local surcharge on education in Hebei province
28	Decision of the state council on amending the interim provisions on the collection of educational surcharges
29	Approval of capacity in FSR 49.3MW has been changed to 49.5 MW, issued by Hebei DRC, dated 20th, Feb 2007.
30	Audit Report of Completion Budget of Yuxian Kongzhongcaoyuan 49.5 MW Wind Farm Project issued by Hebei Tianhua Certified Public Accountants Co., Ltd on January 2nd , 2009.
31	Power Purchsse Agreement was signed with Hebei Construction Investment Yuzhou Wind Energy Co., Ltd on January 21nd , 2009

Reference No.	Document or Type of Information
32	The development of New Energy and Renewable Energy need Policy Support approved by (http://cppcc.people.com.cn/GB/34961/45560/45565/3262150.html) dated March 22th, 2005
33	Revised Project Design Document for CDM project “Hebei Yuxian Kongzhongcaoyuan 49.5MW Wind Farm Project”, version 5, dated 13th, February 2009.
34	Revised IRR spreadsheet dated February 13th, 2009
35	Bank loan agreement approved Hebei Branch of China Construction Bank dated September 25th, 2007.
36	The post salary of Hebei Construction Investment Yuzhou Wind Energy co., Ltd in December 2008.