



VALIDATION REPORT

CHINA RESOURCES WIND POWER
(CHENGDE) CO., LTD.

HEBEI CHENGDE YUDAOKOU WINDFARM
48MW PROJECT

Report No: QT-EC0419-08 - 08/410

Date: 2009-08-03

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Client: China Resource Wind Power (Chengde) Co., Ltd.	Client ref.: Mr. LIU Rixin
Summary:	<input checked="" type="checkbox"/> positive validation opinion <input type="checkbox"/> negative validation opinion
<p>China Resources Wind Power (Chengde) Co., Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Hebei Chengde Yudaokou Windfarm 48MW project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board</p> <p>In the course of the pre-validation 9 Corrective Action Requests (CARs) and 10 Clarification Requests (CLs) were raised and successfully closed.</p> <p>The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> - The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of China vide the Letter of Approval (HCA) dated 2008-9-22 (no. 1431). LOA from DNA of Switzerland is issued on 2009-5-25. - The project additionality is sufficiently justified in the PDD. - The monitoring plan is transparent and adequate. - The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 726,544 tCO₂e are most likely to be achieved within the (1st renewable) crediting period. <p>The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</p>	

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Work carried out by: Mr. LI Yongjun Mr. LIU Yang	
Final technical review by: Martin Saalman	Local technical review by: -
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Indexing terms

Climate protection
 Kyoto Protocol
 CDM
 Validation

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Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DNA	Designated National Authority
DOE	Designated Operational Entities
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
NCPG	North China Power Grid
PDD	Project Design Document
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual^{VVM}, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 1, EB 44).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP can not be held liable by any entity for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

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

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	Hebei Chengde Yudaokou Windfarm 48MW project		
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale		
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/>	1	Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/>	2	Energy distribution
	<input type="checkbox"/>	3	Energy demand
	<input type="checkbox"/>	4	Manufacturing industries
	<input type="checkbox"/>	5	Chemical industry
	<input type="checkbox"/>	6	Construction
	<input type="checkbox"/>	7	Transport
	<input type="checkbox"/>	8	Mining/Mineral production
	<input type="checkbox"/>	9	Metal production
	<input type="checkbox"/>	10	Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/>	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/>	12	Solvents use
	<input type="checkbox"/>	13	Waste handling and disposal
	<input type="checkbox"/>	14	Afforestation and Reforestation
	<input type="checkbox"/>	15	Agriculture
Applied Methodology	ACM0002, Version 07		
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y) <input type="checkbox"/> Fixed Crediting Period (10 y)		
Start of crediting period	2009-11-01		

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	People's Republic of China	China Resources Wind Power (Chengde) Co., Ltd.
Other involved party/ies	Switzerland	Vitol S.A.

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	People's Republic of China
Region:	Hebei Province
Project location address:	Yudaokou Town, Weichang County, Chengde City.
Latitude:	42°18'11.46"N
Longitude:	117°21'21.72"E

2.4 Technical Project Description

The proposed project is a wind farm consisting of 64 wind turbine generators with a unit capacity of 750 kW and total installed capacity of 48 MW.

The technical key data are provided in table 2-4 below

Table 2-4: Technical data of the wind turbine generator type

Parameter	Unit	Value
Quantity	-	64
Rated Power	kW	750
Hub height	m	50
Diameter of the blades	m	50
Rated wind speed	m/s	15
Survival Wind Speed	m/s	72
Cut in wind speed	m/s	4
Cut out wind speed	m/s	25
Rated voltage	V	690
Power factor	-	0.98
Lifetime	year	20
Manufacturer		Goldwind Science & Technology Co., Ltd.

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- A desk review of the PDD^{/PDD/} submitted by the client and additional supporting documents with the use of customised validation protocol^{/CPM/} according to the Validation and Verification Manual^{/VVM/},
- Validation planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation.

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2008-05-12
Submission of PDD for global stakeholder commenting process	2008-11-06
On-site visit	2008-11-12
Draft reporting finalised	2009-02-17
Technical review on draft reporting finalised	2009-02-23
Final reporting finalised	2009-07-22
Technical review on final reporting finalised	2009-08-03

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 1 additional team members, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Sectoral competence	Technical competence	Host country Competence	Controlling competence
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rainer Winter	TÜV NORD CERT GmbH	FA	SA	X	X	-	X
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	LI Yongjun	TÜV NORD China, Shanghai	TL	A	X	X	X	X
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Martin Saalman	TÜV NORD CERT GmbH	TR	A	X	X	-	X
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	LIU Yang	TÜV NORD China, Shanghai	TM	TE	-	-	X	-

¹⁾ TL : Team Leader; TM : Team Member, TR: Technical review; FA: Final approval

²⁾ GHG Auditor Status: A : Assessor; E : Expert; SA: Senior Assessor; T : Trainee; TE Technical Expert

Certificates of appointment for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments were received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

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

The validation protocol as described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Validation Team Comment	Reference	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CR or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol tables

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

3.6 Review of Documents

The published PDD (version 1) and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Follow-up Interviews

The validation team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives /IM01/	<ul style="list-style-type: none"> - Chronological description of the project activity with documents of key steps of the implementation. - Current status of project design - Technical details of the project realization, project feasibility, designing, power connection, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Project activity starting date - CDM consideration - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation
Project consultant /IM02/	<ul style="list-style-type: none"> - Editorial issues of the PDD - Procedural aspects - Baseline study and additionality - Details of emissions reduction calculation - Crediting period

Interviewed Persons / Entities	Interview topics
Local stakeholders /IM03/	<ul style="list-style-type: none"> - The environment impact of the project - The legislative aspects of the project - The impact of the project to local people's life

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	2	3	-
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	6	4	-
Duration of the Project / Crediting Period (C)	1	1	-
Environmental impacts (D)	-	1	-
Stakeholder Comments (E)	-	1	-
SUM	9	10	-

¹⁾ The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	A1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	At the time of the (pre-) validation the letters of approval of all involved parties are pending (China, Switzerland).		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The LOA of both China and Switzerland has been obtained by the project owner and been ready for validation.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK</p> <p>Checklist A.1.1: Both the letter of approvals of the host country^{/HCA/} and Switzerland^{/LOA/} have been received from the PP.</p> <p>Checklist A.1.2: The letter of approval of the host country is from NDRC which is listed on the UNFCCC CDM website. The information of approval is available on website of Chinese DNA: http://cdm.ccchina.gov.cn/website/cdm/pdf/Item/Item3159.pdf</p> <p>LOA of Switzerland is issued by Federal Office for the Environment FOEN of Switzerland which is listed on the UNFCCC CDM website.</p> <p>Checklist A.1.3: The letters of approval confirm that China and Switzerland are Parties to the Kyoto protocol.</p> <p>Checklist A.1.4: The letters of approval confirm that the participation are voluntary.</p> <p>Checklist A.1.5: The letter of approval of the host country confirms that the project contributes to the sustainability in the country. LOA of Switzerland is pending.</p> <p>Checklist A.1.6: The letters of approval refer to the precise project title in the PDD submitted for registration.</p> <p>Checklist A.1.7: The letters of approval are unconditional w.r.t. Checklists A.1.3 to A.1.6.</p> <p>Checklist A.1.9: Project participants listed in the PDD are approved as indicated in the letters.</p> <p>Checklist A.1.10: There are no other project participants approved in the letters of approval and not listed in the PDD.</p> <p>Checklist A.2.1: The host country confirmed in the letter of approval that the project assists it in achieving sustainable development.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

Finding	A2		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

Finding	A2
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The name of project participant (host entity) is incorrect, revision is necessary.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It's a mistake of writing, it has been corrected in the revised PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK Checklist A.1.8: The information regarding project participants listed in section A3 and in Annex 1 of PDD is consistent with each other.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	A3
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The description of how the project activity benefit sustainable development is insufficient, more convincing justification should be provided.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	More convincing justification has been provided in A.2 of the revised PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist A.2.2: The project will create other environmental and social benefits than GHG emission reductions such as: reduce pollutions from sulphur dioxide and dust brought by fossil fuel combustion; benefit the development of local economy by providing clean energy and paying taxes; offer job opportunities during the construction and operation period.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	A4
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Finding	A4
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The technological description in A.4.3 of the PDD contains several problems:</p> <ol style="list-style-type: none"> 1. Newly installed capacity in the power grid (NCPG) which would be the existing scenario prior to the implementation of the project activity can not reach the conclusion that the electricity system is dominated by fossil fuel fired power plants; 2. Several technological parameters of equipments that would be adopted by the project activity are inconsistent with the Equipment Purchase Contract, such as cut-in speed, rated speed and hub height; 3. description of monitoring equipments and their location should be clearly described; <p>The latest version of PDD Guideline (Ver. 07, EB41/Annex 12) should be followed to revise the PDD; corresponding summary in A.2 of the PDD should also be revised.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. The statistics of installed capacity of the NCPG in 2004-2006 has been done in Table A-1. Thermal power plants have accounted for above 96% in the NCPG in the latest 3 years, which showed that the NCPG is dominated by fossil fuel fired power plants; 2. The original parameters were adopted basing on the brochure of Equipment. The parameters have been revised according to the Equipments Purchase Contract. 3. The monitoring equipments and their location have been clearly described in the revised PDD. 4. Content of A.2 has been revised according to the latest version of PDD Guideline.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK.</p> <p>Checklist A.3.2: The PDD is revised to comply the version 07 PDD Guideline.</p> <p>Checklist A.3.2: The project description is revised to be clear, accurate and complete and in accordance to equipment purchase contract which has been checked by the DOE.</p> <p>Checklist A.3.2: The description is in accordance with the real situation of the project activity. This has been verified by means of feasibility study report and equipment purchasing agreement, during on-site visit and by means of interview.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	A5
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR

Finding	A5
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	More detailed geographical information of the project activity should be provided for unique identification. Besides, more illustrative maps should be provided.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	More transparent description about location of the project has been provided and a new map was increased in A4.1.4. The approximate coordinates of the site are east longitude of 116°59'16"~117°03'38" and north latitude of 42°18'21"~42°21'45".
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK Checklist B.2.1: The geographical information of the project boundary that allows unique identification has been provided in the revised PDD, the information has been confirmed by the design institute of FSR.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The flow diagram of the project boundary should be more clearly delineated to represent the emissions sources and gases included in the project boundary.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	A new flow diagram, <i>The flow diagram of the project boundary</i> has been provided in B.3 of the revised PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist A.3.2: The flow diagram is in line with the requirements of version 7 of PDD Guideline to include all the equipments, mass & energy flows, the emissions sources and gases included in the project boundary and the monitoring variables. Furthermore it is fully in line with the applied methodology.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR

Finding	B2
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The latest approved versions of the referred tools should be applied to the project activity.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	All tools referred in the PDD are changed to the latest approved versions.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist B.1.1: The project applies approved and applicable methodological tools with valid version: Tool for the demonstration and assessment of additionality Version 5.2, Tool to calculate the emission factor for an electricity system Version 1.1.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B3
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A more detailed timeline of CDM actions in parallel with implementation of the proposed CDM project activity should be described in section B.5 of the PDD to show the serious consideration of the CDM in the project decision making and implementation process. Related documented evidences should be forwarded to the DOE to substantiate the information provided especially as the type change of wind turbines affects both investment analysis and emission reductions.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Detailed timeline of the implementation and CDM actions of the proposed project has been described separately in Table B-3 and Table B-4 of the revised PDD.

Finding	B3
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK.</p> <p>Checklist B.4.2.1: The project start date is defined as the earliest action of project implementation which is 17/01/2008^{/EPA/} in the revised PDD, and is in line with the CDM glossary of terms (version 04). All relevant contracts^{/PCC/} have been checked by the DOE to confirm that the earliest date is chosen where the project owner committed to expenditures.</p> <p>Checklist B.4.2.2: The CDM was introduced in the FSR^{/FSR-2/} considering the low IRR compared to the benchmark, and the decision made by the board of directors was checked as convincing.</p> <p>Checklist B.4.2.3: The decision to proceed with the project was made on 10 Nov. 2007 by means of Resolutions of the Board of Directors. The document provided is verified by the DOE and assessed as reliable and convincing.</p> <p>Checklist B.4.2.4: The project start date is two months later than the decision to proceed with the project, and all relevant documents have been checked by the DOE. The prior consideration of CDM and supporting evidences are transparently described in the revised PDD.</p> <p>Checklist B.4.2.6: The project owner contracted CDM consultation service and signed ERPA in half a year after the project start date and it is confirmed by the DOE that CDM has been involved in the decision making process and in parallel with project implementation by document check.</p> <p>Checklist B.4.2.7: The CDM involvement can be regarded as serious by document check and would not have been undertaken considering the low financial indicator without the incentive of the CDM.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B4		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

Finding	B4
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>There're several problems exist in investment analysis of the project:</p> <ol style="list-style-type: none"> 1. there's another version of FSR with project design using 2MW wind turbines, it is required to clarify which version of FSR is the basis of investment decision; 2. it is required to justify how to use tariff of 0.3504 RMB/kWh to calculate the IRR and its appropriateness; 3. the sources of all parameters used in IRR calculation and links in the spreadsheet should be given so that the result can be reproduced; 4. the O&M cost should be transparently calculated in the IRR spreadsheet; <p>The <i>Guidance on the Assessment of Investment Analysis</i>^(GAIA) from EB41 Annex 45 should be followed regarding the problems listed above.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> 1. The second version of FSR is the basis of investment decision, which is clearly described in the PDD. 2. The tariff of 0.3504 RMB/kWh doesn't used to calculate the IRR for conservative reason; 3. All data sources and links were presented in the revised IRR spreadsheet. 4. O&M cost has been transparently broken down and calculated in the revised IRR spreadsheet.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK.</p> <p>Checklist B.4.4.2: The excel spreadsheet of IRR calculation which allows the validator to reproduce the result has been provided.</p> <p>Checklist 4.4.8: The input values used in the investment analysis are derived from the FSR which is the basis of the investment decision, the finalization of the FSR and the investment decision were in sufficient short period and therefore the input values are valid and applicable at the time of the investment decision. Please see Annex A3 for detail information about assessment of different parameters used to calculate the IRR.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<div> <input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements </div>

Finding	B5		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

Finding	B5
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Explanation of the possibility that variations in the result of the project IRR would occur, and the likelihood of these conditions should be provided in the sensitivity analysis, especially considering wind turbine type has changed from 2MW to 750kW in the process of CDM consideration.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Detailed description of the possibility of financial parameters variations has been presented in the sensitive analysis of revised PDD. The project design using 2MW wind turbines is significantly different with the current technology, the total static investment decrease by 14% while annual electricity supplied to the grid decrease by 11% compare with the previous design.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist B.4.4.15: The sensitivity analysis is appropriately conducted in the revised PDD. Please refer to Annex A3 for detail assessment.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B6
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	It is requested to justify how similar projects are defined and why similar and operational projects other than CDM project activities have been undertaken in the defined region such as Hongsong and Damanjing project.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The explanation has been made in Common Practice Analysis of the revised PDD.

Finding	B6
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK.</p> <p>Checklist B.4.6.1: Hebei Province has been defined as the region for common practice analysis and this can be assessed as appropriate because wind resources and regulatory framework vary greatly in different provinces in China.</p> <p>Checklist B.4.6.2: All similar projects (operation since 2002 and with capacity larger than 15MW) have applied CDM except two (Hongsong and Damanjing) wind farm projects. Both projects applied for voluntary carbon credits in the years 2005 and 2006 to overcome financial barrier. This has been verified by TÜV SÜD. The information is confirmed by TÜV SÜD in the Validation Report of Hebei Haixing 49.5 MW Wind Farm Project^{HVR}. Hence the validation team assessed this as reliable.</p> <p>Checklist B.4.6.3: The two identified similar projects also face financial barrier and have applied VCS.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input type="checkbox"/> The project complies with the requirements</p>

Finding	B7
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The emission reduction calculation presented in B.6 and Annex 3 of the PDD is incorrect since BM calculation is incorrect when applying formula 7. All emission reduction calculations, tables indicating the emission reductions in A.4.4 and B.6.3 and related information must be revised accordingly.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Mistake has been corrected in the revised PDD, the emission factor was calculated in accordance with the Tool to calculate the emission factor for an electricity system and is consistent with the official data published by Chinese DNA.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>OK.</p> <p>Checklist B.5.1: The equations are in accordance with ACM0002 and the Tool to calculate the emission factor for an electricity system.</p> <p>Checklist B.5.2: Methodological choices have been explained in the PDD and BM calculation is revised to be in line with the methodological tool.</p> <p>Checklist B.5.4: The emission factor calculation has been corrected in the revised PDD.</p>

Finding	B7
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B8
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Some formulae and parameters used in emission factor calculation are inconsistent with that defined in Tool to calculate the emission factor for an electricity system, e.g. equation (1), $F_{i,j,y}$ and NCV_i , and information of data and parameters that are available at validation in B.6.2 of the PDD are inappropriate, such as $CAP_{m,i,y}$ and $EF_{BPCT,i}$. Revision is necessary.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The inappropriate formula and parameters have been revised in the PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist B.5.1: The parameters and equations have been revised to be in line with ACM0002 and Tool to calculate the emission factor for an electricity system.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B9
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The description of measurement methods and procedures of EG_y in B.7.1 of the PDD is insufficient and unclear, besides, the parameter EG_{net} (net electricity supplied to grid) and EG_{export} should also be defined as monitored parameters and listed in table B.7.1 of PDD for conservative consideration.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The parameter EG_{net} (net electricity supplied to grid) and EG_{export} have been listed in the B.7.1 as monitored parameters and more information EG_y has been added in B.7.1.

Finding	B9
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Not yet OK. The measurement method for EGex,y and EGim,y is inappropriate as the invoice meter reading differ from the internal meters.
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The EGex,y and EGim,y will be monitored by the reading of invoice meter by the project proponent and the power grid company. Detail information has been put in section B.7.2 of the PDD.
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist B.5.5: All ex-ante calculation values for monitoring parameters are derived from the FSR and are reasonable. Checklist B.6.1: All monitoring parameters required by the applied methodology are contained in the monitoring plan.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	B10
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The description of monitoring plan in B.7.2 of the PDD is insufficient in the following aspects:</p> <ol style="list-style-type: none"> responsibility of each part of monitoring management structure should be described clearly and keep consistent throughout the monitoring plan; monitored parameters and monitoring equipments are better to be described referring to power connection diagram; measurement method and procedures of monitored parameters should be detailed described, especially if the project activity will be jointly monitored with other potential projects; review of reported results/data and procedures for avoiding erroneous measurement should be included in QA/QC; all data collected as part of monitoring should be kept at least for 2 years after the end of the crediting period according to the methodology. <p>Revision to the PDD is necessary.</p>

Finding	B10
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. A management structure for CDM monitoring will be established and their responsibilities were clearly described in the B.7.2. 2. Referring to power connection diagram, the description of monitored parameters and monitoring equipments was revised. 3. A calculated formula was used to explain the measurement of monitored parameters. 4. More details were described about QA/QC in PDD. 5. Time that all data collected should be kept was emphasized in the monitoring plan.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist B.6.2: The necessary information for all monitored parameters is appropriately described in the PDD and in compliance with the requirements of the methodology. Checklist B.6.4: The monitoring arrangements described in the revised PDD is likely to be implemented in the context of the project activity, special conditions such as erroneous measurement and joint meter have been considered. Checklist B.6.5: The QA/QC procedures are sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified QA/QC provisions such as back up system, troubleshooting procedures, internal review of reported results and training have been considered. Quality Management System provisions such as calibration of equipments have been addressed. Checklist B.6.6: Data management measures such as data media, scope and storage period are sufficiently described in the PDD in accordance with requirements of ACM0002. All monitored data will be kept until 2 years after the end of the crediting period.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	C1
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The starting date of the project activity stated in the C.1.1 of the PDD is incorrect according to the Equipment Purchase Contract, and a description of how the start date has been determined, and a description of the evidence available to support this start date should be provided. Revision is required.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	According to the timeline of implementation of the proposed project, the earliest date between the signed of Equipment Purchase Contract and the Construction Contract was chosen as starting date.

Finding	C1
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist C.1: The project start date is clearly defined in accordance with the Glossary of CDM terms in the PDD and backed by documented evidences.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	C2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The starting date of the first crediting period is unreasonable, revision is required.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The starting date of the first crediting period is revised to be 01/11/2009 or the date of registration, whichever is later.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist C.3: The start date of the crediting period is clearly defined as 01/11/2009 and is reasonable taking into consideration the time needed for validation and registration.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

Finding	D1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A more detailed analysis of the environmental impacts should be provided according to the approved Environmental Impacts Assessment Report.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	More detailed analysis of the environmental impacts has been provided according to the approved Environmental Impacts Assessment Report.

Finding	D1
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK. Checklist D.1.3: An analysis of the environmental impacts of the project activity is sufficiently described in the PDD, and the EIA report of this project has already been approved by local government which indicates the project is in line with the host party environmental legislation. And neither the host party nor the project participant thinks that this project will have significant environmental impact.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding	E1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Detailed information of when and how the project participant investigated stakeholders' comments should be provided in a transparent manner in E.1 of the PDD.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	More detailed description on how the stakeholders' comments were obtained in a transparent manner has been provided in E.1 of the revised PDD.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	OK Checklist E.2: The local stakeholder consultation process can be assessed as adequate by means of document review and interviews with local stakeholders. (a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited by form of questionnaires and meeting; (b) The summary of the comments received as provided in the PDD is complete; (c) The project participants have taken due account of any comments received and have described this process in the PDD. Please refer to 5.2.11 of the report for detail information.
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

Letter of approval for the proposed project^{/HCA/} (No. 1431) has been issued by National Development and Reform Commission (NDRC) of the People's Republic of China which is China's DNA, and it has been submitted by the project participants. In the letter of approval it is stated that China has ratified the KP, that the project complies with the permission requirements and assists China in achieving sustainable development. The title of the proposed project activity is matching with the PDD and MOC.

Letter of approval from Annex I country^{/LOA/} has been issued by Federal Office for the Environment FOEN of Switzerland on 2009-05-25. It confirms that Switzerland has ratified the Kyoto Protocol on July 09, 2003, and approves voluntary participation in the proposed CDM project activity, and authorizes "Vitol S.A." to participate as project participant.

Project Participants

The project participants are China Resources Wind Power (Chengde) Co., Ltd. which has been approved by the host country of China^{/HCA/}, and Vitol S.A. which has been approved by the DNA of Switzerland^{/LOA/}. The project participants are listed in tabular form in section A.3 of the PDD. This information is consistent with the contact details provided in Annex 1 of the PDD^{/PDD-2/}. No entities other than those approved as project participants are included in these sections of the PDD. All above information have been checked against host country LOA^{/HCA/} and Annex I approval^{/LOA/}.

5.1.2 Contribution to Sustainable Development

In the letter of approval of the host Party^{/HCA/}, it is confirmed that the proposed CDM project activity complies with the permission requirements provided in the Measures for Operation and Management of Clean Development Mechanism Project in China and assists China in achieving sustainable development

5.1.3 PDD editorial Aspects

The PDD of the project is based on the latest PDD Template (Version 03.2) and complies with the Guidelines for Completing the PDD (Version 07).

5.1.4 Technology to be employed

A physical site visit was conducted and equipment purchase agreement^{/EPA/} was checked to confirm that the description in the PDD reflects the real situation of the proposed CDM project activity. The technological parameters of wind turbines indicated in A.4.3 of the PDD are consistent with the equipment purchase agreement. The project does not involve alteration of an existing installation or process.

A clear description of the differences between the project scenario and the scenario existing prior to the start of the implementation of the project which is also the baseline scenario is provided in A.2 and A.4.3 of the PDD. The project is a wind farm project, and the technology employed is environmentally safe and sound.

5.1.5 Small Scale Projects

The installed capacity of the proposed project is 48MW and is not of small scale type.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies the consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 07) which is approved by the CDM Executive Board.

Latest version of methodological tools, "Tool to calculate the emission factor for an electricity system" (Version 1.1) and "Tool for the demonstration and assessment of additionality" (version 5.2) are applied and referenced in accordance with ACM0002.

The applied methodology and methodological tools are available at UNFCCC website: <http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html>.

All the applicability conditions of the methodology ACM0002 are met, and the project activity is not expected to result in emissions including project emissions, leakage, and any other significant emissions not addressed by the applied methodology.

5.2.2 Project Boundary

According to applied ACM0002, the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to. The project boundary and the selected sources and gases which are justified for the project activity are identified in B.3 of the PDD.

Through observations of the physical site and equipment used by the project, the DOE confirm that the project boundary of the project includes the wind turbines of the project, and all the other power plants connected to the North China Power Grid

(NCPG). The baseline emission source is CO₂ emissions from electricity generation in fossil fuel fired power plants that is displaced due to the project activity, and no emission sources of the project activity is considered according to applied ACM0002 since the project activity is the installation of a wind power plant. There are no any other emission sources which are impacted by the project or addressed by the applied methodology.

5.2.3 Baseline Identification

The DOE confirm that the procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied, and the description of baseline identification in the PDD is transparent and verifiable.

According to applied methodology ACM0002, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

No alternative scenarios are to be considered in the identification of the most reasonable baseline scenario according to the approved methodology ACM0002.

5.2.4 Calculation of GHG Emission Reductions

The emission reduction calculation is conducted as per applied methodology ACM0002 and the methodological tool "Tool to calculate the emission factor for an electricity system" and correct equations and parameters have been used accordingly.

The emission reductions (ER_y) of the project activity are the difference between the baseline emissions (BE_y), project emissions (PE_y) and the leakage emissions (L_y) as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Baseline emission:

BE_y is calculated by multiplying the net electricity supplied to the NCPG (EG_y) with combined margin emission factor (EF_{grid,CM,y}) as follows:

$$BE_y = EG_y \times EF_{grid,CM,y}$$

The emission factor (EF_{grid,CM,y}) is calculated using the latest version of the "Tool to calculate the emission factor for an electricity system". It is determined ex-ante and calculated as a combined margin (CM), consisting of the weighted average factors of operating margin (EF_{OM}) and build margin (EF_{BM}).

The data source and process of calculation of OM and BM are based on data that is available at the time of submission of the CDM-PDD to the DOE for validation and derived from the *Baseline Emission Factor of Chinese Power Grids in 2008* which was initially published by Chinese DNA in July 2008, and modified in Dec. 2008

because the first version used wrong data group to calculate BM. All data needed for emission factor calculation are sourced from China Energy Statistical Yearbook (2005~2007), China Electric Power Yearbook (2005~2007), and 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and are publicly available.

EF_{OM} and EF_{BM} are calculated as 1.1169 tCO₂e/MWh and 0.8687 tCO₂e/MWh separately, and in accordance with ACM0002 weight factors of $w_{OM} = 0.75$, $w_{BM} = 0.25$ have been used and the grid emission factor $EF_{grid,CM,y}$ is calculated as 1.0548 tCO₂e/MWh. This emission coefficient is accurate and conservative compare the official data published by Chinese DNA.

Project emissions:

According to ACM0002, project emissions of wind power project are considered as zero.

Leakage:

According to ACM0002, leakage does not to be considered.

Emission reductions:

The annual net generated electricity of the project is estimated to be 98,400MWh (based on the FSR). According to above information, the emission reductions of the project is calculated as following:

$$\begin{aligned} ER_y &= BE_y - PE_y - LE_y = BE_y = EG_y \times EF_{grid,CM,y} \\ &= 98,400MWh \times 1.0548 \text{ tCO}_2\text{e/MWh} = 103,792 \text{ tCO}_2\text{e} \end{aligned}$$

The annual GHG emission reductions over the first crediting period are estimated ex-ante as 103,792 tCO₂e.

It is confirmed by the DOE by cross-checking the whole calculation process^{/ERC/} against all referenced data sources and the requirements of applied methodology and methodological tools that:

- All data sources and assumptions used by the project are listed and referenced in the PDD, appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions;
- All documentation used by project participants as the basis for assumptions and source of data such as China Electric Power Yearbook is correctly quoted and interpreted in the PDD;
- All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

5.2.5 Additionality Determination

Consideration of CDM in decision making (if project start before validation)

The project start date is defined as 17/01/2008 which is the date of purchase agreement of 750kW wind turbines^{/EPA-1/} according to the PDD. The transformer substation construction contract^{/PCC-2/} was signed on 13/07/2008 and it is the earliest construction contract of the proposed project. The main construction contract^{/PCC-1/} was signed on 07/08/2008. Therefore, 17/01/2008 is the earliest date of project construction, implementation and real action, which is in line with the "Glossary of CDM terms".^{/GLS/}

The project start date is before 02 August 2008, and is prior to the date of publication of the PDD for global stakeholder consultation which started from 06 Nov. 2008.

The first version of feasibility study^{/FSR-1/} of the project was completed in April 2007, in which the project design is 48MW (24 wind turbines with unit capacity of 2MW), the total static investment is 497.51 million RMB and annual electricity supplied to the grid is estimated as 110,540 MWh. The version I of feasibility study fixed the FIRR as 8% to calculate the electricity tariff as 0.639 RMB/kWh (incl. VAT). The project was then approved by Hebei Development and Reform Commission in 21/07/2007.

In June 2007, the NDRC approved on-grid tariff for wind power projects in Hebei province as 0.54 RMB/kWh (incl. VAT) within 30,000 utilization hours, and local average on-grid tariff for the following operational years. This tariff level is 15.5% lower than the calculated value of 0.639 RMB/kWh and the board of directors accordingly considered to investigate the possibility of CDM application^{/CMD-1/} to reduce the financial risk of the proposed project in July 2007.

In 2007, the largest wind turbine type can be manufactured by domestic suppliers is 1.5MW. This type had a lot of technological problems and productivity shortage as per the China Wind Power Report 2008^{/CWPR/}. Considering the supply constraints of 2MW wind turbines in the market at that time, 750kW wind turbine type which is technically mature^{/CWPR/} and has many successful operational experiences in the same region^{/DPI/} was considered and the 2nd version of FSR was completed in Oct. 2007. In the FSR Version II^{/FSR-2/}, the project design remained 48MW (64 wind turbines with unit capacity of 750kW), the total static investment is 428 million RMB (14% lower than that of Version I) and annual electricity supplied to the grid is estimated as 98,400MWh (11% lower than that of Version I). The Version II of feasibility study calculates the project IRR using the electricity tariff of 0.54 RMB/kWh (incl. VAT) for 30,000 utilization hours and 0.3504 RMB/kWh (incl. VAT) which is local bus-bar on-grid tariff of coal fired power plants after 30,000 utilization hours, the result of FIRR is 5.48%.

In the FSR Version II^{/FSR-2/}, CDM was recommended and the FIRR with CDM revenue was calculated as 8.26% which is higher than the benchmark rate of 8% as indicated in *Interim Rules on Economic Assessment of Electrical Engineering Retrofit Project* which is commonly applied in power industry in China.

Based on the FSR Version II^{/FSR-2/}, the board of directors of the proposed project decided to invest on the project using 750kW wind turbines and apply for CDM^{/CMD-2/} on 10 Nov. 2007.

In Dec. 2007, the project owner signed CDM development agreement with Beijing Jipeng Investment Information & Consultant LTD, and signed the Emission Reductions Purchase Agreement^{/ERPA/} with Vitol S.A. in June 2008. The PDD of the CDM project activity started its global stakeholder consultation process from Nov. 2008.

The DOE confirms project participant's prior consideration of the CDM through document reviews and interviews and it satisfies following requirements of Guidance on the Demonstration and Assessment of Prior Consideration of the CDM (EB41, Annex 46):

- The decision by the Board of Directors as evidence indicates the awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project.
- Evidences such as the CDM development agreement and ERPA indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.

Application of methodology / methodological tools

The additionality of the project activity was demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" Version 05.2 according to applied methodology ACM0002.

Alternatives

The PDD contains a complete list of all realistic alternatives to the project scenario. There are four plausible alternatives been identified for the project:

- P1: The proposed project activity not undertaken as CDM project;
- P2: thermal power plant with equivalent amount of annual electricity output;
- P3: Hydropower or other renewable energy generation with equivalent electricity supply;
- P4: The equivalent electricity supplied by the North China Power Grid (NCPG).

P1 which is the project activity not undertaken as a CDM project activity will be excluded through investment analysis;

P2 was excluded in Sub-step 1b: *Consistency with mandatory laws and regulations*, because thermal power plants that with installed capacity less than 135MW are prohibited from being constructed in areas covered by the large grids such as the NCPG according to national regulation^{/SCPN/} by State Council of P. R. China in 2002.

P3 was excluded because other renewable energy such as geothermal, solar and biomass energy resources are either unavailable or not financially viable in the area of the proposed project to provide equivalent electricity.

P4 is the continuation of the current situation, it is in compliance with Chinese relevant laws and regulations and does not face financial barriers, therefore is realistic and credible alternative scenario to the project activity.

The credible alternatives are selected as P1 and P4.

According to paragraph 103 of the VVM^{/VVM/}, the applied methodology ACM0002 prescribes the baseline scenario and no further analysis is required in identification of alternatives.

Investment analysis

The latest version of the Guidance on the Assessment of Investment Analysis^{/GAIA/} was applied in the assessment.

Since the proposed project generates economic benefits (from sales of electricity) other than CDM related income simple cost analysis (Option I) is not applicable. Also Option II is correctly not considered. Therefore benchmark analysis (Option III) is chosen in the PDD to conduct the investment analysis.

The 8% of benchmark selected is derived from *Interim Rules on Economic Assessment of Electric Engineering Technology Retrofit Projects*^{/IREA/} issued by State Power Corporation. It is valid since 2002 and widely used in China for electric power project economic evaluation.

The DOE confirm the suitability of the benchmark applied in the investment analysis in that:

- a) IRR was identified as the financial / economic indicator which is suitable for the project type and decision context;
- b) It is ensured that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity;
- c) It is reasonable to assume that no investment would be made at a rate of return lower than the benchmark, and the same benchmark is widely applied in electric power industry of China.

Since the project participants rely on values from Feasibility Study Report^{/FSR-2/} which has been approved by Development and Reform Commission of Hebei Province, according to the requirements of paragraph 54 of the EB38 report, the DOE ensure that:

- a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR^{/FSR-2/} and the investment decision^{/CMD-2/} is only one month, and is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed;
- b) The input values used in the PDD and IRR calculation spreadsheet are fully consistent with the FSR, and the electricity tariff of 0.54 RMB/kWh (Incl. VAT) is used throughout the 20 years of lifetime for conservative reason (compared with the tariff of 0.3504 RMB/kWh which was used after 30,000 utilization hours in the FSR^{/FSR-2/});
- c) The input values from the FSR can be confirmed as valid and applicable at the time of the investment decision by cross-checking on the basis of specific local

and sectoral expertise, all relevant information are summarized and assessed in Annex A3 to this report.

For details of the assessment of financial parameters used in investment analysis, please refer to Annex A3.

As to confirm the accuracy of financial calculations carried out for any investment analysis, the DOE has:

- a) Conducted a thorough assessment of all parameters and assumptions used in calculating the IRR, and the accuracy and suitability of these parameters are summarized in Annex A3 using the available evidences and expertise in relevant accounting practices;
- b) Cross-checked the parameters against third-party or publicly available sources, such as governmental statistics and industry yearbook;
- c) Reviewed the feasibility study reports and necessary documents related to the proposed CDM project activity and the project participants;
- d) Assessed the correctness of computations carried out and documented by the project participants by reproducing the IRR calculation in accordance with industrial/local regulations;
- e) Assessed the sensitivity analysis by the project participants and summarized in Annex A3 to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

The project IRR (after tax) is 6.18% without CDM revenue, lower than the benchmark of 8%. Therefore the CDM project activity cannot be considered as financially attractive.

Four parameters are selected for sensitivity analysis: total investment, annual power output, tariff and O&M costs. Total investment is almost fixed because the project has almost finished construction during (pre-) validation and more than 87% of investment has been contracted; power generation is estimated by applying multi-year meteorological data and one year on-site measurement data. It is not likely to vary significantly through the 20 years period. Electricity tariff of wind power projects in Hebei Province has been approved by the NDRC as 0.54 RMB/kWh (incl. VAT) for the first 30,000 utilization hours, and it is not likely to get a higher tariff for the proposed project according to local officials of Development and Reform Commission^{/IM03/}. O&M cost has little influence on the IRR and can not lead the IRR to exceed benchmark even if cut by 50%.

Barrier analysis

Barrier analysis has not been used to demonstrate the additionality of the proposed CDM project activity.

Common practice analysis

The DOE confirms that the proposed CDM project activity is not common practice by the following:

- a) Assessed that the geographical scope (e.g. the defined region of Hebei Province) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type. Since a province other than the entire host country is chosen, the DOE assessed the explanation why this region is more appropriate **because of** two reasons: **1**, wind resources vary greatly in different regions of China, utilization hours of wind power plants in different provinces are from 1325 to 2401 hours which has more than 80% difference^{/CWPR/}; **2**, province is the second administrative level of China after central government and is authorized to execute administrative examination and approval for construction projects considering local regulations^{/gov/};
- b) Determined that all wind power projects with capacity above 15MW other than CDM project activities in operation after 2002 have been undertaken in the defined region **because**: **1**, wind power projects below 15MW are defined as small scale in CDM and is only about 30% of the project scale, this can be regarded as significant difference; **2**, a great reform was conducted in power industry of China in 2002 to separate grid company and power generation company, this resulted in a significant difference in policy environment before and after;
- c) Only two similar and operational projects other than CDM project activities are observed in the defined region named "Chengde Hongsong Wind Farm project" and "Shangyi Damanjing Wind Farm Project". According to official statistics of wind power projects in China by Chinese Wind Energy Association^{/cwea/}, and all other projects with capacity larger than 15MW have applied CDM according to CDM Pipeline^{/cd4cdm/} and UNFCCC website^{/unfccc/}. Chengde Hongsong project and Shangyi Damanjing project have applied for voluntary carbon credits in the years 2005 and 2006 to overcome financial barrier. This has been verified by TÜV SÜD. The information is confirmed by TÜV SÜD in the Validation Report of Hebei Haixing 49.5 MW Wind Farm Project^{/HVR/}. The fact that similar projects have been applied for voluntary carbon credits demonstrates that financial barriers exist in the two projects and their need of incentives to make them financially attractive. Therefore, the existence of the two similar activities does not contradict the claim that the proposed project activity is financially/economically unattractive.

Summary

The DOE assessed and verified the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality by critically assessing the presented evidences using local knowledge and sectoral and financial expertise.

All steps taken and sources of information used are described in sections above by cross-checking the information contained in the PDD on the justification of additionality of the project activity.

In conclusion, the proposed CDM project activity is assessed as **additional**.

5.2.6 Monitoring Methodology

The monitoring plan of the proposed CDM project activity is based on and in compliance with the applied monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 07.

5.2.7 Monitoring Plan

The DOE applied a two-step process to assessing compliance with the requirements of monitoring plan, as follows:

- a) *Compliance of the monitoring plan with the approved methodology:*
 - (i) Identified the list of parameters required by the selected approved methodology by means of document review;
 - (ii) Confirm that the monitoring plan contains all necessary parameters, that they are clearly described and that the means of monitoring described in the plan complies with the requirements of the applied methodology ACM0002;
- b) *Implementation of the plan:*
 - (i) The monitoring arrangements described in the monitoring plan are feasible within the project design, and weighted share of the proposed project activity will be calculated based on power generation of two separated wind farm if one invoice meter is used jointly;
 - (ii) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified.

The assessment conducted by the DOE is by means of review of the documented procedures, interviews with relevant personnel, project plans and physical inspections of the proposed CDM project activity site.

5.2.8 Project Management Planning

The operational and management structure that the project operator will implement in order to monitor emission reductions was described in the PDD. It clearly indicates the responsibilities for and institutional arrangements for data collection and archiving

5.2.9 Crediting Period

The project activity will use a renewable crediting period and the length of the first crediting period is 7 years according to the PDD.

The starting date of the 1st renewable crediting period of the proposed CDM project is 2009-11-01 or the date of registration, whichever is later. This is assessed as appropriate.

5.2.10 Environmental Impacts

The project participants have undertaken an analysis of environmental impacts and an environmental impact assessment in accordance with procedures which is required by the host Party of China. Summarized conclusion of the Environmental Impact Assessment Report is described in the PDD.

Project participants have submitted to the DOE documentation on the analysis of the environmental impacts of the project activity^{/EIA/}, there's no transboundary impact and no impacts are considered significant by the project participants or the host Party. The EIA has been approved^{/AEIA/} by Environmental Protection Bureau of Hebei Province in July 2007.

The DOE confirm by means of document review and interview with local government officials, that the project participants have undertaken an environmental impact assessment^{/EIA/} which is required by the host Party.

5.2.11 Comments by Local Stakeholders

Local stakeholders have been invited by the PPs to comment on the proposed CDM project activity in March to April 2008 by means of questionnaire survey and meeting, it is prior to the publication of the PDD on the UNFCCC website. Brief description of how comments by local stakeholders have been invited and compiled was presented in the PDD.

The DOE confirm by means of document review and interviews with local stakeholders that:

- a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity have been invited. There's no resident who can be directly influenced by the proposed project^{/EIA/} and the representatives of local government and residents/workers at nearest reach were surveyed in form of questionnaire;
- b) The summary of the comments received as provided in the PDD is complete^{/SCD/};
- c) The project participants have taken due account of any comments received and have described this process in the PDD. Land use and noise from the wind turbines during operation was worried by a few local residents through the stakeholder consultation^{/SCD/} and it is confirmed by the approved Environmental Impact Assessment Report^{/EIA/} that there will be no impact to distant residents and the temporal occupied land will be recovered after construction period.

6 VALIDATION OPINION

China Resources Wind Power (Chengde) Co, Ltd. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Hebei Chengde Yudaokou Windfarm 48MW project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 9 Corrective Action Requests (CARs) and 10 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (China) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of China vide the Letter of Approval (HCA) dated 2008-9-22 (no. 1431). LOA from DNA of Switzerland is issued on 2009-5-25.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 726,544 tCO₂e are most likely to be achieved within the (1st renewable) crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Shanghai, 2009-08-03



LI Yong Jun
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2009-08-03



Rainer Winter
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/AEIA/	Approval of Environmental Impact Assessment, date: 23/07/2007 (Document No.: Jihuanbiao [2007] 208#)
/AFSR/	Approval of Feasibility Study Report, date: 21/08/2007 (Document No.: Jifagaiwaizi [2007] 1258#)
/CDA/	CDM Development Agreement, date: Dec. 2007 <i>(pending)</i>
/CMD/	CDM Management decision 1. Board decision of CDM investigation, date: 22/07/2007; 2. Board decision of investing on the project with CDM, date: 10/11/2007 <i>(pending)</i>
/EIA/	Environmental Impact Assessment Report, date: June. 2007
/EPA/	Equipment Purchase Agreement 1. Wind turbine purchase contract, date: 17/01/2008; 2. Hub purchase contract, date: 29/04/2008;
/ERC/	Emission Reduction Calculation spreadsheet <i>(pending)</i>
/ERPA/	Emission Reductions Purchase Agreement, date: 09/06/2008
/FSR/	Feasibility Study Report 1. Version I (2MW wind turbine), date: April 2007 2. Version II (750kW wind turbine), date: October 2007
/HCA/	Host Country Approval date: 22/09/2008, No.1431- <i>(pending)</i>
/IRR/	IRR Calculation spreadsheet
/LOA/	Swiss DNA Approval, date:25/05/2009 <i>(pending)</i>
/MOC/	Modalities of Communication <i>(pending)</i>
/PCC/	Project Construction Contract 1. Main construction contract, date: 07/08/2008; 2. Transformer substation construction contract, date: 13/07/2008; 3. Summary of accounting of the project <i>(pending)</i>

Reference	Document
/PDD/	Project Design Document entitled "Hebei Chengde Yudaokou Windfarm 48MW project" 1. Version 01 (hosted for public comments during 06/11/2008 to 05/12/2008); 2. Version 03, date: 03/08/2009
/SCD/	Stakeholder consultation documentation 1. Stakeholder Consultation Questionnaires, date:18/04/2008; 2. Summary of Questionnaires (pending)
/TL/	Tariff Letter of Wind farm projects from Price Bureau of Hebei Province, date: 26/06/2007 (Document No.: Ji Jia Guan Zi (2007) 54#)

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM2/	ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources (Version 07)
/AET/	1. Approval of on-grid electricity tariff of renewable power projects, issued by NDRC on 09/06/2007 (Document No.: Fa Gai Jia Ge [2007] 1260#) 2. Approval of on-grid electricity tariff of wind power projects, issued by NDRC on 23/07/2008 (Document No.: Fa Gai Jia Ge [2008] 1876#)
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/CWPR/	China Wind Power Report 2008
/DPI/	TÜV Nord Database of Project Information
/EFC/	Baseline Emission Factors of Regional Grids in China 2007
/GAIA/	Guidance on the Assessment of Investment Analysis (Version 02.1)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GLS/	Glossary of CDM terms
/HVR/	Validation Report of Hebei Haixing 49.5 MW Wind Farm Project, date: Aug. 2008
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National

Reference	Document
	Greenhouse Gas Inventories, 2000
/IPCC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/IREA/	Interim Rules on Economic Assessment of Electric Engineering Technology Retrofit Projects, Stat Power, 2002
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/PDD-T/	Project Design Document Form (CDM PDD) - Version 03
/SCPN/	State Council public notice [2002] No.6
/TA/	Tool for the demonstration and assessment of additionality (Ver. 5.2).
/TEF/	Tool to calculate the emission factor for an electricity system (Ver. 01.1)
/VVM/	Validation and Verification Manual (Version 1, Annex 3; EB 44)
/WIC/	Wind farm Installation in China 1. Wind farm Installation in China 2007 2. Wind farm Installation in China 2008

Table 7-3: Websites used

Reference	Link	Organisation
/dna/	http://cdm.ccchina.gov.cn/english/index.asp	National Development and Reform Commission (DNA of China)
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/cwea/	http://www.cwea.org.cn/	Chinese Wind Energy Association
/gov/	http://english.gov.cn/	The Central People's Government of P. R. China
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications

Reference	Link	Organisation
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	LIN Weiping	China Resources Wind Power Co., Ltd. / CDM Manager
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	GUO Haitao	China Resources Wind Power (Chengde) Co., Ltd./ Financial Manager
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	HAN Ruisen	China Resources Wind Power (Chengde) Co., Ltd./ Business Manager
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	WANG Shujuan	Beijing Jipeng Investment Information & Consultant Ltd. / Project Manager
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	LIU Shuai	Chengde Development and Reform Commission / Official
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	ZONG Xianqing	Chengde Environmental Protection Bureau / Official

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A. General Description of Project Activity				
A.1. Approval <i>The written approval of the parties involved is a mandatory requirement</i>				
A.1.1. Has the project provided written approvals of all parties involved? <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i>	At the time of the (pre-) validation the letters of approval of all involved parties are pending (China, Switzerland).	/HCA/ /LOA/	CAR A1	OK
A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website? <i>Indicate the means of validation employed to assess the authenticity</i>	The DNA of China is National Development and Reform Commission (NDRC). The DNA of Switzerland is Ministry of Climate and Energy. Please refer to CAR A1.	/HCA/ /LOA/ /unfccc/	CAR A1	OK
A.1.3. Do the written approvals confirm that the	Please refer to CAR A1.	/HCA/	CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
corresponding party is a Party to the Kyoto Protocol?		/LOA/	A1	
A.1.4. Do the written approvals confirm that the participation is voluntary?	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.1.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country?	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration?	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6?	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other?	The name of project participant (host entity) is incorrect, revision is necessary.	/PDD/	GLA2	OK
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i>	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.1.10. Are any other project participants approved but not listed in the PDD?	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A.2. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? <i>Contain a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i>	Please refer to CAR A1.	/HCA/ /LOA/	CAR A1	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? <i>Describe the other positive aspects not related to GHG emission reduction on the environment</i>	The description of how the project activity benefit sustainable development is insufficient, more convincing justification should be provided.	/PDD/ /IM01/	GL-A3	OK
A.3. PDD editorial aspects <i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i>				
A.3.1. Has the latest version of the PDD form been applied?	The latest version of the CDM-PDD template (version 03) has been applied.	/PDD/ /PDD-T/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)?</p>	<p>The technological description in A.4.3 of the PDD contains several problems:</p> <ol style="list-style-type: none"> 1. Newly installed capacity in the power grid (NCPG) which would be the existing scenario prior to the implementation of the project activity can not reach the conclusion that the electricity system is dominated by fossil fuel fired power plants; 2. Several technological parameters of equipments that would be adopted by the project activity are inconsistent with the Equipment Purchase Contract, such as cut-in speed, rated speed and hub height; 3. description of monitoring equipments and their location should be clearly described; <p>The latest version of PDD Guideline (Ver. 07, EB41/Annex 12) should be followed to revise the PDD, corresponding summary in A.2 of the PDD should also be revised.</p> <p>The flow diagram of the project boundary should be more clearly delineated to represent the emissions sources and gases included in the project boundary.</p>	<p>/PDD/ /GCP/ /EPA/</p>	<p>CAR A4</p> <p>CL-B4</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A.4. Technology to be employed <i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
<p>A.4.1. Does the PDD contain a clear, accurate and complete project description?</p> <p><i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i></p> <p><i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i></p> <p><i>Describe the process undertaken to validate the accuracy and completeness of the project description.</i></p> <p><i>Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>	Please refer to CAR A4.	/PDD/ /EPA/ /IM01/	CAR A4	OK
<p>A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description</p>	Please refer to CAR A4.	/PDD/ /EPA/ /IM01/	CAR A4	OK
<p>A.4.3. In case the project involves alteration of the</p>	The project is a newly constructed wind farm and does not	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation? <i>Describe the steps taken to validate this issue.</i>	involve alteration of the existing installation or process, which has been confirmed during site visit by the validation team.	/IM01/		
A.4.4. Does the project design engineering reflect current good practices? <i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i>	The project activity uses 750kW wind turbines to generate electricity, the wind turbine type is main stream and commonly used technology in the host country, and the market share of the type of wind turbines is about 28%.	/PDD/ /EPA/ /CWPR/ /IM01/	OK	OK
A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? <i>Describe the process undertaken to assess the state of the art technology.</i>	The project activity doesn't use state of the art technology, i.e. 1.5MW wind turbines or above capacity, in the host country of China.	/PDD/ /EPA/ /CWPR/ /IM01/	OK	OK
A.4.6. Does the project make provisions for meeting training and maintenance needs? <i>Describe the process undertaken to assess the maintenance and training needs.</i>	The training and maintenance needs would be satisfied by the host company of the proposed project, the information is included in the monitoring plan and confirmed by interview with the technical staff during the site visit.	/PDD/ /EPA/ /IM01/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
A.5. Small scale project activity <i>It is assessed whether the project qualifies as small-scale CDM project activity</i>				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II? <i>Describe the steps taken to validate this issue.</i>	According to the applied methodology ACM0002 Version 07, this project is a large-scale CDM project activity since its installed capacity is 48MW, thus is not small scale.	/PDD/ /ACM2/	N/A	N/A
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? <i>Describe the steps taken to validate this issue. Check, if applicable the expiry dates of the applied methodology.</i>	-	-	-	-
A.5.3. Is the small scale project activity not a debundled component of a larger project activity? <i>Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB 36, Annex 27).</i>	-	-	-	-
B. Project Baseline, Additionality and Monitoring Plan				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof? <i>Describe the steps taken to validate this issue.</i>	The project activity applies the approved consolidated methodology ACM0002 (version 07) which is valid until 4 Dec. 2008. The project meets all applicability criteria given in the applicability section of ACM0002. At the time of publishing the PDD for public comments (i.e. 2008-11-06) version 7 of ACM0002 was valid (from 14 Dec. 2007 to 04 Dec. 2008).	/PDD/ /ACM2/ /unfccc/	OK	OK
B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website? <i>Describe the steps taken to validate this issue.</i>	The applied CDM methodology ACM0002 (version 07) is identical with the version available on the UNFCCC website.	/PDD/ /ACM2/ /unfccc/	OK	OK
B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? <i>Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.</i>	<p>According to ACM0002 (version 07), the methodology is applicable to grid-connected renewable power generation project activities including installation of wind power plant/unit. The proposed project is applicable since it is an installation of a new wind power plant.</p> <p>The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available; this can be assured since the regional grids in China are defined by Chinese DNA^{EFC} and thus information on the characteristics of the grid is available.</p>	/PDD/ /ACM2/ /unfccc/ /dna/ /EFC/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	The methodology is not applicable to the project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity. The project is assured not to involve switching from fossil fuels to renewable energy sources since it is an installation of a new wind power plant.			
B.1.4. Is the project in accordance to every other stipulation or requirement mentioned in all sections of the methodology? <i>Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and /or limitations mentioned in all sections of the approved methodology selected.</i>	The project is in accordance to every requirement mentioned in all sections of the methodology.	/PDD/ /ACM2/	OK	OK
B.2. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i>				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined? <i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	More detailed geographical information of the project activity should be provided for unique identification. Besides, more illustrative maps should be provided.	/PDD/ /FSR/	GLA5	OK
B.2.2. Are all sources and GHGs included in the	All emission sources and GHGs included in the project	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>project boundary as required in the applied methodology?</p> <p><i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	boundary are as required in the ACM0002.			
<p>B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?</p> <p><i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i></p>	The applied methodology ACM0002 doesn't allow wind power projects to choose whether a source and/or gas are to be included.	/PDD/ /ACM2/	N/A	N/A
<p>B.3. Baseline Identification</p> <p><i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i></p>				
<p>B.3.1. What possible baseline scenarios have been considered?</p> <p><i>Fill in all alternatives in table A-2.</i></p>	<p>The baseline scenario of the proposed CDM project activity is prescribed by the approved methodology ACM0002 and no further analysis is required.</p> <p>According to ACM0002 (version 07), if the project activity is the installation of a new grid-connected renewable power</p>	/PDD/ /ACM2/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<p>plant/unit, the baseline scenario is the following:</p> <p>Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".</p>			
<p>B.3.2. Is the list of alternatives complete?</p> <p><i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i></p>	<p><input checked="" type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted.</p> <p><input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.3. What has been identified as the baseline scenario?</p> <p><i>Describe the chosen BL scenario</i></p>	<p>The baseline scenario is equivalent amount of electricity supplied by the North China Power Grid (NCPG).</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.4. Has the baseline scenario been determined according to the methodology?</p> <p><i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> The determination has been carried out as per the applied methodology.</p> <p><input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>B.3.5. Has any plausible alternative scenario been excluded?</p> <p><i>Describe how it is validated that no plausible alternative scenario has been excluded.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> No plausible baseline scenario has been excluded.</p> <p><input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.6. Has the baseline scenario been determined using conservative assumptions where possible?</p> <p><i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are <u>conservatively interpreted</u> in the PDD.</i></p>	<p><input checked="" type="checkbox"/> The baseline scenario has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.</p> <p><input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?</p> <p><i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p>The baseline scenario of the proposed CDM project activity is prescribed by the approved methodology ACM0002 and no further analysis is required.</p>	<p>/PDD/ /ACM2/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? <i>Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.</i>	The baseline scenario of the proposed CDM project activity is prescribed by the approved methodology ACM0002 and no further analysis is required.	/PDD/ /ACM2/	OK	OK
B.4. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>				
B.4.1. Methodology				
B.4.1.1. Did the additionality justification follow the requirements of the applied methodology and/or methodological tools? <i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools.</i>	According to ACM0002 (version 07), the additionality of the project activity shall be demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the CDM Executive Board, which is available on the UNFCCC CDM website. Version 5.2 of Tool for the demonstration and assessment of additionality is referred in the PDD. The latest approved versions of the referred tools should be applied to the project activity.	/PDD/ /ACM2/ /TA/	GL-B2	OK
B.4.2. Consideration of CDM before project start				
B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?	A more detailed timeline of CDM actions in parallel with implementation of the proposed CDM project activity should be described in section B.5 of the PDD to show the serious	/PDD/ /GLS/ /GCP/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>Describe the steps taken to validate this issue.</i>	consideration of the CDM in the project decision making and implementation process. Related documented evidences should be forwarded to the DOE to substantiate the information provided especially as the type change of wind turbines affects both investment analysis and emission reductions.	/EPA/ /PSD/		
B.4.2.2. In case the project start date is before commencing of validation, was the incentive from the CDM seriously considered and are details given in the PDD? <i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i>	The project start date is before commencing of validation. Please refer to CAR B3.	/PDD/ /TA/ /EPA/ /PCC/ /CMD-2/ /IM01/	CAR B3	OK
B.4.2.3. How and when was the decision to proceed with the project taken? <i>Describe the steps taken to validate the starting date.</i>	Please also refer to CAR B3.	/PDD/ /TA/ /EPA/ /PCC/ /GLS/ /IM01/	CAR B3	OK
B.4.2.4. Is the project start date consistent with the available evidences? <i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i>	Please also refer to CAR B3.	/PDD/ /GLS/ /EPA/ /PSD/ /CMD-2/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.4.2.5. Was the decision to proceed with the project taken by a person which has the authority to do so? <i>Describe the steps taken to validate this issue.</i>	The decision to proceed with the project was taken by the Board of Directors of the proposed project which has the authority to do so.	/PDD/ /CMD-2/ /IM01/	OK	OK
B.4.2.6. How was the CDM involved in the decision making process? <i>Describe the steps taken to validate this issue.</i>	Please also refer to CAR B3.	/PDD/ /FSR/ /CMD-2/ /IM01/	CAR B3	OK
B.4.2.7. Can the CDM involvement in the decision assessed as serious? <i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i>	Please also refer to CAR B3.	/PDD/ /FSR/ /CMD/ /IM01/	CAR B3	OK
B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2)				
B.4.3.1. Have all realistic alternatives been identified to the project? <i>Describe whether the list of alternatives is complete. Describe how it is validated that the alternatives are realistic.</i>	Yes, a complete list of four credible alternatives has been identified to the project activity in the PDD. The baseline scenario of the proposed CDM project activity is prescribed by the approved methodology ACM0002 and alternative approach is unnecessary.	/PDD/ /FSR/	OK	OK
B.4.3.2. Contains the list of alternatives at least the status-quo situation and the project not undertaken as a CDM project? <i>Describe the steps taken to validate this issue.</i>	Yes, the list of alternatives contains the status-quo situation and the project not undertaken as a CDM project. The status-quo situation to the proposed project activity is assessed as supply equivalent amount of electricity by the	/PDD/ /FSR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	grid.			
B.4.3.3. Do all identified alternatives comply with applicable regulation? <i>Describe the steps taken to validate this issue. Refer to the regulations.</i>	All identified alternatives except the alternative of supply equivalent electricity by thermal power plant are comply with national regulation ^{gov} , in that thermal power plants with capacity less than 135MW are prohibited to construct in areas covered by the large grids.	/PDD/ /FSR/ /gov/	OK	OK
B.4.4. Investment analysis Step 2 <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additional details of the the calculation parameters..</i>				
B.4.4.1. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? <i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i>	Benchmark analysis is selected and deemed to be appropriate, simple cost analysis is not applicable because the project activity generates electricity sales revenues other than CDM related economic benefits. The alternative to the project activity is the supply of electricity from a grid which is not to be considered an investment, thus benchmark approach is considered as appropriate.	/PDD/ /TA/	OK	OK
B.4.4.2. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? <i>Describe the steps taken to validate this issue.</i>	There're several problems exist in investment analysis of the project: 1. there's another version of FSR with project design using 2MW wind turbines, it is required to clarify which version of FSR is the basis of investment decision; 2. it is required to justify how to use tariff of 0.3504 RMB/kWh to calculate the IRR and its appropriateness;	/PDD/ /IRR/ /FSR/ /GAIA/	CAR B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	<p>3. the sources of all parameters used in IRR calculation and links in the spreadsheet should be given so that the result can be reproduced;</p> <p>4. the income tax calculation is inconsistent with the FSR;</p> <p>5. the O&M cost should be transparently calculated in the IRR spreadsheet;</p> <p>The <i>Guidance on the Assessment of Investment Analysis</i>^{/GAIA/} from EB41 Annex 45 should be followed regarding the problems listed above.</p>			
<p>B.4.4.3. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p><i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	<p>Yes, the period chosen for the investment analysis is 20 years and it reflects the technical lifetime of the project activity. 20 years is also the technical lifetime of main equipments^{/EPA/} (wind turbines).</p> <p>The project IRR calculations reflects the period of expected operation of the underlying project activity (technical lifetime) and therefore fair value is not applicable to the project.</p> <p>Documents such as FSR, equipment technical agreement^{/EPA/} and IRR calculation were utilised in the course of review and are assessed appropriate regarding the 20 years of assessment period.</p>	/PDD/ /GAIA/ /IRR/ /EPA/	OK	OK
<p>B.4.4.4. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p><i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential</i></p>	<p>The project IRR calculations reflects the period of expected operation of the underlying project activity (technical lifetime) and therefore neither fair value nor book value need to be considered to the project.</p>	/PDD/ /GAIA/ /IRR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>mismatches between regulations and the approach applied for calculating the fair value.</i>				
B.4.4.5. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?	The project IRR calculations reflects the period of expected operation of the underlying project activity (technical lifetime) and therefore neither fair value nor book value need to be considered to the project.	/PDD/ /GAIA/ /IRR/	OK	OK
B.4.4.6. Are depreciation and other non-cash related items added back to net profits for the purpose to calculate the financial indicator?	Residue value and fluid capital have been added back to the cash inflow at the end of 20 years.	/PDD/ /IRR/ /FSR/	OK	OK
B.4.4.7. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons?	The benchmark is a post tax indicator, this is stipulated in the applied Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects ^{/IREA/} .	/PDD/ /IREA/ /FSR/	OK	OK
B.4.4.8. Were the input values used in the investment analysis valid and applicable at the time of the investment decision?	Please refer to CAR B4.	/PDD/ /IRR/ /GAIA/	OK	OK
B.4.4.9. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?	All financing expenditures such as loan repayments and interests are excluded from the cash outflow of project IRR calculation, this is checked by reproducing the IRR.	/PDD/ /IRR/	OK	OK
B.4.4.10. In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow?	Not applicable since project IRR rather than equity IRR is selected by the proposed project.	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.4.4.11. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?	The chosen benchmark type is project IRR (after tax) is appropriate for the calculated IRR. And the benchmark rate is widely applied in power industry of China.	/PDD/ /FSR/ /IREA/	OK	OK
B.4.4.12. Is the benchmark value suitable for the project activity?	Yes, the benchmark rate of 8% is suitable for the project activity, this is also confirmed by the FSR.	/PDD/ /IRR/ /FSR/	OK	OK
B.4.4.13. In case of internal benchmark: Is it ensured that the project cannot be developed by other developers than the PP?	Internal company benchmark is not applied in the project activity.	/PDD/	N/A	N/A
B.4.4.14. In case of internal benchmark: Was the benchmark consistently used in the past for similar projects with similar risks?	Internal company benchmark is not applied in the project activity.	/PDD/	N/A	N/A
B.4.4.15. Was sensitivity analysis appropriately done by the project participants? Pl. assess and determine under what conditions variations in the result would occur and likelihood of these conditions.	Explanation of the possibility that variations in the result of the project IRR would occur, and the likelihood of these conditions should be provided in the sensitivity analysis, especially considering wind turbine type has changed from 2MW to 750kW in the process of CDM consideration.	/PDD/ /GAIA/	CAR B5	OK
B.4.5. Barrier analysis Step 3 or SSC additionality assessment				
B.4.5.1. Are there any barriers given which have a clear and definable impact on the profitability of the project?	Not applicable.	-	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
B.4.5.2. How is it justified and evidenced that the barriers given in the PDD are real?	Not applicable.	-	N/A	N/A
B.4.5.3. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity?	Not applicable.	-	N/A	N/A
B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)				
B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?	It is requested to justify how similar projects are defined and why similar and operational projects other than CDM project activities have been undertaken in the defined region such as Hongsong and Damanjing project.	/PDD/ /GAIA/ /WIC/	CAR B6	OK
B.4.6.2. To what extent similar projects have been undertaken in the relevant region?	Refer to CAR B6.	/PDD/ /GAIA/ /WIC/	CAR B6	OK
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?	Refer to CAR B6.	/PDD/ /GAIA/	CAR B6	OK

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Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
	Revision is necessary.			
<p>B.5.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p><i>Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	Refer to CAR B7.	/PDD/ /ERC/ /TEF/	CAR B7	OK
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	Project emissions are not considered by the proposed project according to the methodology.	/PDD/ /ACM2/	N/A	N/A
<p>B.5.4. Are all data and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?</p> <p><i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i></p>	<p>Yes, the emission coefficient (CM) will not be monitored throughout the crediting period of the proposed CDM project activity and will remain fixed throughout the crediting period since ex-ante option is selected.</p> <p>Please refer to CAR B7.</p>	/PDD/ /ERC/ /TEF/	CAR B7	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>B.5.5. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable?</p> <p><i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i></p>	<p><input type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative.</p> <p><input checked="" type="checkbox"/> The following mistakes have been identified in this context:</p> <p>The description of measurement methods and procedures of EG_y in B.7.1 of the PDD is insufficient and unclear, besides, the parameter EG_{net} (net electricity supplied to grid) and EG_{export} should also be defined as monitored parameters and listed in table B.7.1 of PDD for conservative consideration.</p>	/PDD/ /ERC/ /TEF/	CAR B9	OK
<p>B.5.6. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p>The emission reductions are real, measurable and give long-term benefits related to the mitigation of climate change.</p> <p>In the course of validation of the baseline determination, monitoring approach, and ER calculation including respective input values have been reviewed.</p>	/PDD/ /ERC/	OK	OK
<p>B.6. Monitoring of Emission Reductions</p> <p><i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i></p>				
<p>B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?</p> <p><i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i></p>	<p>Some formulae and parameters used in emission factor calculation are inconsistent with that defined in Tool to calculate the emission factor for an electricity system, e.g. equation (1), $F_{i,j,y}$ and NCV_i, and information of data and parameters that are available at validation in B.6.2 of the PDD are inappropriate, such as $CAP_{m,i,y}$ and $EF_{BPCT,i}$.</p>	/PDD/ /ACM2/	CAR B9	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p><i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>	<p>Revision is necessary.</p> <p>Refer to CAR B9.</p>			
<p>B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan in accordance with the requirements of the applied methodology?</p> <p><i>Assess whether the provided information for all parameters w.r.t.</i></p> <ul style="list-style-type: none"> a) <i>Label (name of the data / parameter)</i> b) <i>data unit</i> c) <i>description</i> d) <i>source of data</i> e) <i>measurement equipment / method / procedure</i> f) <i>monitoring frequency</i> g) <i>QA/QC procedures</i> <p><i>are appropriately described and in compliance with the requirements of the methodology.</i></p>	<p>The description of monitoring plan in B.7.2 of the PDD is insufficient in the following aspects:</p> <ol style="list-style-type: none"> 1. responsibility of each part of monitoring management structure should be described clearly and keep consistent throughout the monitoring plan; 2. monitored parameters and monitoring equipments are better to be described referring to power connection diagram; 3. measurement method and procedures of monitored parameters should be detailed described, especially if the project activity will be jointly monitored with other potential projects; 4. review of reported results/data and procedures for avoiding erroneous measurement should be included in QA/QC; 5. all data collected as part of monitoring should be kept at least for 2 years after the end of the crediting period according to the methodology. <p>Revision to the PDD is necessary.</p>	<p>/PDD/ /ACM2/</p>	<p>GL B10</p>	<p>OK</p>
<p>B.6.3. Have all equations necessary for ex-post emission reduction calculation been described clearly and in line with the methodology?</p>	<p>Only ex-ante calculation is applied by the project activity, ex-post emission reduction calculation is not applicable.</p>	<p>/PDD/ /ACM2/</p>	<p>N/A</p>	<p>N/A</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>				
<p>B.6.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity?</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	Please refer to CL B10.	/PDD/ /ACM2/	GL B10	OK
<p>B.6.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be reported ex-post and verified?</p> <p><i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	Please refer to CL B10.	/PDD/ /ACM2/	GL B10	OK
<p>B.6.6. Are procedures identified for data management?</p> <p><i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process</i></p>	Please refer to CL B10.	/PDD/ /ACM2/	GL B10	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>performance documentation</i> <i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i>				
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<p>C.1. Is the project's starting date clearly defined and evidenced?</p> <p><i>Check whether the starting date is correct. Apply the definition of the project starting date as per the "Glossary of CDM terms".</i></p>	<p>The starting date of the project activity stated in the C.1.1 of the PDD is incorrect according to the Equipment Purchase Contract, and a description of how the start date has been determined, and a description of the evidence available to support this start date should be provided. Revision is required.</p>	<p>/PDD/ /GLS/</p>	<p>CAR G1</p>	<p>OK</p>
<p>C.2. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p>The project's operational lifetime is clearly defined as 20 years in the PDD as per the feasibility study of the project^{/FSR/}, this has been reflected throughout the whole PDD incl. the financial assessment. This lifetime is consist with the technical specifications of main equipment purchase agreement^{/EPA/}.</p>	<p>/PDD/ /EPA/ /GAIA/ /FSR/</p>	<p>OK</p>	<p>OK</p>
<p>C.3. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p>The starting date of the crediting period in the C.2.1 of the PDD is unreasonable. Revision is required.</p>	<p>/PDD/ /unfccc/</p>	<p>CAR G2</p>	<p>OK</p>
<p>D. Environmental Impacts</p> <p><i>Documentation on the analysis of the environmental</i></p>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? <i>Check the host party regulations, regarding EIA.</i>	The host party (China) requests an Environmental Impact Assessment (EIA) for construction project activities.	/EIA/ /gov/ /IM01/	OK	OK
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? <i>Check the EIA and its approval, if applicable.</i>	The Environmental Impact Assessment ^{/EIA/} has been carried out and been approved by local government.	/EIA/ /AEIA/	OK	OK
D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation? <i>Check the PDD (section D). Check whether the project will create any adverse environmental effects.</i> <i>Check the relevant national environmental legislation.</i>	A more detailed analysis of the environmental impacts should be provided according to the approved Environmental Impacts Assessment Report.	/EIA/ /AEIA/	OK	OK
D.1.4. Are transboundary environmental impacts considered in the analysis? <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i>	No transboundary environmental impact is considered in the analysis of the proposed project.	/EIA/ /AEIA/	OK	OK
E. Stakeholder Comments <i>The DOE should ensure that stakeholder comments</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (Means and results of assessment)	Ref.	Draft Concl.	Final Concl.
<i>have been invited with appropriate media and that due account has been taken of any comments received.</i>				
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	Yes, relevant local stakeholders have been invited to consultation in March to April 2008 and this is prior to the publication of the PDD.	/PDD/ /SCD/ /IM03/	OK	OK
<p>E.2. Can the local stakeholder consultation process be assessed as adequate?</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	Detailed information of when and how the project participant investigated stakeholders' comments should be provided in a transparent manner in E.1 of the PDD.	/PDD/ /SCD/ /IM03/	CL-E1	OK

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification

<input type="checkbox"/>	Baseline is not identified
<input checked="" type="checkbox"/>	Baseline is prescribed by the approved methodology
<input type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	Inline with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		-	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		-	<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		-	<input checked="" type="checkbox"/>	

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Total investment static	42,800	10 ⁴ RMB	Feasibility Study Report Version II / page 90	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The unit cost of the proposed project is 8,916 RMB/kW (about 900 €/ kW).</p> <p>According to CHINA WIND POWER REPORT 2008^{CWPR/} published by China Environmental Science Press in Oct. 2008, unit cost of wind farms vary from 800 to 1150 € / kW (page 5).</p> <p>According to Electric Power Supervision Report 2007^{EPS/} published by State Electricity Regulatory Commission (SERC) in April 2008, average unit cost of wind farm projects in China is 9266 RMB/kW (page 20). The value is below the average level and can be regarded as reasonable and conservative.</p> <p>The total static investment needs to decrease by 14% so that the FIRR will exceed the benchmark. However, according to the</p>

							summary of accounting of the project ^{/PCC-3/} , more than 87% of the investment has been contracted. The project construction is still undergoing during the validation, it is convincing that more investment will happen in the future. Therefore, it is not likely that the IRR will cross the benchmark.
Net electricity supplied to Grid	98,400	MWh	Feasibility Study Report Version II / page 90	/FSR-2/	☒	☒	<p>The annual utilization hour is calculated as 2050 hours, and equivalent power load factor is 0.234.</p> <p>The annual power generation is calculated by professional engineering software based on meteorological statistic analysis of long term measurements of wind resources conditions in the specific project site.</p> <p>According to CHINA WIND POWER REPORT 2008^{/CWPR/} published by China Environmental Science Press in Oct. 2008, utilization hours of wind farms in China vary from 1325 hours to 2401 hours, the average value through out the host country is about 1787 hours According to TÜV NORD's internal statistical data on wind farms in Hebei Province^{/DPI/}, the utilization hours of wind power projects employ similar technology (750kW wind turbine) in Hebei Province vary from 1900 to 2404 hours, and the average level is 2010 hours.</p> <p>Annual power output of the proposed project is well within the typical range and around the average in the region, therefore is assessed as reasonable.</p>

							<p>The plant load factor of 0.234 defined ex-ante in the CDM-PDD is verified by the DOE. It is in line with the following: (a) The plant load factor is determined by a third party design institute (Hebei Electric Power Design & Research Institute) which was contracted by the project participants; (b) The plant load factor was provided to the government for applying implementation approval^{/AFSR/}.</p> <p>Furthermore, it is need to increase average power generation by 15% to 2360 utilization hours for the whole lifetime of 20 years for the IRR to exceed benchmark. On the contrary, the statistic data shows that average utilization hours of wind power projects in China is 1787 hours in 2007^{/CWPR/}, and is more than 10% lower than the average level of 2000 hours in feasibility study (page 22). This is mainly because of overestimated wind resources utilizable and operation & maintenance reasons.</p> <p>In sum, it is confirmed by the DOE that 2360 utilization hours needed by the IRR to reach the benchmark is not likely to happen.</p>
Annual O&M costs	751	10 ⁴ RMB	Feasibility Study Report Version II / page 69, 92	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The O&M consists of salary & welfare fee, repair cost, material fee, insurance and other cost.</p> <p>The repair cost amounts to 0.5% of fixed assets in the first 3 years, and increase by 0.08% annually in the following years.</p> <p>The salary is calculated as the number of</p>

							<p>employees (24) multiplied with the average annual salary of 30,000 RMB per person and the welfare fee (41% of salary) is calculated in line with policy in the host county.</p> <p>Material cost and other cost are calculated as 5 and 10 RMB/kW per year separately;</p> <p>Insurance fee amounts to 0.25% of fixed assets through out the project lifetime.</p> <p>All the above parameters are calculated in compliance with the requirements defined in the <i>Economy Evaluation Method and Parameter for Constructing Projects</i> issued by NDRC and Construction Ministry of China.</p> <p>The average annual O&M cost is 1.76% of fixed assets, considering the increase of material price and labor cost in China, it can be confirmed that the value is estimated reasonable and conservative.</p> <p>And even if cut the O&M cost by 80%, the benchmark will still not be crossed, this is not likely to happen.</p>
Electricity tariff (VAT Incl.)	0.54	RMB/k Wh	Feasibility Study Report Version II / page 71	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The tariff is derived from the FSR which refers to the NDRC regulation on electricity tariff of wind power projects^{/AET/}. In the tariff policy from NDRC, wind power projects in Chengde area of Hebei Province would apply the tariff of 0.54 RMB/kWh (Incl. VAT) since July 2007. The FSR of the proposed project was finalized in Oct. 2007. Therefore the national policy must be applicable at that time.</p>

							<p>According to the latest approved on-grid tariff for wind projects issued by the NDRC on 23/07/2008 and CHINA WIND POWER REPORT 2008^{/CWPR/} published by China Environmental Science Press in Oct. 2008, tariff for all wind power projects in north Hebei province is 0.54 RMB/kWh (Incl. VAT) for the first accumulated 30000 utilization hours, and local average on-grid tariff of coal-fired power plant for the following operational years. The project activity applies 0.54 RMB/kWh throughout the lifetime for conservative reason.</p> <p>The tariff of 0.54 RMB/kWh (Incl. VAT) has been approved by NDRC^{/AET-3/} on 20 July 2009 as bus-bar on grid electricity tariff for wind power projects in 2nd wind resources area in China. In this newly published national policy, wind power is classified as four types according to wind resources availability, and four bus-bar on grid electricity tariff levels are given. Chengde city of Hebei Province belongs to the 2nd type of area, and therefore must apply 0.54 RMB/kWh. This further confirms that the tariff used as input value of financial analysis is convincing and consistent with national policies.</p> <p>The tariff needs to increase by 15% to reach 0.62 RMB/kWh (Incl. VAT) so that the IRR will cross the benchmark; this is unlikely in the regulatory framework of China.</p> <p>In conclusion, applying 0.54 RMB/kWh</p>
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							throughout the lifetime is appropriate and conservative at the time of the investment decision.
Value added tax (VAT)	8.5	%	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The value is derived from the document <i>Notice of Value added Tax Policy Regarding Products Using Certain Synthesized Resources and Other Products</i> issued by the Ministry of Finance and the State Administration of Taxation on Dec. 2001 and effective from 1st Jan. 2002 (Finance & Tax [2001] 198#).</p> <p>In the tax policy, VAT half-exemption is available for energy production using wind power, fuel gangue, fuel mud, and oil shale. This policy is favorable compared to commonly used 17% VAT rate and is conservative.</p>
City maintenance & construction tax	1	%	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>1% of VAT, the value is derived from the <i>Interim Regulations on City Maintenance and Construction Tax of the People's Republic of China</i> (promulgated on Document [1985] No. 19 of the State Council on Feb. 8, 1985).</p> <p>The tax rate is mandatory and applicable to rural area since 1985.</p>
Educational surtax	4	%	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>3% of VAT, the value is derived from the document <i>Decision of the State Council on Amending the Interim Provisions on the Collection of Educational Surcharges</i> (promulgated on Document <i>Order of the State Council No. 448</i> on August 20, 2005) which is effective since 2005.</p> <p>Another 1% of VAT is regulated by local government.</p>

Income tax	25	%	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The value is derived from <i>Enterprise Income Tax Law of the People's Republic of China</i> (promulgated on Document Order of the President of the People's Republic of China (No. 63) on March 16, 2007) which is effective since Jan. 1, 2008. The FSR of the proposed project was finalized in Oct. 2007. Therefore the tax rate is applicable at the time of the investment decision.
Depreciation period	15	year	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The value is in line with <i>Provisional Regulations of the People's Republic of China On Enterprises Income Tax</i> issued by State Council and effective from 1st Jan. 1994 to 1st Jan. 2008. It is also in line with the successive law of <i>Enterprise Income Tax Law of the People's Republic of China</i> which is effective since Jan. 1, 2008.</p> <p>The rate is evaluated as integrated and applicable.</p>
Residue value	5	%	Feasibility Study Report Version II / page 69	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The value is in line with <i>Provisional Regulations of the People's Republic of China On Enterprises Income Tax</i> issued by State Council and effective from 1st Jan. 1994 to 1st Jan. 2008. It is also in line with the successive law of <i>Enterprise Income Tax Law of the People's Republic of China</i> which is effective since Jan. 1, 2008.</p> <p>The 5% of residue value of the project activity assets has been included as a cash inflow in the final year at the end of the assessment period.</p>

Installed capacity	48	MW	Feasibility Study Report Version II / page2	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The capacity is approved by local authority and consists with equipment purchase agreement.
Project Lifetime	20	year	Feasibility Study Report Version II / page36	/FSR-2/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The value is proofed by equipment purchase contract.
Benchmark	8	%	Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects	/IREA/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The benchmark of 8% is widely applied in power industry of China.

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis

<input checked="" type="checkbox"/>	No barrier parameters are used for additionality justification			
<input type="checkbox"/>	Assessment of barriers see below			
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	
			<input checked="" type="checkbox"/>	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Com ment No.:	Comment by:	Inserted on:	Subject	Comment ^{*)}	Response validation team ^{*)}	Conclusion (incl. CARs CLs or FARs)

^{*)} In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: APPOINTMENT CERTIFICATES OF TEAM MEMBERS

 CERTIFICATE OF APPOINTMENT Mr. Yong Jun Li born on 1974-03-03 satisfies the requirements as specified in the TÜV NORD JI/CDM CP directives and is hereby appointed as TÜV NORD JI/CDM Assessor The present appointment will terminate on 2010-02-15 Certification registration No. 06 05 01 - 39 Essen, 2007-06-27  Head of TÜV NORD JI/CDM Certification Program of TÜV NORD CERT GmbH	 CERTIFICATE OF APPOINTMENT Mr. Martin Saalmann born on 1976-02-23 satisfies the requirements as specified in the TÜV NORD JI/CDM CP directives and is hereby appointed as TÜV NORD JI/CDM Assessor For the following scopes: 1, 2, 3, 4, 7, 13, 15 The present appointment will terminate on 2011-11-19 Certification registration No. 08 11 01 - 22 Essen, 2008-11-20  Head of TÜV NORD JI/CDM Certification Program of TÜV NORD CERT GmbH	 CERTIFICATE OF APPOINTMENT Mr. Dipl.-Ing. Rainer Winter born on 1963-02-21 satisfies the requirements as specified in the TÜV NORD JI/CDM CP directives and is hereby appointed as TÜV NORD JI/CDM Senior Assessor The present appointment will terminate on 2010-07-05 Certification registration No. 04 02 154-03 Essen, 2007-07-06  Deputy of TÜV NORD JI/CDM Certification Program of TÜV NORD CERT GmbH
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