



VALIDATION REPORT

for the CDM Project Activity

Inner Mongolia China Water Group Huade
Niujaifangzi Wind Farm 49.5MW Project

in
China

Report No. 01 997 9105064985

Version No.06 2012-03-27

TÜV Rheinland (China) Ltd.

I. Project description:

Project title: Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project

Host Country: China

Methodology: ACM0002, Version 12.1.0 ☒ Large Scale ☐ Small Scale

Annual average emission reductions (estimate): 96,159 tCO₂e/yr

GHG reducing measure/technology: Newly built grid-connected wind power plant

Party	Project Participants	Party considered a project participant
China(Host)	China Water Group Huade Wind Power Co., Ltd.	No
United Kingdom of Great Britain and Northern Ireland	Eco-Tec Asia (UK) Ltd	No

II. Validation:

Contract party: Eco-Tec Asia (UK) Ltd

Validation Team:

Role	Full name	Appointed for Sectoral Scopes	Affiliation
Team Leader	Yi Tan	1.2, 13.1	TÜV Rheinland (China) Ltd.
Trainee	Chong Yan	N/A	TÜV Rheinland (Shanghai) Ltd.
Trainee	Patty Tian ¹	N/A	TÜV Rheinland (Shanghai) Ltd.
Trainee	Qing Sun ²	N/A	TÜV Rheinland (Shanghai) Ltd.
Technical Reviewer	Cuiping Deng	1.2, 5.1, 11.1, 12.1	TÜV Rheinland (China) Ltd.

Validation Phases:

- ☒ Desk Review
- ☒ Follow up interviews
- ☒ Resolution of outstanding issues

Validation Status:

- ☐ Corrective Actions / Clarifications Requested
- ☒ Full Approval and Submission for Registration
- ☐ Rejected

III. Validation Report:

Report No.: 01 997 9105064985	Current revision No.: 06	Date of current revision: 2012-03-27	Date of first issue: 2011-08-12
Distribution: <input type="checkbox"/> No distribution without permission from the Client or responsible organizational unit <input checked="" type="checkbox"/> Unrestricted distribution			

Final approval: <input checked="" type="checkbox"/>	Released Date: 2012-04-01 By: Mr. Praveen N Urs	Designated Operational Entity (DOE): TÜV Rheinland (China) Ltd. Unit 707, AVIC Building, No.10B, Central Road, East 3rd Ring Road, Chaoyang District, Beijing, CHINA 100 022 Telefax.: +86 10 6566 6660-288 E-mail: GHG-DOE@bj.chn.tuv.com
--	---	---

Abbreviations

¹ Patty Tian has acted as the trainee since 23 Aug. 2011.

² Qing Sun has acted as the trainee since 16 Sep. 2011.

BM	Build Margin
CAR	Corrective Action Request
CCPG	Central China Power Grid
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
EIA	Environmental Impact Assessment
ERPA	Emission Reduction Purchase Agreement
EPB	Environmental Protection Bureau
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
HCA	Host Country Apporval
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
IRR	Internal Rate of Return
NCPG	North China Power Grid
NCV	Net Calorific Value
NDRC	National Development and Reform Commission
NEPG	Northeast Power Grid
NGO	Non-governmental Organisation
ODA	Official Development Assistance
OM	Operating Margin
PDD	Project Design Document
PPs	Project Participants
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-added Tax
VVM	Validation and Verification Manual

Executive Summary – Validation Opinion

The Validation Team assigned by the DOE (TÜV Rheinland (China) Ltd.) has performed a validation of the 'Inner Mongolia China Water Group Huade Niujiatang Wind Farm 49.5MW Project' in P.R.China on the basis of UNFCCC criteria for Clean Development Mechanism (CDM) projects according to Article 12 of the Kyoto Protocol and subsequent decisions of the CDM Executive Board with regard to CDM modalities and procedures and the application of approved methodologies. The validation report and the validation protocol are summarizing the findings of the validation.

The Validation has been executed in the following steps:

- Desk review of preliminary PDD (Version 1.0, dated 27 May 2011)
- Public stakeholder comment process (14 Jun. 2011 to 13 Jul. 2011)
- On-site visit with stakeholder interviews (6 Jul. 2011 to 8 Jul. 2011)
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report & protocol
- Desk review of revised PDD (Version 1.4, dated 27 Mar. 2012)
- Review of proposed correction and clarifications
- Issue of the final validation report & protocol

The host country of the proposed project is P.R. China. The Letter of Approval (LoA) of voluntary participation, including confirmation by China's DNA - National Development & Reform Commission (NDRC), that the project assists them in achieving sustainable development has been received.

According to the PDD, the project activity is bilateral CDM-project, with United Kingdom of Great Britain and Northern Ireland identified as the Annex I party. The LoA from United Kingdom of Great Britain and Northern Ireland has been received.

The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards China.

The project correctly applies approved consolidated baseline and monitoring methodology ACM0002, Version 12.1.0- *"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"*

And also the project correctly applies the tools as follows:

- *"Tool to calculate the emission factor for an electricity system" Version 02.2.1*
- *"Tool for the demonstration and assessment of additionality" Version 05.2.1*

By generating zero-emission electricity with renewable wind energy, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be on the average 96,159 tCO₂e/yr over the 10 years crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

Adequate monitoring procedures have been identified in the PDD according to the selected Methodology ACM0002, Version 12.1.0. Project operational staff's training record has been checked up to be valid.

Local stakeholders' comments were invited by distributing and collecting questionnaires. Global stakeholders' inputs have also been invited via the UNFCCC website during 14 Jun. 2011 to 13 Jul. 2011. The validation team received general comments received from email address of zhongzhouli8@gmail.com on 14 Jun. 2011/75/, and the comments received are discussed in Section 3.10 below.

The project proponent has resolved all Corrective Action Requests and Clarification Requests as stated in the Validation Report and the Validation Protocol, which has resulted in a revision of the PDD.

In summary, it is Validation Team's opinion that the Inner Mongolia China Water Group Huade Niujiafangzi Wind Farm 49.5MW Project in P.R. China as described in the PDD of Version 1.4, dated 27 Mar. 2012 meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria as well as the baseline and monitoring methodology ACM0002, Version 12.1.0. TÜV Rheinland thus requests the registration of the Project as a CDM project activity .

TABLE OF CONTENTS

1	INTRODUCTION	7
1.1	Objective	7
1.2	Scope	7
2	METHODOLOGY	8
2.1	Desk Review of the Project Design Documentation	8
2.2	Follow-up Interviews with Project Stakeholders	13
2.3	Resolution of Outstanding Issues	14
2.4	Major Changes in the PDD	16
2.5	Internal Quality Control	17
2.6	Validation Team	17
3	VALIDATION FINDINGS.....	18
3.1	Approval and Participation	18
3.2	Project Design Document	20
3.3	Project Description	20
3.4	Baseline and Monitoring Methodology	21
3.5	Additionality	27
3.6	Monitoring	36
3.7	Sustainable Development	38
3.8	Environmental Impacts	39
3.9	Local Stakeholder Consultation	39
3.10	Comments by Parties, Stakeholders and NGOs	39

Appendix A: Validation Protocol

Appendix B: Certificates of Competence

1 INTRODUCTION

The Eco-Tec Asia (UK) Ltd has commissioned the DOE TÜV Rheinland (China) Ltd. to perform a validation of the CDM Project Activity “Inner Mongolia China Water Group Huade Niujiatang Wind Farm 49.5MW Project” in China (hereafter called “the project”). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. The term “UNFCCC criteria” refers to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM Executive Board.

1.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board, including the approved baseline and monitoring methodology. The validation team has, based on the recommendations in the Validation and Verification Manual employed a rules-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

2 METHODOLOGY

The validation consists of the following three phases:

- I a desk review of the project design documents
- II on-site visit and follow-up interviews with project stakeholders
- III the resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

2.1 Desk Review of the Project Design Documentation

The following table outlines the documentation reviewed during the validation:

- /1/ PDD [initially published version], Version 1.0, dated 27 May 2011
- /2/ PDD [Final version], Version 1.4, dated 27 Mar. 2012
- /3/ Host Country Approval: People's Republic of China, National Development and Reform Commission, English Version No.3254, dated 11/2011.
- /4/ Letter or Approval: UK, Environment Agency, Reference No.: EA/co-Tec/05/2012, dated 11/01/2012
- /5/ Modalities of Communication, dated 29/11/2011
- /6/ CDM Validation and Verification Manual (Version 01.2), dated 30/07/2010
- /7/ CDM-PDD - Project Design Document form, Version 3.0, EB25, Annex15
http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/index.html
- /8/ Guidelines Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM), Version 07.0, EB41, Annex12, dated 02/08/2008
- /9/ Approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.1.0, EB 58, Annex 7, dated 26/11/2010
- /10/ Tool to calculate the emission factor for an electricity system, Version 02.2.1, EB 63, Annex 19, dated 29/09/2011
- /11/ Tool for the demonstration and assessment of additionality, Version 05.2.1, EB 39, Annex 10, dated 11/08/2011
- /12/ Guidelines on the assessment of investment analysis, Version 05, EB 62, Annex 5, dated 15/07/2011
- /13/ Guidelines on the demonstration and assessment of prior consideration of the CDM, Version 04, EB 62, Annex 13, dated 15/07/2011
- /14/ Glossary of CDM terms, Version 05, dated 19/08/2009
- /15/ MOC Form, Version 01.4, dated 25/07/2011
- /16/ EB Guidance for request for deviation titled "Application of AM0005 and AMS.I.D in China", Reference No. M-DEV0004,
<http://cdm.unfccc.int/Projects/deviations/87512>
- /17/ Guidelines for the Reporting and Validation of Plant Load Factors, EB 48,

Annex 11, dated 17/07/2009

- /18/ Information Note on the Highest Tariffs applied by the executive board in its decisions on registration of projects in the People's Republic of China, Version 02, EB 61, Para 78, dated 03/06/2011
- /19/ Feasibility Study Report of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project by Inner Mongolia Power Exploration & Design Institute, dated in Feb. 2010
- /20/ Approval of FSR of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project issued by Development and Reform Commission of Inner Mongolia Autonomous Region, Document No. Nei Fa Gai Neng Yuan Zi[2010]2731, dated 09/12/2010
- /21/ Environmental Impact Assessment Report Form of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project by Ulanqab Environmental Protection Science Research Institute, dated 18/07/2010
- /22/ Approval of EIA of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project by Environmental Protection Bureau of Inner Mongolia Autonomous Region, No. Nei Huan Biao [2010]250, dated 20/10/2010
- /23/ Geographical coordinates of 33 wind turbine generators for Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project
- /24/ Approval of grid-connection system design of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, issued by Inner Mongolia Electric Power Group Co., Ltd., Document No. Nei Dian Fa Zhan[2010] 509, dated 06/09/2010
- /25/ Business license of China Water Group Huade Wind Power Co., Ltd., Registration No. 152625000000941, dated 09/03/2007
- /26/ CDM decision of the project by Executive Board of China Water Group Huade Wind Power Co., Ltd., Document No. (2010) Dong Jue Zi 3, dated 08/03/2010
- /27/ CDM Notification Form of the project drafted by China Water Group Huade Wind Power Co., Ltd. on 30/09/2010 and approved by NDRC on 09/10/2010
- /28/ Prior Consideration of the CDM Form received by UNFCCC on 12/10/2010 from website http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html
- /29/ CDM consulting service contract signed between China Water Group Huade Wind Power Co., Ltd. and Eco-Tec Asia (Beijing) Co., Ltd.
- /30/ Emission Reduction Purchase Agreement signed between China Water Group Huade Wind Power Co., Ltd. and Eco-Tec Asia (UK) Ltd,
- /31/ Stakeholders Consulting Meeting Invitation Bulletin of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, dated 08/03/2010
- /32/ Stakeholders questionnaires regarding to the implementation of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, dated 15/03/2010
- /33/ Wind Turbine-Generator Purchase and Service Contract of Inner Mongolia

- China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Xinjiang GoldWind Science & Technology Co., Ltd., dated 30/05/2010
- /34/ Foundation Construction Contract of Wind Tower, Box Transformer and Hoist Platform of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Inner Mongolia No.1 Electrical Engineering Construction Co., Ltd., dated 07/03/2011
- /35/ Wind Power Generator Hoist Contract of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Inner Mongolia No.1 Electrical Engineering Construction Co., Ltd., dated 07/03/2011
- /36/ Tubular Tower Equipment Purchase and Service Agreement of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Inner Mongolia Honggang Machine Plant, dated 30/05/2010
- /37/ 35kV Collecting Cable and Box Transformer Installation Construction Contract of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Gezhouba Group Electric Power Co., Ltd., dated 28/04/2011
- /38/ Box Transformer and Station Transformer Purchase Agreement of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Jiangsu Huapeng Transformer Co., Ltd., dated 09/04/2011
- /39/ 35KV Dynamic Reactive Compensation Assembly Purchase Agreement of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, signed between China Water Group Huade Wind Power Co., Ltd. and Rongxin Electrical & Electronic Co., Ltd., dated 11/06/2011
- /40/ Entrance Road and Maintenance Road Construction Contract, signed between China Water Group Huade Wind Power Co., Ltd. and Inner Mongolia Third Construction Engineering Co., Ltd., dated 09/04/2011
- /41/ 220kV Substation Construction and Installation Agreement signed between China Water Group Huade Wind Power Co., Ltd. and Inner Mongolia Electricity Transportation and Transformation Co., Ltd., dated 28/04/2011
- /42/ Loan Commitment Letter of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project, issued by Three Gorges Financing Co., Ltd., Document No. San Cai Dai Han[2010]0801, dated 20/08/2010
- /43/ IRR calculation spreadsheet of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project
- /44/ ER calculation spreadsheets of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project
- /45/ Notification on Adjusting The Equity Rate of Fixed Assets Investment Projects issued by State Council of China, Document No. Guo Fa [2009]27, dated 25/05/2009

- /46/ Adjustment History of Bank Loan Benchmark Interest Rate issued by Monetary Policy Department, the People's bank of China, dated 08/07/2011
- /47/ Notification Regarding The Requirements on The Construction and Management of Wind Power Projects issued by NDRC of China, Document No. Fa Gai Neng Yuan[2005]1024, dated 04/07/2005
- /48/ Notification Regarding The Effective Date of Residual Value Rate of Fixed Assets issued by State Taxation Ministry of China, Document No. Guo Shui Han[2005]883, dated 14/09/2005
- /49/ Decision On The Reform of Investment System issued by State Council of China, Document No. Guo Fa[2004]20, dated 16/07/2004
- /50/ Notification Regarding Wind Power Electricity Tariff issued by NDRC of China, Document No. Fa Gai Jia Ge[2009]1906, dated 20/07/2009
- /51/ VAT Interim Statute of P.R. China issued by State Council of China, Document No. State Council Decree 538, dated 10/11/2008
- /52/ Notification Regarding Problems for Implementation of VAT Reform issued by Ministry of Finance and State Administration of Taxation, Document No. Cai Shui [2008] 170, dated 19/12/2008
- /53/ Notification Regarding VAT Policies for Resources Integrated Utilization and Other Products issued by both State Financial Ministry and State Tax Bureau of China, Document No. Cai Shui[2008]156, dated 09/12/2008
- /54/ Enterprise Income Tax of P.R. China approved by State Chairman of P.R. China, Document No. State Chairman Decree 63, dated 16/03/2007
- /55/ Implementation Rules of Enterprise Income Tax of P.R. China approved by The Central People's Government of P.R. China, Document No. Central People's Government Decree 512, dated 06/12/2007
- /56/ Notification Regarding Problems for Implementation of The Catalogue of Public Infrastructure Projects Enjoying Income Tax Preference issued by Ministry of Finance and State Administration of Taxation, Document No. Cai Shui[2008] 46, dated 23/09/2008
- /57/ Urban Maintenance & Construction Tax Interim Rules of P. R. China issued by State Council of China, Document No. Guo Fa[1985]19, dated 08/02/1985
- /58/ Decision to revise interim rules of educational surtax issued by State Council of China, Document No. State Council Decree 448, dated 20/08/2005
- /59/ Notification regarding the electric power system reform program issued by State Council of China, Document No. Guo Fa[2002]5, dated 10/02/2002
- /60/ China Energy Statistics Yearbook 2007 to 2009 published by China Statistics Publishing Company
- /61/ China Electric Power Yearbook 2007 to 2009 pulished by China Electric Power Publishing Company
- /62/ 2006 IPCC Guidlines for National Greenhouse Gas Inventories
- /63/ 2010 Guidance for the determination of grid boundaries and emission factors

- issued by NDRC of China, dated 20/12/2010
<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2552.pdf>
- /64/ China's Regional Grid Baseline Emission Factor Calculation (OM) issued by NDRC of China, dated 20/12/2010
<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2550.xls>
- /65/ China's Regional Grid Baseline Emission Factor Calculation (BM) issued by NDRC of China, dated 20/12/2010
<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2551.doc>
- /66/ Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects, published by China Electric Power Publishing Company, dated 01/03/2003.
- /67/ Statistics of installed capacity of wind power projects in China 2010 issued by Wind Energy Technical Committee of China Renewable Energy Association, dated 18/03/2011
- /68/ Technical administration code of electric energy metering (DL/T448-2000), published by China Electric Power Publishing Company, version 1 dated in Sep. 2000.
- /69/ CDM and Operation Training Plan issued by China Water Group Huade Wind Power Co., Ltd., dated 04/07/2011
- /70/ Operation & Maintenance Manual,
- /71/ Methodology of Wind Energy Resource Assessment for Wind Farm issued by General Administration of Quality Supervision, Inspection and Quarantine of P.R. China, Document No. GB/T 18710-2002, dated 28/04/2002
- /72/ Compilation Method for Feasibility Study Report of Wind Power Projects issued by NDRC of China, Document No. Fa Gai Ban Neng Yuan[2005]889, dated 09/05/2005
- /73/ Clarification on the energy loss factors of wind power projects in China issued by NDRC of China, dated 02/06/2009
- /74/ Financial Assessment Methods and Parameters for Construction Project (3rd version), issued by Construction Administration of NDRC, dated 03/07/2006
- /75/ Public comments received from email address of zhongzhouli8@gmail.com, dated 14/06/2011
- /76/ A Further Consulting Email for specific data source or evidences of received general comments to the commenter zhongzhouli8@gmail.com by the validation team, dated 28/07/2011
- /77/ Wind Energy – The Facts, Volume 2, Costs & Prices,
http://www.ewea.org/fileadmin/ewea_documents/documents/publications/WETF/Facts_Volume_2.pdf
- /78/ 2011 Guidance for the determination of grid boundaries and emission factors issued by NDRC of China, dated 20/12/2010
<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2720.pdf>

2.2 Follow-up Interviews with Project Stakeholders

	Date	Name	Organization	Topic
/i/	2011-07-07	Lixin WANG Junsong GAO	China Water Group Huade Wind Power Co., Ltd.	<ul style="list-style-type: none"> – Project Management – Technical issues – Approval status by the host country – Sustainable development issues – Investment risks and barriers – Additionality – Monitoring plan – Training plan – Environmental impacts – Stakeholder process – Financial source – CDM incentive consideration
/ii/	2011-07-07	Xin WU Qian ZHAO	Eco-Tec Asia (Beijing) Co., Ltd.	<ul style="list-style-type: none"> – Project design document – Baseline determination – Emission reductions calculation – Project additionality – Status of LoAs
/iii/	2011-07-07	Aibin XIN	Development & Reform Commission of Huade County	<ul style="list-style-type: none"> – Approval procedures of project – Renewable Energy policies
/iv/	2011-07-07	Yibin HE	Environmental Protection Bureau of Huade County	<ul style="list-style-type: none"> – Approval procedures of project – Renewable Energy policies – Environmental Impacts of the project
/v/	2011-07-07	Jie DING	Electrical Power Bureau of Ulanqab	<ul style="list-style-type: none"> – Approval status of project grid-connection;

				– Electricity tariff
				– Gate meter of grid connection
/vi/	2011-07-07	Yizhou RUAN	Three Gorges Finance Co., Ltd.	– Approval procedures of loan
				– Assessment result of loan risk
/vii/	2011-07-07	Tao ZHU	Local residents	– Benefits from the project
				– Impacts of the project on local environment

The onsite visit was carried out on 7 Jul. 2011 before the end of the global stakeholder consultation period of 13 Jul. 2011. In case of receiving comments after the site visit or other necessary situation, second site visit will be conducted by the validation team. As the comment for the proposed project was received on 14 Jun. 2011 before the onsite visit, the comment received was seriously considered and well addressed during the onsite visit. Second visit is thus considered unnecessary. Please refer to detailed information in Section 3.10.

2.3 Resolution of Outstanding Issues

The objective of this phase of the validation is to resolve any outstanding issues which need be clarified prior to TÜV Rheinland's positive conclusion on the project design. In order to ensure transparency a validation protocol is customised for the project. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of two tables. The different columns in these tables are described in the figure below. The completed validation protocol for this project is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of CDM criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are issued, where:

- mistakes have been made with a direct influence on project results;
- CDM and/or methodology specific requirements have not been met; or
- there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

A request for clarification (CL) may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Validation requirements				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various UNFCCC requirements as specified in the VVM are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the VVM.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (OK), or a corrective action request (CAR) due to non-compliance with the checklist question (See below). A request for clarification (CL) is used when the validation team has identified a need for further clarification.</i>

Validation Protocol Table 2: List of Requests for Corrective Action (CAR) and Clarification (CL)			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 1	Summary of project owner response	Validation conclusion
<i>If the conclusions from the draft Validation are either a CAR or a CL, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the CAR or CL is explained.</i>	<i>The responses given by the project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final Conclusion".</i>

Figure 1. Validation protocol tables

2.4 Major Changes in the PDD

Major changes of the content from the PDD version 1.0 for GSC/1/ to the PDD version 1.4/2/ are summarized in the table below.

PDD Section/ Subject	Original content in the PDD/1/	Revised content in the PDD/2/	Remarks
A.4.1.4 Project Location	The centre geographic coordinates of the project is indicated.	The coordinates of physical location that the project covers is added.	CAR 3
A.4.1.4 Project Location	The map of the location of the project site as indicated in Figure 3 is not presented in English.	The map of the location of the project site as indicated in Figure 3 is revised to be presented in English.	CAR 4
A.4.3. Technology to be employed by the project activity	The technical parameters of wind turbine generator in the PDD are not in line with the signed equipment purchase agreement.	The technical parameters of wind turbine generator in the PDD are revised to be in line with the signed equipment purchase agreement.	CAR 5
B.1. Approved baseline and monitoring methodology	“Tool to calculate the emission factor for an electricity system” (Version 02.1.1, EB 60) is indicated in the PDD.	The EF calculation tool in the PDD is updated to “Tool to calculate the emission factor for an electricity system” (Version 02.2.1, EB 63)	CAR 6
B.5. CDM consideration	Key events for the project’s implementation such as the completion of FSR and EIA, the CDM decision, the construction starting date are not indicated in the timeline.	Key events for the project’s implementation such as the completion of FSR and EIA, the CDM decision, the construction starting date are added in the timeline.	CAR 7
B.5. Parameters for financial analysis	The parameters for financial analysis below as indicated in Table 5 of the PDD are not consistent with the approved FSR.	The parameters for financial analysis are revised to be consistent with the approved FSR.	CL 3 The validity and applicability of the

	Parameter	PDD	FSR	parameters from the FSR applied in the investment analysis is justified in the section 3.5.3 below.
	Interest of long-term loans (%) ³	5.94	6.04	
	Interest rate for circulating capital loans (%) ³	5.94	6.04	
	Interest rate of short-term loans (%) ³	5.31	5.56	
	Number of employees (person)	4	15	
	Salary (10,000 RMB/ person.yr)	4	6	
	Repair fee rate (%)	1.0 ~2.5	1.5	
B.7.2 The monitoring plan	In the monitoring plan, meters are installed at output terminal of the shared boost station and the input terminal of the shared substation which makes the monitoring of the EG _{facility,y} infeasible. Moreover, the accuracy of the meters is not indicated.		The monitoring plan is revised which takes the other 7 projects that shares the same gateway meter into consideration and the accuracy of the meters applied is added.	CAR 8 CAR 9 CAR 10

2.5 Internal Quality Control

The final validation report will undergo a technical review before requesting registration of the project activity. The technical review was performed by a technical reviewer qualified in accordance with TÜV Rheinland's qualification scheme for CDM validation and verification.

2.6 Validation Team

³ Inconsistencies in interest incurred and the total investment caused by interest rate inconsistencies are not listed.

Role	Full Name	Appointed for Sectoral Scopes	Affiliation
Team Leader	Yi Tan	1.2, 13.1	TUV Rheinland (China) Ltd.
Trainee	Chong Yan	N/A	TUV Rheinland (Shanghai) Ltd.
Trainee	Patty Tian ⁴	N/A	TUV Rheinland (Shanghai) Ltd.
Trainee	Qing Sun ⁵	N/A	TUV Rheinland (Shanghai) Ltd.
Technical Reviewer	Cuiping Deng	1.2, 5.1, 11.1, 12.1	TUV Rheinland (China) Ltd.

3 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The final validation findings relate to the project design shall be documented and described in the revised and resubmitted project design documentation.

3.1 Approval and Participation

Letter of approval /3/ for Inner Mongolia China Water Group Huade Niujiafangzi Wind Farm 49.5MW Project has been issued in Nov. 2011 by China's DNA, i.e. National Development and Reform Commission, and submitted by the project participants for validation. In the letter of approval, the project titled "Inner Mongolia China Water Group Huade Niujiafangzi Wind Farm 49.5MW Project" complies with the permission requirements and assists China in achieving sustainable development.

United Kingdom of Great Britain and Northern Ireland as an Annex I Party meets all relevant participation requirement. Approval/4/ for the proposed project was issued on 11 Jan. 2012 by the DNA of United Kingdom of Great Britain and Northern Ireland, i.e. Environment Agency.

The project participants are China Water Group Huade Wind Power Co., Ltd.(hereafter referred as "the project owner") which has been approved by the host country of China which is a party to the Kyoto Protocol in a letter of approval/3/, and Eco-Tec Asia (UK) Ltd which was approved by the DNA of United Kingdom of Great Britain and Northern Ireland in the form of letter of approval/4/.The project participants are correctly listed in the tabular form in section A.3 of the PDD and this information is consistent with the contact details in Annex 1 of the PDD/2/. No entities other than those approved as project participants are included in sections of the PDD. All above information have been checked against LoAs/3//4/.

⁴ Patty Tian has acted as trainee since 23 Aug. 2011.

⁵ Qing Sun has acted as trainee since 16 Sep. 2011.

Project participants	China Water Group Huade Wind Power Co., Ltd.	Eco-Tec Asia (UK) Ltd
Parties involved	<i>P.R. China (host)</i>	<i>United Kingdom of Great Britain and Northern Ireland</i>
Ratification status of the parties	<i>China ratified the Kyoto Protocol on 30 August 2002.</i>	<i>United Kingdom of Great Britain and Northern Ireland, the Annex I party, ratified the Kyoto Protocol on 31 May 2002</i>
APPROVAL		
LoA received	Yes	Yes
Date of LoA	Nov.2011	11 Jan.2012
Reference to document	No.3254	EA/co-Tec/05/2012
LoA received from	<i>The project participant</i>	<i>The project participant</i>
Validation of authenticity	<i>All approved CDM projects by DNA of China NDRC will be published on: 'http://cdm.ccchina.gov.cn/'. The Project is indicated as approved by China DNA, source: http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=5736</i>	<i>LoA of the proposed project issued by DNA of UK was compared to the LoAs of other projects issued by the same DNA. No inconsistency is found.</i>
Validity of LoA	<i>Valid</i>	<i>Valid</i>
PARTICIPATION		
Party is party to Kyoto Protocol	Yes	Yes
Voluntary participation	Yes	Yes
Diversion of official development aid towards host country	N/A	No
Project contribution to SD	Yes	N/A

The MoC/5/ between the project participants to EB has been compiled as per the standardized MoC Form (version 01.4)/15/ and submitted to the validation team. The names and authorized signatories of the project participants indicated in the MoC are consistent with the ones in the PDD. The validation team is able to confirm that the authorized signatories in the MoC are valid.

The project does not receive any public funding, according to the section A.4.5 and the Annex 2 of the PDD. The documentation review and the onsite interview did not reveal any information indicating that the project can be seen as a diversion of official development

assistance (ODA) funding towards China. It is reflected in the loan commitment letter/42/ from Three Gorges Financing Co., Ltd., that the bank loan is promised for the implementation of the project and the loan amount is no more than 379.563360 million RMB, which is no more than 80% of the total investment. According to the official document of Notification on adjusting the equity rate of fixed assets investment projects/45/, the ratio of capital for wind power project is required to be more than 20%. Therefore, the project funding can be deemed to be only raised from bank loan and capital, which is in compliance with the project approval/20/. During the onsite interview with the representative of Three Gorges Finance Co., Ltd. that provides the proposed project with loans i.e. Yizhou RUAN as well as the representative of the project owner, i.e. Lixin WANG, it is further confirmed that no other source of capital rather than the above-mentioned two sources is involved in the project/vi//i/.

3.2 Project Design Document

The Project Document (Version 1.4, dated 27 Mar. 2012) is prepared based on the currently valid PDD form/7/ and is completed in accordance with the Guidelines for completing the Project Design Document(CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies(CDM-NM)/8/.

3.3 Project Description

The validation means of documentation review, onsite observation, stakeholders' interview and background investigation on the internet have been conducted by the validation team to ensure that the description of the project activity is accurate and complete.

The project is located in Changshun Town, Huade County, Ulanqab City, Inner Mongolia Autonomous Region, P.R.China. The project activity involves the installation and operation of 33 wind turbine-generator sets of 1,500kW capacity each, aggregating to a total of 49.5MW installed capacity/19/. The standard wind technology of 1,500kW wind turbine-generator utilized by the project/33/ can be widely observed in China and thus represents current good practice. The centre geographic coordinates of the wind farm is 113.8868°E, 41.7890°N. The range of the geographical coordinates of the wind farm is 113.8692-113.9326 east longitude (113°52'9.12"-113°55'57.36"E) and 41.7691-41.8029 north latitude (41°46'8.76"-41°48'10.44"N) as provided by the project owner/23/. The validation team has used the professional map software, i.e. Google Earth to cross check the project's location. On the basis of the above information, the validation team can confirm that location description of the project in the PDD is accurate. The project will achieve emission reductions by supplying zero-emission electricity to the North China Power Grid (NCPG)/24/, which is dominated by fossil-fuel based power plants according to the recent China Electricity Power Yearbook/61/.

It is reported in the FSR/19/ that the net electricity supplied to NCPG is 103,297MWh per year, the annual operation hours is 2,087h and the PLF of the project is 24%. The project starting date is 30 May 2010. The validation of the project starting date is in the Section 3.5.1 of the report. The designed lifetime of the main equipment (incl. wind turbines and generators) of the project is 20 years, which is stipulated in the main equipment purchase contract/33/. Thus, the operational lifetime of the project activity is expected to be 20 years. A fixed 10 years crediting period has been chosen for the project, starting from 1 Apr. 2012 or registration date, whichever is later.

<i>Starting date of project</i>	<i>Expected project operational lifetime</i>	<i>Crediting period</i>
30 May 2010	20 Years as applied in the financial analysis	10 Years (from 01/04/2012 to 31/03/2022)

The expected emission reductions of the project activity are 96,159tCO₂e/yr. and 961,590 tCO₂e in total over the 10 years crediting period.

The project owner has organized the project-specific training on 18 Jul. 2011/69/ and the operation & maintenance manual/70/ has been in place to ensure daily operation of the project activity smoothly.

In summary, the validation team conclude that the project description in the PDD is complete and accurate.

3.4 Baseline and Monitoring Methodology

3.4.1 Applicability of the selected methodology to the project activity

The project correctly applies the approved consolidated baseline and monitoring methodology ACM0002, version 12.1.0-“*Consolidated baseline methodology for grid-connected electricity generation from renewable sources*”/9/.

The justification of applicability criteria for the baseline and monitoring methodology are assessed by the validation team by means of documentation review and the onsite assessment. It is validation team’s opinion that the project fully meets the criteria as described as follows:

- The project is a newly built 49.5MW wind energy power generation plant/19/ at a site where no renewable power plant was operated prior to the implementation of the project, which is confirmed by means of documentation review/19//20//21//22/ and physical observation & interviews during the onsite assessment. The electricity generated by the project would be supplied to the NCPG/24/; and
- The project does not involve switching from fossil fuel to renewable energy at the site of the project/19//20/.

During the onsite assessment, no fossil fuel-fired power generation facility was observed at the project site. In addition, according to the FSR/19/ of the project and confirmation with project owner’s representative during the onsite interview/i/, the project would not involve installation of the fossil fuel based power generating units for operation of the project. The validation team thus confirmed that no GHG emission as a result of the implementation of the project which accounts for more than 1% of the project’s annual emission reductions and are not addressed by the applied methodology is involved in the project.

Based on the above, the validation team can confirm that the selected methodology ACM0002, Version 12.1.0 is applicable to the project.

3.4.2 Project Boundary

The project boundary of the project has been assessed by means of on-site physical observation and documentation review. The project boundary is clearly defined as the project

power plant and all power plants connected physically to the electricity system of NCPG, which is defined in accordance with the *“Tool to calculate the emission factor for an electricity system”* /10/ since there are no significant transmission constraints between the power plants of NCPG/63/. The NCPG includes Beijing City, Tianjin City, Hebei Province, Shanxi Province, Shangdong Province and Inner Mongolia Autonomous Region, on the basis of information announced by NDRC of China on 20 Dec. 2010/63/, which is most recent available before the validation of the project.

The system boundary is correctly justified according to ACM0002, Version 12.1.0/9/ and the *“Tool to calculate the emission factor for an electricity system”* /10/ and the overview of emission sources are presented as below,

	GHGs involved	Description
Baseline emissions	CO ₂	Main emission source
Project emissions	N/A	No supplementary fossil fuel is required for power generation of the project, project emissions are thus considered as zero.
Leakage	N/A	No leakage is applicable under ACM0002, Version 12.1.0.

To sum up, the validation team can confirm that the project boundary of the project is appropriately identified and all emission sources have also been identified in the PDD/2/.

3.4.3 Baseline Identification

The baseline of the project is identified based on the approved consolidated baseline and monitoring methodology ACM0002, Version 12.1.0-*“Consolidated baseline methodology for grid-connected electricity generation from renewable sources”*/9/. As a new grid-connected renewable power plant/19//20//21//22//24/, the baseline scenario of the project is thus determined as 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 in NCPG, as reflected in the *“Tool to calculate the emission factor for an electricity system”* /10/.

With regard to item 87 of VVM/6/, the validation team can conclude following opinions in a tabular form,

<i>The approved baseline methodology applicable to the project</i> - explicit criteria - implicit criteria (e.g. available scenarios, applicability of formulas for BE/PE/LE calculations)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The applicability of the methodology ACM0002, Version 12.1.0 has been justified in Section 3.4.1 above.
<i>PDD includes all assumptions and data used by project participants</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The PDD listed all assumptions and data in accordance with ACM0002, Version 12.1.0/9/ and the <i>“Tool to calculate the emission factor for an</i>

		<i>electricity system” /10/, details as below, “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 in NCPG.”</i>
<i>All the references and documents used are relevant for establishing the baseline scenario</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The baseline scenario to the project is prescribed as per the applied methodology ACM0002, Version 12.1.0.
<i>All the references and documents used are correctly quoted and conservatively interpreted in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The baseline scenario is prescribed as per the applied methodology ACM0002, Version 12.1.0.
<i>All relevant policies / regulations considered are listed in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The baseline scenario is prescribed as per the applied methodology ACM0002, Version 12.1.0.
<i>Identified potential baseline scenarios reasonably represent what would/could occur in the absence of the proposed project activity</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The baseline scenario is prescribed as per the applied methodology ACM0002, Version 12.1.0.
<i>The baseline scenario selection is appropriate and determined according to the methodology</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The baseline scenario to the project is appropriately selected as per the applied methodology/9/.
<i>The approved methodology used is applicable to the identified baseline scenario</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The applied methodology ACM0002, Version 12.1.0 is applicable to the identified baseline scenario in the PDD /2/.

3.4.4 GHG Emission Reductions

The validation team has assessed all the calculation of project emissions, baseline emissions, and leakage as well as emission reductions in the PDD/2/ against the requirements presented in the applied methodology ACM0002, Version 12.1.0/9/ and “*Tool to calculate the emission factor for an electricity system*” /10/.

Project emissions

The project activity is to utilize renewable wind source for power generation. In addition, by the means of documentation review/19//20//21//22/, onsite physical observation and the project owner’s confirmation/i/ during the onsite interview, the validation team confirm that no auxiliary power equipment is or would be installed at the project site. According to the applied methodology ACM0002, Version 12.1.0/9/, it is thus reasonable to consider the project emission as zero for the project.

Baseline emission

As discussed in section 3.4.1 above, the project activity is confirmed by the validation team to be the installation of a new NCPG grid-connected renewable wind power plant at a site where no renewable power plant was operated prior to the implementation of the activity. According to the applied methodology ACM0002, Version 12.1.0/9/, the baseline emissions of the project include only CO₂ emission from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. In addition, assuming that all project electricity above baseline level would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants, the baseline emission of the project is thus appropriately calculated as below,

$$BE_y = EG_{\text{facility}, y} * EF_{\text{grid}, \text{CM}, y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

$EG_{\text{facility}, y}$ = Quantity of the net electricity generation supplied by the project plant to the grid in year y (MWh/yr)

$EF_{\text{grid}, \text{CM}, y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the *“Tool to calculate the emission factor for an electricity system”* (tCO₂/MWh)

According to the *“Tool to calculate the emission factor for an electricity system”* (Version 02.2.1) /10/, the combined grid emission factor of the project as of 0.9309tCO₂/MWh was assessed by the validation team as follows:

- 1) The electricity generated by the project would be supplied to the NCPG. In accordance with the delineation of the power grids, i.e. Guidance for the determination of grid boundaries and emission factors issued by NDRC of China on 20 Dec. 2010/63/, the power plants physically connected to the NCPG can be dispatched without significant transmission constraints. Thus, the NCPG is identified as the project electricity system of the project, moreover, as NCPG imports electricity from NEPG and CCPG, NEPG and CCPG is also identified as connected electricity system;
- 2) Although China Energy Statistics Yearbook 2010 and China Electric Power Yearbook 2010 is available at the time of commencement of validation (i.e. 14 Jun. 2011), EF calculation for the proposed project is still base on 2010 Guidance for the determination of grid boundaries and emission factors/63/ as well as China Energy Statistics Yearbook 2007-2009/60/ and China Electric Power Yearbook 2007-2009/61/. It is confirmed by the validation team that 2011 $EF_{\text{BM}, y}$ calculation is infeasible solely based on China Energy Statistics Yearbook 2010 and China Electric Power Yearbook 2010 as creditable efficiency of coal, oil, gas-fired power with the best practised commercialized technology of the year 2010 used for the calculation of the $EF_{\text{Coal}, \text{Adv}, y}$, $EF_{\text{Oil}, \text{Adv}, y}$, $EF_{\text{Gas}, \text{Adv}, y}$ is not available until publication of 2011 Guidance for the determination of grid boundaries and emission factors /78/ issued by NDRC of China by NDRC on 20/10/2011/78/ which is after the submission for validation of the proposed project.
- 3) The calculation of the Operating margin(OM) in the PDD is assessed as follows:

- the simple OM emission factor calculation method is appropriately selected because low cost/ must run projects constitute less than 50% of the total grid generation of the NCPG from 2004 to 2008/64/;
- a 3-year generation-weighted average, based on the most recent available date at the time of commencement of validation (i.e. 14 Jun. 2011), is properly used. Those applied data are derived from the China Energy Statistics Yearbook 2007 to 2009/60/, China Electric Power Yearbook 2007 to 2009/61/ and 2006 IPCC Guidelines for National Greenhouse Gas Inventories/62/;
- the Option B is properly selected for calculation of the simple OM since the data on fuel consumption and net electricity generation of each power plant/unit is not publicly available in China;
- the calculation of OM is correctly conducted using the Equation (3) in the PDD, which is exactly the same as the Equation (7) stipulated in the *“Tool to calculate the emission factor for an electricity system”* (Version 02.2.1). The data and parameters used are appropriately derived from the data source /60//61//62//63/.

As a result, the validation team confirmed that the OM emission factor calculated as 0.9914tCO₂e/MWh in the PDD fully complies with the *“Tool to calculate the emission factor for an electricity system”*.

4) The calculation of the Build Margin (BM) in the PDD is assessed as follows:

- Because plant specific fuel consumption and electricity generation data is not publicly available in China, the approved deviation of the baseline methodology of AM0005 /16/ is appropriately applied in the PDD.
- The cohort of power units necessary of the BM calculation has been properly selected in the PDD according to the above deviation. The installed capacity addition from year 2006 to 2008 was selected as it stands for 26.15% of the total installed capacity of year 2008, which satisfies the specification of over 20% in the *“Tool to calculate the emission factor for an electricity system”*.
- The BM emission factor is ex-ante calculated and the Equation (5) – (9) used to calculate the BM emission factor in the PDD has been applied correctly as per the approved deviation and the *“Tool to calculate the emission factor for an electricity system”*. The data parameters used are appropriately derived from the data source /60//61//62//63/.

As a result, the validation team confirmed that the BM emission factor calculated as 0.7495tCO₂e/MWh in the PDD fully complies with the *“Tool to calculate the emission factor for an electricity system”*.

5) The validation team confirmed that the Combined margin (CM) is calculated correctly as follows:

- The default weight of 75% OM and 25% BM for the project have been correctly selected and the Equation (10) in the PDD is properly applied in the PDD in accordance with the *“Tool to calculate the emission factor for an electricity system”*.

In conclusion, the validation team can confirm that the CM of the project is appropriately calculated as 0.9309tCO₂e/MWh in the PDD/2/ based on the most recent data available at the time of submission of the CDM-PDD to DOE for validation (i.e. 14 Jun. 2011).

Leakage

According to the applied methodology ACM0002, Version 12.1.0/9/, no leakage emissions are considered for the project.

Emission reductions

According to the applied methodology ACM0002, Version 12.1.0/9/, the emission reduction of the project during the crediting period is the different between the baseline emission, the project emissions and the leakage.

Based on the above assessment, the project emission and the leakage is considered as zero for the project, thus the emission reduction is determined as the equivalent to the baseline emissions. It is demonstrated in the FSR/19/ that the estimated annual net electricity supplied to the NCPG by the project is 103,297MWh, the expected emission reduction of the project are therefore calculated as 96,159tCO₂e/yr over the 10 years crediting period.

With regard to item 92 of the VVM/6/, the validation team can conclude following opinions in a tabular form.

<i>All assumptions made for estimating GHG are listed in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	All the assumptions made for estimating GHG have been confirmed listed in the PDD Section B.6. The main assumptions are in line with project situation in FSR, the methodology and the Notification on Determining Baseline Emission Factors of China Power Grid, which was published on China DNA's official website on 20 Dec. 2010.
<i>All data used by project participants are listed in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	All data used by the project participants have been confirmed listed according to the FSR of the project, Tool to calculate the emission factor for an electricity system (Version 02.2.1) and relevant China DNA's Guidance.
<i>Their references and sources are also listed in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The references and sources have been confirmed listed in the PDD Section B.6 and Annex 3 Baseline Information.
<i>Formulas, parameters, values are complete, accurate, transparent and conservative</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Formulas, parameters, values have been confirmed completely, accurately, transparently and conservatively documented in the PDD Section B.6 and Annex 3 Baseline Information according to the FSR of the project, the Tool to calculate

		the emission factor for an electricity system (Version 02.2.1) and China DNA's Guidance/63/.
<i>All the references and documents used are correctly quoted and conservatively interpreted in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	All the references and documents used have been correctly quoted and conservatively interpreted in the PDD Section B.6 and Annex 3 Baseline Information according to the FSR of the project, the Tool to calculate the emission factor for an electricity system (Version 02.2.1) and China DNA's Guidance/63/.
<i>Methodology has been applied correctly to calculate project emissions, baseline emissions, leakage emissions and emission reductions</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The methodology (i.e.ACM0002, Version 12.1.0) has been correctly applied to calculate project emissions, baseline emissions, leakage emissions and emission reductions. Please also see above descriptions in this section.
<i>All the emissions of baseline emissions can be replicated using information provided in the PDD</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	All the emissions of baseline emissions can be replicated by multiplying the annual net electricity output to the NCPG (i.e. 103,297MWh) by the CO ₂ emission factor of the NCPG (i.e. 0.9309tCO ₂ /MWh). The baseline emissions calculation is thus calculated as 96,159tCO ₂ e/yr.

3.5 Additionality

A step-wise discuss has been conducted by the validation team to assess the additionality of the project.

3.5.1 CDM consideration

As per Glossary of CDM terms/14/, the starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. The implementation or construction or real actions of the project are as follows:

On 30 May 2010, Wind Turbine-Generator Purchase and Service Contract of the project/33/ and Tubular Tower Equipment Purchase and Service Agreement/36/ were signed.

On 7 March 2011, Foundation Construction Contract of Wind Tower, Box Transformer and Hoist Platform of the project/34/ and Wind Power Generator Hoist Contract/35/ were signed.

On 9 April 2011, Box Transformer and Station Transformer Purchase Agreement/38/ and Entrance Road and Maintainace Road Construction Contract /40/were signed.

On 28 April 2011, 35kV Collecting Cable and Box Transformer Installation Construction Contract/37/ and 220kV Substation Construction and Installation Agreement/41/ were signed.

On 11 June 2011, 35KV Dynamic Reactive Compensation Assembly Purchase Agreement/39/ was signed.

30 May 2010 is considered to be the starting date of the project as it is the earliest date at which the implementation or real action of the project activity begins.

Based on the UNFCCC website information, the PDD of the project was published for global stakeholder consultation on 14 Jun. 2011.

It is thus concluded that the project is a new project activity (starting date of the project activity is after 2 Aug. 2008) and the PDD of the project was published for global stakeholder consultation after the project starting date.

In addition, the PP submitted one standardized form F-CDM-Prior Consideration to UNFCCC secretariat on 12 Oct. 2010 /28/ and one standardized CDM notification form of the project to Chinese DNA (i.e. NDRC) which was received and confirmed by the NDRC on 9 Oct.2010/27/ respectively, both of which contain the precise geographical location and a brief description of the proposed project activity and are made within six months of the starting date of the project activity.

According to the latest version of “Guidelines on the demonstration and assessment of prior consideration of the CDM”/13/, the validation team can confirm that the CDM was seriously considered in the decision to implement the project activity.

3.5.2 Alternatives

According to the item 105 of the VVM/6/, the applied methodology ACM0002, Version 12.1.0 by the project prescribes the baseline scenario, thus no further analysis is required in the PDD.

3.5.3 Investment analysis

The project activity generates financial benefits from electricity sales other than CDM related income, thus, simple cost analysis (Option I) is not applicable for investment analysis for the project. Moreover, the baseline scenario prescribed by the applied methodology ACM0002, Version 12.1.0 involves no investment cost, so the investment comparison analysis (Option II) is also not applicable for investment analysis for the project. The benchmark analysis (Option III of Step 2 of the “Tool for the demonstration and assessment of additionality”) is thus selected for conducting the investment analysis for the project, where the selection is considered by the validation team to be appropriate considering that the project can generate electricity sales revenue other than CDM related income. The project IRR (after tax) is identified as the financial indicator for the benchmark analysis of the project, which is considered appropriate since the project IRR is adopted for financial analysis in the project’s FSR/19/ and is most widely observed for the financial analysis of wind power projects in China.

The authoritative reference of project IRR benchmark (after tax) of 8% selected for the project, i.e. “Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects”/66/, has been reviewed by the validation team. It can be identified that the economic benchmark is regulated for the entire electric power industry in China. Therefore, the validation team can consider that the project IRR benchmark (after tax) of 8% for the project is reliable.

All the input parameters used in the financial analysis of the project are sourced from the FSR developed by Inner Mongolia Power Exploration & Design Institute. It is a class-I entity accredited for developing FSR by the NDRC on 10 Dec. 2007/19/. The FSR was approved by

Development and Reform Commission of Inner Mongolia Autonomous Region on 9 Dec. 2010/20/. Therefore, all the input parameters used in the financial analysis of the project can be assessed as information provided by an independent and recognized source.

The period of time between the finalization of the FSR (i.e. Feb. 2010) /19/ and the investment decision (i.e. 8 Mar. 2010) /26/ of approximate one month and moreover, the three months' time period between the finalization of the FSR (i.e. Feb. 2010) /19/ and the project starting date (i.e. 30 May 2010) /33//36/ can be considered to be sufficiently short by the validation team, and it is unlikely in the context of the underlying project activity that the input values would have materially changed during the time period.

The input parameters used in the financial analysis were compared with the data reported for other registered wind power CDM projects in Inner Mongolia Autonomous Region as listed in the table below. Detailed assessments on all input parameters used in the investment analysis by the validation team are presented in the context below.

	Unit	Range for registered CDM projects in Inner Mongolia		Project registration No.	The proposed project
Unit static investment	RMB/kW	Max	11,806	2135	9,329
		Min	7,656	3777	
PLF	%	Max	31.78%	3519	24%
		Min	22.76%	3086	
O&M cost/Total static investment	%	Max	4.12%	3777	2.78%
		Min	1.13%	3893	
Repair fee rate	%	Max	2.60%	4222	1.5%
		Min	0.80%	4781	
Salary	RMB/kW	Max	31.51	4854	18.18
		Min	2.83	4689	
Material cost	RMB/kW	Max	30.14	2912	30
		Min	3.99	3086	
The other cost	RMB/kW	Max	80.37	2912	40
		Min	5	4422/1825	

Data Source: a) UNFCCC website (till 26 September 2011)

<http://cdm.unfccc.int/>

b) CDM pipeline, updated to 26 September 2011,

<http://cdmpipeline.org/publications/CDMpipeline.xlsx>

a. Installed Capacity

The validation team has checked up the FSR of the project/19/, the project approval/20/, EIA of the project/21/, the EIA approval of the project/22/, the equipment purchase contract/33/ and also interviewed the management representative of the project owner/i/ as well as the local governor/iii/iv/ during the onsite validation, and thus can confirm that the total installed capacity of 49.5MW for the proposed project is valid.

b. Total Statistic Investment

The total statistic of project is 461.8133 million RMB as estimated in the approved FSR. It is confirmed by the validation team that the unit static investment of 9,329RMB/kW for the proposed project is in the range of 7,656 RMB/kW to 11,806 RMB/kW for other registered wind power projects in Inner Mongolia Autonomous as listed in the table above and can be deemed to be reasonable.

Moreover, the already occurred contracts for the proposed project/33//34//35//36//37//38//39//40//41/ were reviewed by the validation team. For the contractors signed exclusively for the proposed project/33//34//35//36//37//38//39/, the investment for the proposed project sums to 442.0026678 million RMB which is 95.7% of the estimated total investment. While for contracts signed together for the proposed project and the other projects of the same scale due to the shared substation and pre-construction preparation works/40//41/, the investment bore by each project is calculated by dividing the contracted amount evenly between projects which is deemed to be reasonable considering the same scale of 49.5MW for the projects included in the contract. The investment for the proposed project in these contracts sums to 21.8628075 million. Thus, the already occurred total investment of the proposed project is up to 463.8654753 million RMB, which has already exceeded the total statistic investment estimated in the FSR by 0.44%.

Based on the assessment as described above, the validation team is able to confirm that the static investment in FSR that is applied in the investment analysis is appropriate.

c. Annual Electricity Output (Electricity delivered to the grid)

According to the FSR/19/, the annual electricity output of the project is designed based on local climate data from 1958 to 2009 and on-site measured wind resource data from 01/08/2005 to 28/02/2007 with widely used professional software (WASP). The theoretical project output is estimated to be 149,763MWh/yr. (already taken the wake impact factor into consideration). After further deduction of other power loss factors as air density adjustment, turbine availability, power curve adjustment, blades contamination influence, weather influence, controlling & turbulence influence, self-consumption & transmission line loss and interference between wind farms, the electricity supplied to the grid by the project is estimated to be 103,297MWh. The validation team reviewed the Compilation Method for Feasibility Study Report of Wind Power Projects/72/ as well as Clarification on the energy loss factors of wind power projects in China/73/, and can confirm that the power loss factor applied is reasonable (31% compared to the range of 20% to 45% mentioned in the clarification/73/) and the method used to calculate the annual electricity output to the grid is also valid.

The PLF of the project is reported as 24% in the FSR completed by Inner Mongolia Power Exploration & Design Institute, a class-I entity/19/. The FSR was used to apply for the implementation approval of the project and the Development and Reform Commission of Inner Mongolia Autonomous Region approved it on 9 Dec. 2010/20/. Furthermore, it is confirmed by the validation team that the PLF for the project falls in the range of 22.76% to 31.78% for other registered wind power projects in Inner Mongolia Autonomous as listed in the table above. As per "Guidelines for the Reporting and Validation of Plant Load Factors"/17/, the validation team thus concluded that the PLF of 24% is appropriate.

Based on the above assessment, the validation team confirmed that the annual electricity output of 103,297MWh used to calculate the project IRR is appropriate.

d. Electricity Tariff

The electricity tariff of 0.51RMB/kWh (incl. VAT) is adopted to calculate the project IRR in the PDD/2/. The validation team has assessed its validity in accordance with the item 111 of VVM/6/ as below.

The applied tariff of 0.51RMB/kWh (incl. VAT) in the PDD is derived from the FSR which was completed by the qualified third-party of Inner Mongolia Power Exploration & Design Institute in Feb. 2010/19/. As stipulated in the FSR, the electricity tariff is determined based on the official tariff policy document “Notification regarding wind power electricity tariff” (Document No. Fa Gai Jia Ge [2009] 1906) issued by NDRC on 20 Jul. 2009/50/. The validation team reviewed the tariff policy document/50/ and confirmed that the project locates in the area classified as Type I Resource Region with the unified region tariff of 0.51 RMB/kWh (Inc. VAT). It is further confirmed by the validation team that the referred tariff policy document/50/ is the latest tariff policy document available at the FSR compiling stage as well as the investment decision date of 8 Mar. 2010/26/ and no other tariff policy document were issued by NDRC afterward through background investigation on the NDRC official website <http://www.sdpc.gov.cn/>.

Moreover, according to the latest “Information note on the highest tariffs applied by the executive board on its decisions on registration of projects in the People’s Republic of China” (Version 02)/18/, the highest tariff for wind projects in Inner Mongolia Autonomous Region is 0.54 RMB/kWh (incl. VAT). By applying this highest tariff of 0.54 RMB/kWh (incl. VAT), the project-IRR (after tax) would be 5.80%, which is still lower than the benchmark of 8%.

Thus, the validation team confirms that the tariff from FSR is valid and applicable at the time of investment decision.

e. Annual O&M Cost

Annual O&M cost mainly comprises of the repair cost, wages and welfare, material cost, insurance cost and the other cost. The validation team reviewed the survey conducted by the European Wind Energy Association/77/. According to Chapter 3, Volume 2 of Survey/77/, O&M costs of wind power projects for the first two years were 2%-3% of the total investment costs, after six year, total O&M costs had increased to constitute a little less than 5% of the total investment costs.

The O&M cost is 2.78% of the total static investment for the proposed project and is in compliance with the survey result above and can be deemed as appropriate. Furthermore, the validation team compared the value of 2.78% for the project with other registered wind power projects in Inner Mongolia Autonomous Region and confirmed that the value of 2.78% falls in the range of 1.13% to 4.12% for other registered projects in Inner Mongolia Autonomous Region.

The detailed breakdown of the annual O&M cost in the PDD as well as the IRR calculation sheet is in line with the approved FSR/19/.

1) Repair cost

The fixed repair cost of 1.5% of the total static investment is applied for the project. The fixed repair cost of 1.5% of the total static investment is widely observed to be applied by other registered CDM projects by the validation team. Moreover, it is confirmed by the validation team that the repair fee rate of 1.5% for the proposed project falls into the range of 0.8% to 2.6% for other registered CDM projects in Inner Mongolia Autonomous Region.

Moreover, by further applying rate for repair cost of 0 in the IRR calculation of the project, the project-IRR (after tax) would be 6.79% which is still below the benchmark of 8%.

2) Salary and welfare

The salary for the proposed project is calculated as the number of employees (15) multiplied with the average annual salary (60,000 RMB per person). The welfare is 41% of the salary for the proposed project which is in compliance with the relevant law in social insurance, pension insurance, medical insurance and unemployment insurance in China. The unit salary of 18.18 RMB/kW of the proposed project is in the range of 2.83RMB/kW to 31.51RMB/kW for other registered CDM projects in Inner Mongolia Autonomous Region as listed in table above.

Thus, the validation team confirms that the salary and welfare of the project is valid and applicable at the time of investment decision.

3) Material cost

The material cost is 30 RMB/kW for the project. By comparison of this parameter with that of registered projects in Inner Mongolia Autonomous Region, it is confirmed by the validation team that the material cost of the project still falls in the range of 3.99 RMB/kW to 30.14 RMB/kW as for other registered projects in Inner Mongolia Autonomous Region.

Moreover, by further applying material cost of 0 RMB/kW in the IRR calculation of the proposed project, the project-IRR (after tax) would be 5.47% and is still below the benchmark of 8%.

Thus, the validation team confirms that material cost of the project is appropriate.

4) Insurance cost

The insurance fee is 0.25% of total static investment. It is widely used for wind projects in China and is deemed to be reasonable by the validation team.

5) The other cost

The other cost refers to additional production expenses, administrative expenses and operating expenses, except depreciation, maintenance, insurance, material, salary and welfare as per Financial Assessment Methods and Parameters for Construction Project (3rd version)/74/. The other cost is 40 RMB/kW for the proposed project. It can be confirmed by the validation team as shown in table above that the other cost rate of 40 RMB/kW for the project is in the range of 5 RMB/kW to 80.37RMB/kW for other registered projects in Inner Mongolia Autonomous Region and thus is appropriate.

Moreover, by further applying the other cost of 0 RMB/kW in the IRR calculation of the project, the project-IRR (after tax) would be 5.59% which is still below the benchmark of 8%.

In conclusion, the validation team confirms that the O&M cost of the project is valid and applicable at the time of investment decision.

f. Operational Lifetime (Period of Assessment)

The operational lifetime adopted for the investment analysis is selected as 20years, i.e. the technical lifetime of wind turbine-generator sets, which can be evidenced by the wind turbine-generator purchase contract/33/. In addition, the 20 years of period of assessment is in compliance with the latest available version of Guidelines on the assessment of investment analysis/12/, i.e. "In general a minimum period of 10 years and a maximum of 20 years will be appropriate "and is widely applied by wind power generation projects in China, thus the validation team considered that the selected 20 years for the investment analysis can be deemed as appropriate.

g. Rate of Residual Value/Depreciation

As per the latest version of Guidance on the assessment of investment analysis/12/, the residual value of the project fixed assets at the end of the assessment period should be included as a cash inflow in the final year. The residual value rate applied for investment analysis of the project is 5%, which is in compliance with Notification regarding the effective date of residual value rate of fixed assets issued by State Taxation Ministry of China on 14 Sep. 2005/48/. Based on the information searching of website <http://www.chinatax.gov.cn> , the quoted national tax regulation is confirmed by the validation team as the latest available at the time of investment decision and thus the rate of residual value is considered as appropriate.

The depreciation period of 15 years of the project is consistent with that in FSR/19/. The 15 year depreciation period is validated to be common practice in wind power industry in China and is in compliance with the Implementation Rules of Enterprise Income Tax of P.R. China/55/ which stipulates a minimum 10 years depreciation period for manufacturing equipment. The depreciation rate is calculated to be 6.33% (i.e. $(1-5\%)/15=6.33\%$) as confirmed by the validation team.

h. Taxes

By crosschecking taxes applied in the investment analysis against relevant official tax documents, the validation team can confirm below,

1) The VAT rate of 17% for equipment purchase as well as for electricity sales is in line with the official tax document of VAT interim stature of P.R. China (Document No. State Council Decree 538)/51/. Moreover, half VAT refund upon levy enjoyed by the project is in line with the official tax document of Notification regarding VAT policies for resources integrated utilization and other products (Document No. Cai Shui [2008]156)/53/. Half of VAT incurred in the project has been annually recovered after the equipment VAT is fully recovered/52//53/;

2) The income tax of 25% is in line with the official tax document of Enterprise Income Tax of P.R. China (Document No. State Chairman Decree 63)/54/; In addition, income tax exemption for the first three operation years and half income tax exemption for the following

three operation years is enjoyed by the project according to Notification Regarding Problems for Implementation of The Catalogue of Public Infrastructure Projects Enjoying Income Tax Preference/55//56/.

3) The urban maintenance & construction tax of 5% is in line with the official tax document of Urban Maintenance & Construction Tax Interim Rules of P.R. China (Document No. Guo Fa [1985]19)/57/;

4) The educational surtax of 3% is in line with the official tax document of Decision to revise interim rules of educational surtax (Document No. State Council Decree 448)/58/.

i. Loan Interest Rate/The ratio of equity/debt

The adjustment history of bank benchmark interest rate was issued by Monetary Policy Department, the People's bank of China on 8 Jul. 2011/46/. The validation team checked this document and confirmed that the bank benchmark interest rate for above 5 years loan was regulated as 5.94%, and the bank benchmark interest rate for above 6 months but less than 1 years loan was regulated as 5.31% respectively during the time period from 23/12/2008 to 19/10/2010, in which the investment decision was made (i.e. 8 Mar. 2010). The interests rate of 6.04% for the long term loan and 5.56% for the short term loan from the FSR are applied in the investment analysis which take future trend of loaning cost into consideration is slightly higher than the benchmark interests at the time of investment decision. Higher IRR is expected by applying the loan interest in the FSR. Therefore, the validation team can consider that is appropriate at the time of investment decision.

The ratio of equity/debt of the project is 80%:20%. The validation team confirms it is consistent with the FSR. Moreover, through reviewing the Loan Commitment Letter/42/, it is further confirmed by the validation team that the actual loan of the project won't cross 80% of the total static investment, i.e. the actual equity rate constitutes more than 20% of the total static investment and this is in compliance with the equity rate requirement of 20% for wind projects regulated by Notification on Adjusting The Equity Rate of Fixed Assets Investment Projects/45/.

It is reflected from the benchmark analysis in the PDD/2/ and the investment analysis spreadsheet/43/ that, without the revenue from the CDM, the project IRR (after tax) would be 5.11%, which is below the benchmark of 8%. Provided that the project was registered as CDM project, the project IRR (after tax) would be improved to 8.21%.

The sensitivity analysis is carried out in the PDD to further demonstrate that the project is unlikely to be financially viable under reasonable variations, i.e. fluctuation range of +10% and -10% as stipulated in the Compilation Method of Feasibility Study Report of Wind Power Project/72/, of four financial parameters including total static investment, annual electricity output, tariff and annual O&M cost. By means of testing the financial analysis, the validation team can conclude that annual electricity output and tariff are two variables that constitute more than 20% of total project revenues while the variable the annual O&M cost which constitutes less than 20% of annual project cost has a material impact on the project investment analysis. Therefore, as per the latest version of Guidelines on the assessment of investment analysis/12/, the selected four financial parameters of total static investment, annual electricity output, tariff and annual O&M cost are reasonable in the sensitivity analysis.

As assessed in the PDD/2/, the project IRR of the project is still less than the benchmark of 8% within the stipulated variation range of +10% and -10% of four parameters, only the project IRR of the project would cross the benchmark of 8% when 1) the total statistic investment decreased by 19.7%; or 2) annual electricity output increased by 23.8%; or 3) electricity tariff increased by 23.8%; or 4) annual O&M cost decreased by 91.3%. The occurrence likelihood of four scenarios are assessed by the validation team as below,

For the scenario 1), the validation team checked the official website of the National Bureau of Statistics of China <http://www.stats.gov.cn> and confirmed that the price of fixed assets investment in Inner Mongolia Autonomous Region has an increasing trend, i.e. the annual average increase rate of 6.47% from 2007 to 2009. Besides, the already occurred major contracts for the implementation of the project have been summed up to 463865475.3 RMB which is 0.44% higher than the estimated total statistic investment. The scenario 1) that the total statistic investment decreased by 19.7% is thus considered as not realistic for the project.

For the scenario 2), as assessed by the validation team in the above, the annual electricity output is scientifically computed by the widely used professional software (WASP) on the basis of long-term weather statistical data measured by the local meteorological station and one and a half years of onsite wind resource measurements, thus the annual electricity output is unlikely to increase by 23.8%.

For the scenario 3), according to the official guidance document of Notification regarding wind power electricity tariff (Document No. Fa Gai Jia Ge[2009]1906)/50/, the tariff of the wind power projects which got project approval after 1 Aug. 2009 and located in Inner Mongolia Region(excl. Cifeng City, Tongliao City, Xinanmen, Hulunbeier City) is unified as 0.51RMB/kWh (incl. VAT), thus the electricity tariff of the project is unlikely to increase by 23.8%.

For the scenario 4), according to the official website of the National Bureau of Statistics of China, <http://www.stats.gov.cn>, the material cost and personal salary have been increasing in Inner Mongolia Autonomous Region in recent years, thus it is impossible for the annual O&M cost of the project to be decreased by 91.3%.

3.5.4 Barrier analysis

The barrier analysis has been skipped in the PDD, thus it is not applicable.

3.5.5 Common practice analysis

According the official document of “Notification regarding the requirements on the regulation of wind power projects construction”/47/, each provincial government in China has been authorized to regulate wind power projects in its provincial region, and also approve the wind power projects with installed capacity of less than 50MW. In addition, wind resources and electricity tariff are usually similar for wind projects in the same province/50/. Thus, the validation team can consider that the Inner Mongolia Autonomous Region, which is the location of the project and also is a provincial level of region of China, is appropriately selected as the geographical scope for the common practice analysis of the project.

The Electric Power System Reform Program with document reference No. Guo Fa[2002]5 was issued by State Council of China in 2002/59/ in which the tariff privilege was no longer guaranteed by the government to the project investor after this reform. Therefore, as per “Tool for the demonstration and assessment of additionality”/11/, all wind projects with installed capacity larger than 15MW that have been put into operation after 2002 in Inner Mongolia Autonomous Region as listed in the PDD/2/ for the analysis of common practice, can be considered by the validation team as reasonable.

The validation team verified both the latest published “China Wind Farm Installed Capacity Statistics” and China Electric Power Yearbook which is the most recent available statistics for all electric power projects including wind power projects. In addition, one wind power projects investigation was also carried out by the validation team through internet, four projects other than registered CDM projects or projects under CDM validation have been identified in the selected Inner Mongolia Autonomous Region. Three of the projects identified are Voluntary Emission Reduction Projects which also face financial barriers as the project and should be excluded for further analysis while the other project received National Debt Special Fund which is not accessible for the project and is distinct from the project.

Based on the above assessment, the validation confirmed that the proposed CDM project activity is not common practice.

In summary, the assessment of the arguments presented above is deemed to sufficient demonstrate that the project is not a likely baseline scenario, and that emission reductions resulting from the project are additional.

3.6 Monitoring

The project applies the approved monitoring methodology ACM0002, Version 12.1.0. The data monitored and the monitoring interval and frequency is in compliance with the methodology. The monitoring plan has been clearly described in section B.7.1 of the PDD and examined by the validation team to be appropriate.

3.6.1 Parameters determined ex-ante

The baseline grid emission factor of the project is reported to be determined ex-ante and would remain fixed during the crediting period in the PDD. The value is calculated as a combined margin consisting of the weighted average of the OM and BM emission coefficients. The parameters applied in the calculation were validated by the validation team and discussed in the section 3.4.4.

3.6.2 Parameters monitored ex-post

Based on the Approval of grid-connection system design of the project/24/, and the confirmation of management representative (i.e. Lixin WANG)/i/ during the onsite validation, the validation team confirmed that the parameters required to be monitored for the project would be,

- Quantity of electricity exported to the NCPG by the project in year y ($EG_{\text{Export},y}$)
- Quantity of electricity imported from NCPG by the project in year y ($EG_{\text{Import},y}$)

- Quantity of net electricity generation supplied by the project to the NCPG in year y ($EG_{facility,y}$)

For the monitoring of the above three parameters, 34 electric meters will be adopted in the monitoring plan due to a public electric line for the proposed project and other 7 projects. As per Figure 4 in the PDD,

- Meters $M_{j,i}$ ($j=I, II, III, \dots, VIII$; $i=1, 2, 3, 4$ for Phase I project, $i=1, 2, 3$ for the other 7 projects) are installed at the outlets of the 8 projects for the measurement of $ES_{j,i,export,y}$ and $ES_{j,i,import,y}$ ($j=I, II, III, IV, V, VI, VII, VIII$; $i=1, 2, 3, 4$ for Phase I project, $i=1, 2, 3$ for the other 7 projects). Meters $M_{j,i}$ are all bi-directional meters with the accuracy of 0.5s.
- Meters M_A, M_B, M_C, M_D and M_E at the 220kV side of the 35~220kV on-site booster station for the measurement of $ES_{p,export,y}$ and $ES_{p,import,y}$ ($p=A,B,C,D,E$). Meter M_A is uni-directional meter with the the accuracy of 0.5s while Meters M_B, M_C, M_D and M_E are all bi-directional meters with the accuracy of 0.2s.
- Main gateway Meter M_{g1} (Meter M_{g2} as backup meter for Meter M_{g1}) at the outlet of 220kV Xingguang substation and Backup gateway Meter M_{e1} (M_{e2} as backup meter for Meter M_{e1}) installed at the inlet of 220kV Xingguan substation for the measurement of $ES_{total,export,y}$ and $ES_{total,import,y}$. Meter M_{g1} , M_{g2} as well as Meter M_{e1} and M_{e2} are all bi-directional meters with the accuracy of 0.2s.

The electricity supplied and imported by the proposed project from the grid is obtained by dividing the electricity export and import measured at gateway meter M_{g1} (settlement meter) installed at the outlet of 220kV Xingguan substation according to the electricity output and import measured by Meter $M_{j,i}$ at the outlets of each of the 8 projects. The quantity of net electricity generation supplied by the Project to the grid in year y is thus appropriately calculated as below,

$$EG_{facility,y} = ES_{total,export,y} \times \frac{\sum_{i=1}^3 ES_{V,i,export,y}}{\sum_{i=1}^4 ES_{I,i,export,y} + \sum_{j=II}^{VIII} \sum_{i=1}^3 ES_{j,i,export,y}} - ES_{total,import,y} \times \frac{\sum_{i=1}^3 ES_{V,i,import,y}}{\sum_{i=1}^4 ES_{I,i,import,y} + \sum_{j=II}^{VIII} \sum_{i=1}^3 ES_{j,i,import,y}}$$

Where:

$EG_{facility,y}$

is quantity of net electricity generation supplied by the Project to the NCPG in year y.

$ES_{total,export,y}$

is the total amount of electricity exported to the grid from all the eight projects developed by the same project owner as listed above measured by the same gateway meter(s) M_{g1} (and M_{g2} as its back-up);

$ES_{total,import,y}$

is the total amount of electricity imported from the grid to all the eight projects developed by the same project owner as listed above measured by the gateway meter(s) M_{g1} (and M_{g2} as its back-up);

ES _{j, i, export, y} :	is the electricity exported to the grid by the Phase j project part i (j=I, II, III, ..., VIII; i=1, 2, 3, 4 for Phase I project, i=1, 2, 3 for the other 7 projects) measured by the meter M _{j.i} (j=1, 2, 3, ..., 8; i=1, 2, 3, 4 for Phase I project, i=1, 2, 3 for the other 7 projects) at the project site;
ES _{j, i, import, y} :	is the electricity imported from the grid to the Phase j project part i (j=I, II, III, ..., VIII; i=1, 2, 3, 4 for Phase I project, i=1, 2, 3 for the other 7 projects) measured by the meter M _{j.i} (j=1, 2, 3, ..., 8; i=1, 2, 3, 4 for Phase I project, i=1, 2, 3 for the other 7 projects) at the project site.

As described in the monitoring plan of the PDD, all parameters will be continuously measured by meters, the readings of the meters will be recorded monthly and the monitoring meters will be calibrated on the yearly basis in according with national relevant regulation/68/. Therefore, the validation team concluded that the monitoring plan in the PDD contained all necessary parameters and their monitoring methods are in compliance with the requirements in the applied methodology ACM0002, Version 12.1.0.

3.6.3 Management system and quality assurance

Monitoring of sustainable development indicators is not required by the DNA of China. The environmental impacts are considered minor and will be monitored by the local environmental authority during the project lifetime. According to the PDD, the project's monitoring plan outlines the following:

- Monitoring data;
- Monitoring Structure;
- Installation of Monitoring Equipment;
- Data Collection and Handling;
- Procedures for Emergency;
- Meter Calibration;
- Data Management System;
- The Monitoring Report, and;
- Training program

According to the documentation review, the validation team considers that the monitoring plan described in the PDD would be feasible within the project design. Sufficient procedures have been identified in the PDD and the implementation of those procedures will enable that the emission reductions of the project can be reported ex-post. The management and operation team for the monitoring activity of the project is described in the PDD. The training of CDM was carried out on 18/07/2011 and the corresponding training plan/69/ was checked by the validation team to be valid. In addition, the Operation & Maintenance Manual /70/ have been developed for the project and can be considered to be valid. Thus, the validation team's opinion is that the project owner is able to implement the monitoring plan as described in the PDD.

3.7 Sustainable Development

The DNA of China as host county, i.e. NDRC, issued the LoA of the project on 25 Nov. 2011 /3/. It is stated in the LoA that the project assists China in achieving sustainable development.

The validity of the LoA from China has been assessed by the validation team in the section 3.1.

3.8 Environmental Impacts

The project is a newly built wind power generation project, and its environmental impacts have been sufficiently analyzed in the form of an Environmental Impact Assessment (EIA) in accordance with the China laws & Regulations. The EIA of the project was prepared by the qualified entity of Ulanqab Environmental Protection Science Research Institute/21/and also approved by Environmental Protection Bureau of Inner Mongolia Autonomous Region on 20 Oct. 2010/22/. According to the approved EIA/21/, no significant environmental impacts were expected in the project. In addition, during the onsite stakeholders interview, Mr. Yibin HE/iv/, i.e. the director of Environmental Protection Bureau of Huade County, confirmed that no environmental complaints on the project had been received.

3.9 Local Stakeholder Consultation

The local stakeholders' comments on the project were invited through stakeholder meeting on 15 Mar. 2010 in which distributed questionnaires were completed by the invited local stakeholders/32/, which was prior to the global publication of PDD on the UNFCCC website (14 Jun. 2011 to 13 Jul. 2011). Totally 35 questionnaires were distributed to the stakeholders with 100% of response rate. During the onsite stakeholders interview, local resident representatives /vii/ were interview by the validation team and confirmed that residents affected by the implementation of the project were surveyed and their comments are collected. Therefore, it is the validation team's opinion that the local stakeholder consultation for the project is adequate. It is reflected in the questionnaires /32/ that all of the respondents fully supported the implementation of the project, and all comments received were summarized in the PDD accordingly.

3.10 Comments by Parties, Stakeholders and NGOs

The PDD *version 1.0* of Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project was made publicly available on (<http://cdm.unfccc.int/Projects/Validation/DB/OW18WKXHSPCE52EOHAGPN9BGWIWWKE/view.html>) from 14 Jun. 2011 to 13 Jul. 2011 in order to invite comments from public stakeholders.

The validation team received general comments from email address of zhongzhouli8@gmail.com on 14 Jun. 2011/75/. After the receiving of the comment, onsite visit was carried out by the validation team on 7 Jul. 2011 and a further consulting email was sent to the commenter by the validation team on 28 Jul. 2011/76/ to avoid any possible hidden evidences. No responses to the consulting email were received by the validation team until the issuing of Final Validation Report. The response to the comment received by the validation team is listed in the table below.

Comments received during the global stakeholder consultation period				
No.	Submitted by	Date Received	Comments	Response by validation team
1.	zhong zhou li, (email:zhongzhouli8@gmail.com)	14/06/2011	It is evident from the PDD that the values are consistent and it is definitely forged and cooked up values to show a non CDM project as a CDM project. What is this? DoE to check the Detailed Project Report and Feasibility Report which is submitted to the other agencies and Banks by Project owner and ensure that the values match with the DPR/FR submitted to DoE also. After careful study of PDD it is found that DPR/FR is in different versions made and submitted with different purposes to different agencies which is totally unacceptable, illegal and unethical. PP/Consultant may show some undertaking letter from bank manager to DoE stating that both DPR's are same. These kinds of letters should not be accepted and entertained by DoE. While collecting the DPR/FR from banks and other agencies, all DPR/FR pages should be counter signed by Banks and other agencies so that the real DPR/FR given to other parties by the PP/Consultant is same as the one submitted to DOE. In this particular project there is clear cut evidence that DPR/FR values are changed/ fabricated mischievously and intentionally. This	<p>According to articles 40-42 of VVM(Version 01.2), the actions taken by the validation team to take due account of the comments during the validation process are listed as follows:</p> <p>1. Document review:</p> <p>During the on-site assessment, the FSR was reviewed by the validation team. And it is confirmed to be the original FSR by the validation team with the stamp of the designed institute Inner Mongolia Power Exploration & Design Institute. Moreover, The FSR of the proposed project was crosschecked with the approvals of the proposed project and no inconformity was revealed by the validation team.</p> <p>2. On-site interview:</p> <p>As listed in Section 2.2 of this report, Mr. Aibin XIN from Development & reform Commission of Huade County who have access to the FSR used for project approval was interviewed by the validation team and no inconformity between the FSR provided for validation and the FSR used for obtain governmental approval was found as firmed by Mr. Aibin XIN. Moreover, Mr. Yizhou RUAN as the general manager of Three Gorges Finance Co., Ltd. was also interviewed by the validation team, It is also confirmed that no inconsistency between the</p>

		<p>must be probed fully. DOE must take a written undertaking from the PP/Consultant about the list of parties to whom this DPR/FR is submitted and for what purposes. Then DOE should cross check with all the parties and confirm that the same DPR/FR is submitted to all the parties correctly without any changes. DOE must not accept any reports and undertakings from PP/Consultant. DOE must make independent evaluation and use totally different parties without informing the PP or Consultant to cross check the facts. DOE to write to the party who prepared the DPR/FR which is submitted to the banks and other agencies and the same is verified against the one submitted to the DOE by PP/Consultant. This project is a fabricated and fake CDM project and must be rejected by the DOE right away. DOE should not support this kind of projects otherwise CDM EB should suspend this DOE for at least one year.</p>	<p>FSR provided to the validation team and the one provided to the Three Gorges Finance Company assessed that the risk of financing for the project has been revealed.</p> <p>Furthermore, the same comment to other proposed CDM projects distinct from the proposed project by the same entity was widely observed by the validation team. Thus, it is reasonable for the validation team to deem that this comment is not specific for the proposed project.</p> <p>In conclusion, in accordance with the VVM requirements, the validation team has assessed the likelihood of incompliance of the proposed project against the CDM requirements taking due account of the comment received and no incompliance has been identified by the validation team during the process.</p>
--	--	---	---

Appendix A

CDM VALIDATION PROTOCOL

Inner Mongolia China Water Group Huade Niujiatangzi Wind Farm 49.5MW Project

In

China

Report No. 01 997 9105064985

Table 1: Validation requirements

(based on § 37 of the CDM Modalities and Procedures and on CDM Validation and Verification Manual)

Checklist question	Ref.	MoV ⁶	Findings, comments, references, data sources	Draft conclusion	Final conclusion
1. Approval					
1.1 Have Letters of Approval have been provided from all involved Parties?	/1/ /3/ /4/	DR I	LoAs from both China and UK are to be provided.	CAR-1	OK
1.2 Are all Parties, who issued the LoA, Parties to the Kyoto Protocol <u>and</u> is this stated in the LoA?	/1/ /3/ /4/	DR I	Pls. refer to 1.1.	CAR-1	OK
1.3 Is every LoA from the Parties involved issued by an organisation listed as Designated National Authority (DNA) on the UNFCCC web site?	/1/ /3/ /4/	DR I	Pls. refer to 1.1.	CAR-1	OK
1.4 Is the participation in the CDM project activity voluntary <u>and</u> is this stated in all LoAs?	/1/ /3/ /4/	DR I	Pls. refer to 1.1.	CAR-1	OK
1.5 Is the LoA unconditional with respect to 1.2 to 1.4?	/1/ /3/ /4/	DR	Pls. refer to 1.1.	CAR-1	OK

⁶ MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

1.6 Is the title of the CDM project activity as given in the PDD identical with the title given in all LoAs and Modalities of Communication?	/1/ /3/ /4/ /5/	DR	Pls. refer to 1.1.	CAR-1	OK
1.7 If any of provided LoAs contains additional specification of the CDM project activity (PDD version number, validation report version number, amount of ER, etc.) are those specifications valid and consistent with other documents?	/1/ /3/ /4/	DR	Pls. refer to 1.1.	CAR-1	OK
1.8 Does the project activity involve any public funding from Annex I Parties? <u>If yes</u> , has Annex I Party provided a written confirmation that the use of such funding does not lead to the diversion of the official development assistance.	/19/ /20/ /42/	DR I	<p>The loan commitment letter issued by Three Gorges Financing Co., Ltd. is verified by the validation team that the 80% of total investment will be from bank loan, which is in line with the FSR and AFSR.</p> <p>During the time of onsite validation, the validation team had a telephone interview with general manager of the credit department of Three Gorges Financing Co., Ltd. i.e. Mr. Jie DING, and confirmed that Three Gorges Financing Co., Ltd. had conducted a financing risk assessment for the project and promised providing the bank loan of no more than 80% of total investment.</p> <p>In addition, according to the Notification regarding the regulated equity ratio of project fixed assets investment, the equity ratio in the fixed assets investment for wind projects is mandatory to be not less than 20%.</p> <p>Therefore, the validation team consider that the project does not involve any public funding from Annex I Parties.</p>	OK	OK

2. Participation (VVM E.2)					
2.1	Are the Parties and project participants (PP) listed in the section A.3 of the PDD correctly <u>and</u> is this information consistent with the contact details provided in Annex 1 of the PDD?	/1/	DR	Yes. The Parties and project participants (PP) listed in the section A.3.of PDD are consistent with the contact details provided in Annex I of the PDD.	OK
2.2	Has every Party involved approved the participation of each corresponding PP, either by means of a LoA or by a separate written document?	/1/ /3/ /4/	DR	Pls. refer to 1.1.	CAR-1 OK
3. Project Design Document (VVM E.3)					
3.1	Is the PDD presented for validation based on the latest template available at the UNFCCC website?	/1/ /7/	DR	Yes. The PDD presented for validation is in compliance with the latest template version 03 available at the UNFCCC website http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/PDD_form04_v03_2.doc .	OK
3.2	Has the PDD been established in accordance with the CDM requirements for completing PDDs issued by the CDM EB?	/1/ /8/	DR	As per EB41 Annex12, the starting date of the crediting period for the project shall be presented in the format of DD/MM/YYYY.	CAR-2 OK

4. Project Description (VVM E.4)					
<p>4.1a) Does the PDD contain a description, which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?</p> <p>4.1b) Is the description (incl. any process flow-charts, Spreadsheets etc.) complete, coherent and consistent with the provisions of the monitoring plan?</p>	<p>/1/ /19/ /20/</p>	<p>DR I</p>	<p>a) By means of documentation review and onsite assessment against the PDD, below issues are identified, 1) The physical location of the project activity addressed in the PDD is just the centre geographical coordinates of the wind farm, and doesn't reveal the unique identification of the project activity, thus a revision to the project location is required and geographical coordinates of all wind turbine generators are to be provided for cross-checking. 2) The map of the project site is to be revised into the English version. b) Pls. refer to 8.1, 8.4, 8.5, 8.8, 8.13 and 8.14.</p>	<p>CAR-3 CAR-4</p>	<p>OK</p>
<p>4.2 In the case of greenfield project activity, is the project design described sufficiently by means of specifications, drawings and manuals?</p>	<p>/1/ /19/ /20/ /21/ /22/</p>	<p>DR I</p>	<p>By means of checking the FSR, AFSR, EIA, AEIA and stakeholders interview, the project activity is confirmed to be a Greenfield project. However, the technical parameters of wind turbine generator shall be revised in the PDD in line with the signed wind turbine-generator purchase agreement.</p>	<p>CAR-5</p>	<p>OK</p>
<p>4.3 Does the project activity reflect current good practices, 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?</p>	<p>/1/ /19/ /20/ /21/ /22/</p>	<p>DR I</p>	<p>Yes. The project activity is a newly built wind power project, which reflects current good practices. Based on expertise, the proposed project uses state of the art technology of wind power to generate zero-emission of electrical energy, which would result in a significantly better performance than any commonly used fossil fuel fired power generation technologies in China.</p>	<p>OK</p>	<p>OK</p>

4.4 In cases where the project activity involves the alteration of an existing installation or process, does the PDD provide a clear description of the differences between the project and the pre-project scenario?	/1/ /19/ /20/ /21/ /22/	DR	The proposed project is a Greenfield wind power project, thus this item is not applicable.	OK	OK
5. Baseline and Monitoring methodology					
5.1 General requirements					
5.1.1 Is the methodology used in the project activity approved by the CDM EB <u>and</u> is the selected version still valid?	/1/ /9/	DR	By checking UNFCCC website http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L , the methodology ACM0002 Version 12.1.0 used in the proposed project has been approved by CDM EB and the selected version is valid from 17 Sep. 2010 onwards and still valid until now.	OK	OK
5.2 Applicability of the selected methodology					
5.2.1 Does the project activity qualify under the criteria for small-scale CDM project activities set out in § 6 (c) of decision 17/CP.7 and Annex II of the Modalities and Procedures for the CDM?	/1/ /9/	DR	Not applicable.	OK	OK

5.2.1.1 If yes, does the PDD extensively demonstrates and confirms that the small-scale project activity is not a debundled component of a larger project?	/1/ /9/	DR	Not applicable.	OK	OK
5.2.2 Are all applicability conditions of the selected baseline and monitoring methodology and all tools involved satisfied by the project activity?	/1/ /9/ /19/ /20/ /21/ /22/	DR I	Yes. By means of documentation review and stakeholder interview, the project activity is confirmed to be a Greenfield grid connected wind power plant under construction. In addition, based on the onsite assessment, no renewable power plant can be found at the site selected for the project, and the project activity does not involve switching from fossil fuels to renewable energy sources. Therefore, the audit team can confirm that all applicability conditions of selected baseline and monitoring methodology and all tool involved are satisfied by the project activity.	OK	OK
5.2.3 Is the selection of the applied baseline and monitoring methodology justified?	/1/ /9/	DR	Yes. The justification regarding the selection of the applied ACM0002 version 12.1.0 is assessed enough.	OK	OK
5.2.4 Is the selected methodology correctly quoted in all related documents?	/1/ /9/ /44/	DR	Yes. The selected methodology ACM0002 version 12.1.0 is correctly quoted in all related documents, including ER spreadsheet and PDD.	OK	OK

5.2.5 Does the PDD sufficiently describe all the GHG emission sources or sinks occurring as a result of project activity, which have not been accounted for under the selected methodology and are expected to contribute more than 1% of the overall expected average annual emission reductions?	/1/ /9/	DR I	<p>Yes.</p> <p>As assessed in the above, the project activity is Greenfield wind power project.</p> <p>It is confirmed by the validation team during on-site assessment and interviews that no other GHG emission sources or sinks, which have not been accounted for under the selected methodology and are expected to contribute more than 1% of the overall expected average annual emission reductions, occur as a result of the implementation of the proposed project.</p>	OK	OK
5.3 Project boundary					
5.3.1 Does the PDD correctly describe the project boundary?	/1/ /9/ /19/ /20/ /63/	DR I	<p>Yes.</p> <p>The project boundary described in the PDD is fully in line with the applied methodology ACM0002 Version 12.1.0, i.e. including the proposed project power plant and all power plants to the NCPG covering Beijing, Tianjin, Shanxi, Shandong and Inner Mongolia Autonomous Region.</p>	OK	OK
5.3.2 Does the PDD correctly indicate and describe the emission sources and sinks of GHG gases that are included in the project boundary?	/1/ /9/	DR I	<p>Yes.</p> <p>The greenhouse gases and emissions sources included in or excluded from the project boundary have been correctly indicated in the PDD in accordance with ACM0002 Version 12.1.0.</p>	OK	OK
5.3.3 In cases where the methodology allows project participants to choose whether a source or gas is to be included in the project boundary, is the choice explained and justified by PPs?	/1/ /9/	DR	<p>Yes.</p> <p>In the PDD, the PPs give reasonable justification or explanation for the choice of GHG sources, which is in line with the applied methodology ACM0002 Version 12.1.0 and can be cross checked with the documentation presented and onsite assessment.</p>	OK	OK

5.4 Baseline identification					
5.4.1 Has the procedure contained in the selected methodology to identify the most reasonable baseline scenario been applied correctly and documented in the PDD?	/1/ /6/ /9/	DR	<p>Yes.</p> <p>By means of onsite inspection and relevant documents review, the proposed project activity is confirmed as a Greenfield grid-connected wind power plant.</p> <p>As per ACM0002. Version 12.1.0, the PDD directly states that the baseline scenario is the 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 in NCPG, as reflected in the combined margin calculations described in the "Tool to calculate the emission factor for an electricity system".</p> <p>The audit team can conclude that the procedure to identify the most reasonable baseline scenario is appropriate.</p>	OK	OK
5.4.1.1 Is the identified baseline scenario plausible?	/1/ /6/ /9/	DR	<p>Yes.</p> <p>The identified baseline scenario to the project activity is that the 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 in NCPG, as reflected in the combined margin calculations described in the "Tool to calculate the emission factor for an electricity system", which is in line with the applied methodology ACM0002 Version 12.1.0.</p>	OK	OK

5.4.1.2 Are all assumptions stated in a transparent and conservative manner?	/1/ /6/ /9/ /63/ /64/ /65/	DR	<p>All assumptions to determine the baseline emission are stated in a transparent and conservative manner in the PDD, which is confirmed by the validation.</p> <p>Emission factor of NCPG is from the officially latest public document "2010 Baseline emission factors for regional power grids in China" issued by NDRC of China on 20/12/2010.</p> <p>CL 1</p> <p>China Energy Statistics Yearbook 2010 and China Electric Power Yearbook 2010 are available before the submission of PDD for validation. It is required to justify the selection of data for EF calculation from "2010 Baseline emission factors for regional power grids in China" issued by NDRC of China on 20/12/2010 based on China Energy Statistics Yearbook 2009 and China Electric Power Yearbook 2009.</p>	CL-1	OK
5.4.2 Does the selected methodology require the use of tools <u>and</u> does PDD reflects that correctly?	/1/ /9/ /10/ /11/	DR	<p>According the applied methodology ACM0002 Version 12.1.0, all involved tools shall be latest approved version.</p> <p>By means of UNFCCC website searching, the version 02.1.1 of "Tool to calculate the emission factor for an electricity system" is confirmed not to be the latest one, thus the updated version is to be applied in the PDD as per ACM0002 Version 12.1.0.</p>	CAR-6	OK
5.4.2.1 Were all the tools applied correctly?	/1/ /9/ /10/ /11/ /44/	DR	Pls. refer to 5.4.2.	CAR-6	OK

5.4.3 In case the methodology requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario, have all scenarios been considered <u>and</u> have no reasonable alternative scenario been excluded?	/1/ /9/	DR	It is not applicable as per ACM0002 Version 12.1.0.	OK	OK
5.4.3.1 Has the choice of the baseline scenario been done using conservative assumptions?	/1/ /9/	DR	Yes. The baseline scenario to the project is in line with the one determined in the applied methodology ACM0002 Version 12.1.0.	OK	OK
5.4.4 Is the identified baseline scenario reasonable according to the assumptions, calculations and rationales used in the PDD and other reference sources?	/1/ /9/	DR	Yes. By conducting documentation review, onsite assessment and stakeholder interview, the project can be confirmed to be a Greenfield grid connected wind power plant to NCPG, thus the baseline scenario to the project presented in the PDD is assessed as reasonable against the applied methodology ACM0002. The officially latest public document "2010 Baseline emission factors for regional power grids in China" issued by NDRC of China on 20/12/2010 is referred for EF calculation. See CL 1	CL-4	OK

5.4.5 Does the PDD describe how the national and sectoral policies relevant to the baseline scenario have been identified and considered in the PDD?	/1/ /9/	DR I	It is not applicable since the selected methodology prescribes the baseline scenario.	OK	OK
5.4.6 Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the project activity?	/1/ /9/	DR I	Yes. In the description of additionality demonstration, the PDD provides a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the project activity, which is verified being in compliance with "Tool for the demonstration and assessment of additionality".	OK	OK

5.5 Algorithm and/or formulae used to determine emission reductions					
5.5.1	<p>a) Are all calculations applied and documented according to the selected methodology and in a complete and transparent manner?</p> <p>b) Are correct units applied and consistency between parameter dimensions and parameter value ensured?</p>	<p>/1/ /9/ /10/ /11/ /44/</p>	DR	<p>Yes. By means of checking the PDD, ER calculation spreadsheet against the applied ACM0002 Version 12.1.0, all calculations to determine emission reductions are confirmed to be presented in a complete and transparent manner according to the applied methodology. In addition, the correct units are correctly applied and consistent between parameter dimensions and parameter value.</p>	OK
5.5.2	<p>In case the methodology allows a selection between different options for equations or parameters, has adequate justification been given and have the correct equations and parameters been used, in accordance with the methodology selected?</p>	<p>/1/ /9/</p>	DR	<p>It is not applicable for wind power plant in accordance with the applied methodology ACM0012 Version 12.1.0.</p>	OK

5.5.3 In case some data and parameters will not be monitored throughout the crediting period, but have already been determined and fixed, are all data sources, assumptions and calculations correct, applicable to the proposed CDM project activity and conservative?	/1/ /9/ /63/ /64/ /65/	DR	Yes. All parameters that are not monitored through the first crediting period are sourced from official public data source. They can be assessed as applicable to the proposed project.	OK	OK
5.5.4 In case data and parameters will be monitored on implementation and hence become available only after validation of the project activity, are the estimates provided in the PDD for these data and parameters reasonable?	/1/ /9/ /19/ /20/	DR	Yes. The estimated net electricity output by the project is sourced from the FSR, which is finished by independent and qualified entity based on the requirements of Wind Farm Project FSR Compiling Method, thus the validation team can consider that the data is credible.	OK	OK
5.5.5 Have the major risks and uncertainties, which can influence the emission reduction estimates, been identified and addressed in the PDD?	/1/ /9/ /19/ /20/	DR	Based on the documentation review and onsite assessment, no risk and uncertainties influencing the emission reduction estimates can be identified from the newly built wind power project.	OK	OK
5.6 Leakage					
5.6.1 Has the leakage been identified and calculated according to the approved methodology?	/1/ /9/	DR	As per the applied ACM0012 Version 12.1.0, the audit team confirms that no leakage emissions are necessarily to be considered, which has been correctly addressed in the PDD.	OK	OK

5.6.2 Have the leakage been addressed in complete, conservative and substantiated manner?	/1/ /9/	DR	Not applicable.	OK	OK
5.6.3 Are uncertainties in the leakage emission estimates properly addressed?	/1/ /9/	DR	Not applicable.	OK	OK
6. Methodology-related issues for afforestation or reforestation CDM project activities					
Add specific A/R requirements – if applicable	/1/	DR	Not applicable.	OK	OK
7. Additionality					
7.1 Prior consideration of the CDM (VVM E.6.III.a)					
7.1.1 Is there documented evidence provided by the project participants on how and when the decision to proceed with the project activity was taken?	/19/ /20/ /21/ /22/ /26/ /27/ /28/	DR	<p>A CDM decision document of the project by the board of directors of China Water Group Huade Wind Power Co., Ltd., is provided by PPs for validation. As stated in the CDM decision document, considering the financial analysis described in the FSR, the board of directors made the decision to proceed with the project activity under the help of CDM CERs revenue on 08/03/2010, and then the first contract of wind turbine-generator purchase and service contract was signed on 30/05/2011.</p> <p>However, the key events timeline of the implementation for the project is not enough addressed in the PDD, pls. make revision in accordance with the actual development of the project.</p>	CAR-7	OK

7.1.2 Is the starting date of the project activity, reported in the PDD, in accordance with the “Glossary of CDM terms” and CDM VVM (§97)?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR	<p>Yes.</p> <p>The starting date of the project activity, i.e. 30/05/2010, is confirmed to be the signed date of wind turbine-generator purchase and service contract, which is also the earliest date among all signed contracts for the implementation of the project, thus the validation team can conclude that the starting date is in accordance with the “Glossary of CDM terms” and CDM VVM.</p>	OK	OK
7.1.3 Is the date stated in the provided evidence consistent with other available evidence (e.g. dates of construction, purchase orders for equipment)?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR	<p>Yes.</p> <p>The starting date presented in the PDD is consistent with the earliest contract of wind turbine-generator purchase and service contract.</p>	OK	OK
7.1.4 If the project was not published and the starting date is on or after 2 nd August 2008, was it possible to receive from UNFCCC secretariat and/or DNA a written confirmation that PPs previously informed the above entities on commencement of the project activity and of their intention to seek CDM status?	/1/ /6/ /26/ /27/ /28/ /33/ /34/ /35/ /36/ /37/ /38/	DR I	<p>Yes.</p> <p>As discussed in the above, the starting date of the project activity is 30/05/2010, after 2nd Aug.2008.</p> <p>By means of checking CDM notifications to NDRC of China and UNFCCC secretariat provided by PP, combined with UNFCCC website browsing, the validation team can confirm that these two notifications contain the precise geographical location and a brief description of the project activity, and they were submitted to NDRC on 30/09/2010 and UNFCCC secretariat on 12/10/2010, which is within six months of the project starting date.</p> <p>Therefore, as per EB 62, Annex 13, the validation team can conclude that the CDM was seriously considered in the decision to implement the project activity.</p>	OK	OK

7.1.5 For the project activities with a starting date before 2 nd August 2008 and before the actual publication, was there enough evidence presented to prove that PPs were previously aware of CDM?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR I	It is not applicable to the proposed project since the project starting date is after 2 August 2008.	OK	OK
7.1.6 For the project activities with a starting date before 2 nd August 2008 and before the actual publication, was there enough evidence presented to prove that CDM benefits have been a decisive factor in the decision to proceed with the project activity?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR I	It is not applicable to the proposed project since the project starting date is after 2 August 2008.	OK	OK
7.1.7 Does the individual or body that took the decision to proceed with the project activity have/had the authority to do so?	/25/ /26/ /27/	DR	Yes. By checking the business license of the project owner, Mr. Bin LI, as the legal person of China Water Group Huade Wind Power Co., Ltd. has the authority to make decision to proceed with the project activity.	OK	OK

7.1.8 For the project activities with a starting date before 2 nd August 2008 and before the actual publication, was there enough evidence presented to prove that PPs were taking continuing and real actions to secure CDM status for the project in parallel with its implementation?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR I	It is not applicable to the proposed project since the project starting date is after 2 August 2008.	OK	OK
7.1.9 In case there is a significant gap between the start date of the project activity and the commencement of validation, how was it possible for the project participant to commit funds to the project in advance of receiving a positive validation opinion?	/1/ /6/ /33/ /34/ /35/ /36/ /37/ /38/	DR	As assessed in the above, the starting date of the project is 30/05/2010. By checking UNFCCC website, the commencement of validation for the project is confirmed to be 14/06/2011, thus the validation team can conclude that the time gap those two points is not significant as being less than 2 years.	OK	OK

7.2 Identification of alternatives					
7.2.1 Does the PDD identify and list credible alternatives to the CDM project activity in order to determine the most realistic baseline scenario, unless selected approved methodology prescribes/identifies the baseline scenario and no further analysis is required?	/1/ /9/	DR	It is not applicable since the applied ACM0002 Version 12.1.0 has defined the baseline scenario for the new grid-connected renewable wind power plant.	OK	OK
7.2.2 Does the list of alternatives include as one of the options that the project activity is undertaken without being registered as a CDM project activity?	/1/ /9/	DR	As per the item 105 of VVM (version 01.2), the applied methodology ACM0002 Version 12.1.0 has prescribed the baseline scenario and no further analysis is required.	OK	OK
7.2.3 Does the list contain all realistic/credible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the project activity?	/1/ /9/	DR	Not applicable.	OK	OK
7.2.4 Is the exclusion of the alternatives for legal reasons justified?	/1/ /9/	DR	Not applicable.	OK	OK

7.3 Investment Analysis					
7.3.1 Are all sources of revenues (including savings) have been considered in the PDD and all calculations?	/1/ /6/ /12/ /19/ /43/	DR	Yes. By means of onsite interview and FSR review, the electricity sale, subsidy including deductible fixed assets VAT and 50% of electricity sale VAT are confirmed as all sources of revenue from this project, which have been fully considered in the PDD and IRR calculation spreadsheet.	OK	OK
7.3.2 Is the type of investment analysis selected correctly in the PDD?	/1/ /6/ /9/ /11/	DR	Yes. The benchmark analysis is correctly selected in the PDD, and its corresponding justification is assessed as appropriate.	OK	OK
7.3.3 Is the selected financial indicator chosen and applied correctly?	/1/ /12/ /19/ /43/ /66/	DR	Yes. By means of reviewing the Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects, the selected 8% of benchmark is indeed applicable to the proposed project, which is also commonly applied in the investment analysis of all other wind power projects within China.	OK	OK
7.3.4 Is the guidance on IRR calculation and assessment correctly applied?	/1/ /12/ /19/ /43/ /66/	DR	Yes. The calculation and assessment of IRR is validated as being in compliance with Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects and EB61 Annex13.	OK	OK
7.3.5 In case project participants use values from Feasibility Study Reports (FSR) is it possible to verify that the period between the FSR date and investment decision was reasonably short and FSR values did not change materially?	/1/ /6/ /12/ /19/ /26/	DR	Yes. The FSR was finished in Feb. 2010, and the CDM investment decision of the project activity was made on 30/05/2010, i.e. the signing date of wind turbine-generators purchase and service contract. Their time difference is less than four months, within which the FSR values weren't likely to change materially.	OK	OK

7.3.6 Are all the values consistent between FSR and PDD <u>and</u> are inconsistencies properly justified?	/1/ /19/ /43/	DR	CL 2 Below input financial parameters listed in the PDD are not consistent with the FSR of the project, thus corresponding clarification is required, 1) loan interest rate; 2) salary of staff; 3) repair fee rate.	CL-2	OK
7.3.7 Were all the values from FSR applicable and valid at the time of the investment decision?	/1/ /6/ /12/ /19/	DR	CL 3 Below values from FSR for investment analysis are required to justify their applicability and validity at the time of the investment decision with relevant evidences, 1) Total investment 2) Annual electricity output 3) Electricity tariff 4) Annual O&M 5) Loan interest	CL-3	OK
7.3.8 Is it reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants or some verifiable circumstances that have lead to a change in the benchmark?	/66/	DR I	Yes. It is reasonable and common practice that no investment would be made at a rate of return lower than the benchmark.	OK	OK

7.3.9 Is the Investment Analysis prepared in compliance with the latest version of the “Guidance on the Assessment of Investment Analysis” as provided by the CDM EB?	/1/ /12/ /43/	DR	CL 4 The likelihood of scenarios passing benchmark is to be further clarified in a transparent manner with substantiated evidences.	CL-4	OK
7.4 Barrier analysis					
7.4.1 Are there any issues addressed in the barrier analysis that have a clear impact on the financial viability of the project activity and that shall be assessed by an investment analysis?	/1/ /11/	DR	Not applicable.	OK	OK
7.4.2 Do the listed barriers exist <u>and</u> is their existence substantiated?	/1/ /11/	DR	Not applicable.	OK	OK
7.4.3 Would any of the identified barriers prevent the implementation of the project activity but not equally prevent the implementation of the possible alternatives, in particular the implementation of the identified baseline scenario?	/1/ /11/	DR	Not applicable.	OK	OK

7.5 Common practice analysis					
7.5.1 If the PPs claim in the PDD that CDM project activity is the “first of its kind”, is it justified?	/1/ /11/	DR	The PP doesn't claim in the PDD that the proposed project is the “first of its kind”.	OK	OK
7.5.2 Are the geographical boundaries of the project activity identified correctly?	/1/ /11/ /47/	DR	Yes. According to the official document of Notification regarding to the requirements on the regulation of wind power projects construction, provincial government is authorized to regulate wind power projects in its provincial region, thus the validation team can consider that the regulatory framework, investment climate, access to technology and access to financing are comparable in the same province region. Since the project is located in Inner Mongolia Autonomous Region, it is appropriate to choose Inner Mongolia as the geographical boundary for common practice analysis.	OK	OK
7.5.3 Does the PDD provide an explanation why this region was selected and deemed more appropriate <u>and</u> is this explanation traceable and reliable?	/1/ /11/	DR	Yes. The PDD provides a reliable explanation to choose Inner Mongolia Autonomous Region, the detailed assessment from the validation team is as seen the above.	OK	OK
7.5.4 Are there similar operational project activities, other than CDM activities, “widely observed and commonly carried out” in the defined region?	/1/ /11/ /67/	DR I	CL 5 It is required to clarify the different similar projects for the common practice analysis in the PDD for GSP and the later version.	CL-5	OK

7.5.5 In case there are similar commercially operated project activities, other than CDM activities, already “widely observed and commonly carried out” in the defined region, are there essential distinctions between the CDM project activity and the other similar activities?	/1/ /11/	DR	Yes. The essential distinctions between CDM project activity and the identified similar projects are described in the PDD and can be confirmed as reliable by cross checking the evidences addressed in the PDD.	OK	OK
8. Monitoring plan					
8.1 Are all parameters required by the selected approved methodology or tool identified <u>and</u> listed in the PDD?	/1/ /9/	DR I	During the onsite validation, the validation team observed that other 7 wind farm projects by the same PO will share one same gate meter with the proposed project together, thus parameters to be monitored for the project shall be further identified in the PDD.	CAR-8	OK
8.2 Is the measurement method clearly stated for each value to be monitored and deemed appropriate?	/1/ /9/	DR I	Ditto.	CAR-8	OK
8.3 Are values of the ex-ante parameters / monitoring parameters selected correctly and conservative in accordance to methodology or tools?	/1/ /9/ /19/	DR	Ditto.	CAR-8	OK

8.4	Is the measurement equipment for each parameter described and deemed appropriate? Are the locations of all measurement equipment clearly identified and consistently described, incl. process flow-charts contained in the PDD?	/1/ /9/ /19/	DR I	The line diagram indicating the locations of monitoring electric meters shall be addressed in the PDD.	CAR-9	OK
8.5	Is the measurement accuracy addressed and deemed appropriate?	/1/ /9/	DR I	The accuracy of the electric meters adopted for the monitoring of the project shall be indicated in the PDD.	CAR-10	OK
8.6	Are procedures in place on how to deal with erroneous measurements <u>and</u> are the corrective actions identified?	/1/ /9/	DR I	Yes. In the PDD, the description regarding procedures how to deal with erroneous measurements are assessed as appropriate and credible.	OK	OK
8.7	Is the frequency of measurement identified and deemed appropriate?	/1/ /9/	DR	Pls. refer to 8.1.	CAR-8	OK
8.8	Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	/1/ /9/	DR	Pls. refer to 8.1.	CAR-8	OK
8.9	Are the sampling, measurement methods and procedures defined?	/1/ /9/	DR	Yes. The sampling, measurement methods and procedures are in line with ACM0002 Version 12.1.0.	OK	OK

8.10 Are procedures identified for maintenance of monitoring equipment and installations?	/1/ /9/	DR	Yes. In the PDD, it is confirmed that the technical administration code of electric energy metering (i.e. DL/T448-2000) will be applied to ensure the maintenance of electric meters and installations, which is also confirmed by the validation team to be in line with the requirements of China electric power industry.	OK	OK
8.11 Are the equipment calibration intervals identified and justified?	/1/ /9/ /68/	DR	Yes. The calibration frequency of electric meters is determined as once per year for the project, which is confirmed to be fully in line with DL/T448-2000.	OK	OK
8.12 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	/1/ /9/	DR	Yes. The procedures in archiving data are identified in the PDD.	OK	OK
8.13 Are the monitoring arrangements described in the monitoring plan feasible within the project design?	/1/ /9/ /19/	DR	Pls. refer to 8.1, 8.4 and 8.5.	CAR-8 CAR-9 CAR-10	OK

8.14 Are the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, sufficient to ensure that the emission reductions achieved by / resulting from the project activity can be reported ex post and verified?	/1/ /9/	DR	Yes. The data management, quality control and quality assurance procedures are sufficiently documented in the PDD to ensure the ERs by the project can be reported ex-post and verified.	OK	OK
8.15 Do the PPs make provisions for personnel training needs?	/1/ /69/	DR I	Yes. During the onsite validation, the PPs confirmed that they would provide corresponding training to personals involved in the project. Furthermore, a CDM and operation training plan dated 04/07/2011 was provided by PP to the validation team to substantiate the above.	OK	OK
8.16 Is the authority and responsibility of overall project management clearly described?	/1/ /70/	DR I	Yes. A detailed management structure of project monitoring team is in place addressed in the PDD section B.7.2.	OK	OK
8.17 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	Yes. The procedures for emergency preparedness can be identified in the PDD and assessed as appropriate and conservative to ensure the monitoring of emission reductions.	OK	OK
8.18 Are procedures identified for review of reported results/data?	/1/	DR	Yes. The reported data will be cross checked with sales receipts, which has been integrated in the data collection procedures of the PDD.	OK	OK

8.19 Is the data archiving period for this project activity stated in the PDD and appropriate?	/1/	DR	Yes. All archived monitoring data will be kept at least two years after the end of the crediting period, which has been addressed in the PDD section B.7.2.	OK	OK
8.2 Monitoring of the leakage					
8.2.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/ /9/	DR I	Not applicable.	OK	OK
8.2.2 Is the choice of project leakage indicators made according to selected methodology in a reasonable and conservative manner?	/1/ /9/	DR	Not applicable.	OK	OK
8.2.3 Is the measurement method clearly stated and deemed appropriate for each leakage value?	/1/ /9/	DR	Not applicable.	OK	OK
9. Sustainable development					
9.1 Does the LoA from the Host country DNA contain the confirmation that the proposed CDM project activity contributes to the sustainable development of the host Party?	/3/	DR	LoA from the host country of China is pending, pls. refer to 1.1.	CAR-1	OK

9.2 If PDD indicates any additional environmental benefits of the project, other than GHG emission reductions, were those benefits properly substantiated?	/1/ /19/	DR I	<p>As described in the PDD, the project activity will bring below benefits other than GHG emission reductions,</p> <ol style="list-style-type: none"> 1) Full utilization of Inner Mongolia's wind energy resources; 2) Relieving the increase in the demand of electricity in Inner Mongolia; 3) Decreasing emissions of SO₂, NO_x and flue gas dust from fossil fuel power plants; 4) Creating employment opportunities; 5) Providing an attraction for tourism. <p>By means of onsite interview with PPs and FSR review, the above benefits can be assessed as reliable.</p>	OK	OK
10. Stakeholders' consultation and comments					
10.1 Were the stakeholders identified in appropriate and complete manner?	/1/ /31/ /32/	DR I	<p>Yes.</p> <p>The identified stakeholders can be assessed to be appropriate and representative since they are local residents who the project mostly impacted, and have different occupations, ages and education levels.</p>	OK	OK
10.2 Are the identified stakeholders plausible?	/1/ /31/ /32/	DR I	<p>Yes.</p> <p>The identified stakeholders are plausible.</p>	OK	OK
12.3 Does PDD describe the means being used to invite local stakeholder's comments?	/1/ /31/ /32/	DR I	<p>Yes.</p> <p>PDD describes the means being used to invite local stakeholder's comments, pls. see PDD section E.1.</p>	OK	OK
12.4 Were those means appropriate?	/1/ /31/ /32/	DR I	<p>Yes.</p> <p>Questionnaire distribution and collecting were assessed appropriate means to invite comments from stakeholders.</p>	OK	OK
12.5 Was the project presented to the stakeholders in unbiased manner?	/1/ /31/ /32/	DR I	<p>Yes.</p> <p>By means of checking the content of questionnaire, the audit team can conclude that the project was presented to the stakeholders in unbiased manner.</p>	OK	OK

12.6 If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/ /31/ /32/	DR I	Yes. The stakeholder consultation process has been carried out in accordance with relevant environmental laws in China.	OK	OK
12.7 Is a summary of the stakeholder comments provided in the PDD?	/1/ /31/ /32/	DR I	Yes. The summary of the stakeholder comments is provided in the PDD based on the collected questionnaire feedbacks.	OK	OK
12.8 Has due account of any stakeholder comments been taken by PPs and reflected in the PDD?	/1/ /31/ /32/	DR I	No any due account of stakeholder comments are identified from the questionnaire feedbacks provided by PP, and the validation team verifies that all stakeholders support the implementation of the proposed project without any necessary adjustments to the project design.	OK	OK
11. Environmental impacts					
11.1 Is the documentation supplied by the PPs regarding environmental impacts relevant and accurately reflected in the PDD?	/1/ /21/ /22/	DR I	Yes. Both EIA and AEIA of the proposed project have been provided to the audit team for validation. Through documents checking, EIA was completed by qualified entity of Ulanqab Environmental Protection Science Research Institute on 18/07/2010 and approved by Environmental Protection Bureau of Inner Mongolia Autonomous Region on 20/10/2010, which has been reflected in the PDD.	OK	OK
11.2 Is an environmental impact assessment (EIA) required for the CDM project activity?	/1/ /21/ /22/	DR I	Yes. As per Environmental Impacts Assessment Law of China, an environmental impact assessment is required before the projects including CDM project activity can be implemented.	OK	OK

11.3 In case an EIA is required, has the EIA has been approved by local authorities and is the outcome accurately reflected in the PDD?	/1/ /21/ /22/	DR I	Yes. By means of document review, EIA of the proposed project have been approved by Environmental Protection Bureau of Inner Mongolia Autonomous Region on 20/10/2010. And the outcome is accurately reflected in the PDD.	OK	OK
11.4 Does the PDD include a brief description of the environmental effects of the project, including transboundary?	/1/ /21/ /22/	DR I	Yes. A brief description of the environmental effects regarding the project activity has been described in section D.1 of the PDD, and assessed as consistent with EIA of the proposed project.	OK	OK
11.5 Are those effects properly addressed in the design of the project activity?	/1/ /19/ /21/ /22/	DR I	Yes. By means of onsite inspection and interview with stakeholders, those effects are properly addressed in the design of the project activity.	OK	OK
11.6 Does the project comply with environmental legislation in the host country?	/1/ /21/ /22/	DR I	Yes. The project complies with environmental legislation of China. Moreover, the project EIA has got approval from local authority.	OK	OK

Table 2: List of Requests for Corrective Action (CAR) and Clarification (CL)

No.	CAR/CL	Observation (CAR/CL)	Reference	Summary of project owner response	Validation team conclusion
1.	CAR 1	LoAs from both China and Switzerland are to be provided.	1.1-1.7 2.2 9.1	The LoAs from both China and Switzerland have been provided.	The LoAs from both China and Switzerland have been provided to the validation team. CAR 1 is closed.
2.	CAR 2	As per EB41 Annex12, the starting date of the crediting period for the project shall be presented in the format of DD/MM/YYYY.	3.2	All dates in PDD have been revised into the required format.	The PDD has been revised. CAR 2 is closed.
3.	CAR 3	The physical location of the project activity addressed in the PDD is just the centre geographical coordinates of the wind farm, and doesn't reveal the unique identification of the project activity, thus a revision to the project location is required and geographical coordinates of all wind turbine generators are to be provided for cross-checking.	4.1	The project location description in PDD has been revised as required, according to FSR and wind farm layout. The geographical coordinates of all wind turbine generators has been provided for review as the supporting document "CAR 3_Wind farm layout_4_Niujiafangzi".	The PDD has been revised and the geographical coordinates of all wind turbine generators has been provided. CAR 3 is closed.
4.	CAR 4	The map of the project site is to be revised into the English version.	4.1	The map of the project site has been revised into the English version.	The map of the project site has been revised in the PDD. CAR 4 is closed.
5.	CAR 5	The technical parameters of wind turbine generator shall be revised in the PDD in line with the signed wind turbine-generator purchase agreement.	4.2	The technical parameters of wind turbine generators have been revised in the PDD according to the equipment contracts.	The technical parameters of wind turbine generators have been revised. CAR 5 is closed.

6.	CAR 6	By means of UNFCCC website searching, the version 02.1.1 of "Tool to calculate the emission factor for an electricity system" is confirmed not to be the latest one, thus the updated version is to be applied in the PDD as per ACM0002 Version 12.1.0.	5.4.2 5.4.2.1	The EF calculation tool applied in the PDD has been updated into the latest version.	The EF calculation tool applied in the PDD has been updated into the latest version. CAR 6 is closed.
7.	CAR 7	The key events timeline of the implementation for the project is not enough addressed in the PDD, pls. make revision in accordance with the actual development of the project.	7.1.1	The detailed implementation timeline of the Project has been included in the PDD section B.5. Table 4.	The detailed implementation timeline of the Project has been added in section B.5 of the PDD. CAR 7 is closed.
8.	CAR 8	During the onsite validation, the validation team observed that other 7 wind farm projects by the same PO will share one same gate meter with the proposed project together, thus parameters to be monitored for the project shall be further identified in the PDD.	8.1-8.3 8.7 8.8 8.13	The monitoring plan has been revised and further identified in section B.7 of PDD.	The monitoring plan has been revised PDD according to the actual situation. CAR 8 is closed.
9.	CAR 9	The line diagram indicating the locations of monitoring electric meters shall be addressed in the PDD.	8.4 8.13	The monitoring equipment and their locations have been included into the chart.	The monitoring equipment and their locations have been included in Section B.3 of the PDD. CAR 9 is closed.
10.	CAR 10	The accuracy of the electric meters adopted for the monitoring of the project shall be indicated in the PDD.	8.5 8.13	The accuracy of the electrical meters has been specified in section B.7 of PDD.	The accuracy of the electrical meters has been specified in section B.7 of PDD. CAR 10 is closed.
11.	CL 1	China Energy Statistics Yearbook 2010 and China Electric Power Yearbook 2010 are available before the submission of PDD for validation. It is required to justify the selection of data for EF calculation from "2010 Baseline emission factors for regional power grids in	5.4	The data source for EF calculation is NDRC's "2010 Announcement about Confirming Baseline Emission Factors for Factor of Regional Power Grids in China". The reason why the two Yearbooks 2010 are	It is confirmed by the validation team that 2011 $EF_{BM,y}$ calculation is infeasible solely based on China Energy Statistics Yearbook 2010 and China

		China" issued by NDRC of China on 20/12/2010 based on China Energy Statistics Yearbook 2009 and China Electric Power Yearbook 2009.		<p>not used to calculate EF is as follows:</p> <p>In China it is very difficult to obtain the data of the five existing power plants built most recently ($SET_{5-units}$; and $AEG_{SET-5-units}$, in MWh) or the power plants capacity additions in the electricity system that comprise 20% of the system generation ($SET_{\geq 20\%}$; and $AEG_{SET-\geq 20\%}$, in MWh) and that were built most recently; thus there is insufficient information to calculate the $EF_{BM,y}$ according to the Tool to calculate the emission factor for an electricity system (Version 02.2.1, EB63). The latest published conservative alternative method agreed by the CDM Executive Board at validation of this project is the NDRC's "2010 Announcement about Confirming Baseline Emission Factors for Factor of Regional Power Grids in China". Although two Yearbooks 2010 were already issued at the time of validation, the important data to calculate the $EF_{BM,y}$ according to NDRC method, e.g. "the estimated coal consumption of coal-fired power plants (with relevant best practice coal power technology decision)" and "emission factors of coal-fired power using best practice commercialized technology $EF_{Coal,Adv,y}$", "the estimated coal consumption of gas and oil plant</p>	<p>Electric Power Yearbook 2010 as creditable efficiency of coal, oil, gas-fired power with the best practised commercialized technology of the year 2010 used for the calculation of the $EF_{Coal,Adv,y}$, $EF_{Oil,Adv,y}$, $EF_{Gas,Adv,y}$ is not available until publication of "2011 Baseline Emission Factors for Regional Power Grids in China" by NDRC on 20/10/2011 which is after the submission for validation of the proposed project.</p> <p>CL 1 is closed.</p>
--	--	---	--	--	--

				(with relevant best practice gas and oil power technology decision)" and "emission factors of oil and gas-fired power using best practice commercialized technology $EF_{Oil,Adv,y}$, $EF_{Gas,Adv,y}$ " are not listed in these Yearbooks. They are determined by NDRC according to their statistics results and published yearly. Therefore the emission factor in 2010 published by NDRC is the latest available data by the time of validation of this project.	
12.	CL 2	Below input financial parameters listed in the PDD are not consistent with the FSR of the project, thus corresponding clarification is required, 1) loan interest rate; 2) salary of staff; 3) repair fee rate.	7.3.6	The original PDD had mistaken input values, which have been revised according to the FSR.	The financial parameters in the PDD have been revised to comply with the FSR. The consistence between the parameters used for investment analysis and the FSR has been checked by the validation team. CL 2 is closed.
13.	CL 3	Below values from FSR for investment analysis are required to justify their applicability and validity at the time of the investment decision with relevant evidences, 1) Total investment 2) Annual electricity output 3) Electricity tariff 4) Annual O&M 5) Loan interest	7.3.7	All these input values have been further identified in section B.5 step 2 Investment Analysis of the PDD.	The justification and the evidence of the applicability and the validity of the parameters used in the investment analysis have been provided. It is assessed by the validation team that the parameters from the FSR for investment analysis are applicable and valid at the time of investment analysis. CL 3 is closed.

14.	CL 4	The likelihood of scenarios passing benchmark is to be further clarified in a transparent manner with substantiated evidences.	7.3.9	The benchmark analysis has been further clarified in section B.5 step 2 Investment Analysis of the PDD.	The likelihood of scenarios passing benchmark is clarified in the PDD as well as the supporting evidence. CL 4 is closed.
15.	CL 5	It is required to clarify the different similar projects for the common practice analysis in the PDD for GSP and the later version.	7.5.4	Two similar projects were missing in PDD-GSP, which has been added and revised in the final PDD to cover all the similar projects updated for common practice analysis.	It is confirmed by the validation team that the similar projects for common practice analysis has been listed in the final PDD in a complete manner by reviewing the relevant documents. CL 5 is closed.

Appendix B

CERTIFICATES OF COMPETENCE

Qualification

Tan, Yi /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No. :
(AuditorenRegNr)

Appointed:
(Zugelassen)

☒ ja

Qualification Level: Lead Auditor
(Qualifikationsstufe)

External:
(Externer)

☐ ja

Add. reviewer: ☐ yes
(Zusätzlicher Prüfer)

EAC Scopes:
(EAC Branchen)

CDM 01 – Energy industries (renewable – / non-renewable sources)
CDM 13 – Waste handling and disposal

Add. qualification:
(zus. Qualifikation)

First Appointment: 09/26/2009
(Erstberufung)

Valid to: 09/25/2012
(Gültig bis)

Remarks: CDM 01 limited to TA1.2 – Renewable Energies
CDM 13 limited to TA 13.1– Waste handling & disposal

Languages: Chinese
English
Japanese

Experience Exchange

Date	Location	Remarks	Accredita
2011-06-18	Beijing	Beijing CDM Seminar-EB61/62	United Nations Framework Convention
2010-12-21	Beijing	GC CDM Auditor Experience Exchange, Beijing, 2010-12-21to23	
United Nations Framework Convention on Climate Change			

Monitoring

Latest Monitoring:
(letzte Beurteilung)

Next
Monitoring:
(nächste
Beurteilung)

Remarks:

History of scope allocation

Date: 2009-09-27
Change: EAC CDM, CDM added
By: Manfred Brinkmann
Reason:

History

Created:	03/18/2008 01:50:31 PM	Daxun Li/Bj/Chn/TUV
Modified:	03/20/2012 07:37:31 PM	Praveen Urs/Chn/TUV
	01/13/2011 03:17:56 PM ZE9	Manfred Brinkmann/Jpn/TUV
	01/13/2011 03:17:19 PM ZE9	Manfred Brinkmann/Jpn/TUV
	01/13/2011 03:17:00 PM ZE9	Manfred Brinkmann/Jpn/TUV
	09/13/2010 03:01:43 PM ZE9	Manfred Brinkmann/Jpn/TUV

Qualification

Deng, Cuiping /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No.:

(AuditorenRegNr)

Appointed:
(Zugelassen)

☒ ja

Qualification Level:
(Qualifikationsstufe)

External:
(Externer)

☐ ja

Add. reviewer:
(Zusätzlicher Prüfer)

☒ yes

EAC Scopes:
(EAC Branchen)

CDM 01 – Energy industries (renewable – / non-renewable sources)
CDM 05 – Chemical industry
CDM 11 – Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
CDM 12 – Solvents use

Add. qualification:
(zus. Qualifikation)

First Appointment: 10/09/2010
(Erstberufung)

Valid to:
(Gültig bis)

10/08/2013

Remarks:

Appointed as Technical Reviewer for TA 1.2 TA 5.1, 11.1, 12.1
and TA 4.1, 4.5, 8.2, 10.2 based on Annex D para 5 of
Accreditation Standard version 03

Languages:

Experience Exchange

Date

Location

Remarks

Accredita

2010-12-21 Beijing GC CDM Auditor Experience Exchange, Beijing, 2010-12-21to23
United Nations Framework Convention on Climate Change

Monitoring

Latest Monitoring:
(letzte Beurteilung)

Next
Monitoring:
(nächste
Beurteilung)

Remarks:

History of scope allocation

Date: 2010-11-11
Change: EAC CDM, CDM, CDM, CDM added
By: Manfred Brinkmann
Reason: Appointed as Technical Reviewer for
TA 1.2
TA 5.1, 11.1, 12.1

History

Created:	08/13/2010 11:19:43 AM	Cuiping Deng/Bj/Chn/TUV
Modified:	02/12/2012 05:35:34 PM	Praveen Urs/Chn/TUV
	02/12/2012 05:35:21 PM	Praveen Urs/Chn/TUV
	11/11/2010 12:00:44 PM ZE9	Manfred Brinkmann/Jpn/TUV
	11/11/2010 11:59:20 AM ZE9	Manfred Brinkmann/Jpn/TUV
	11/11/2010 11:58:18 AM ZE9	Manfred Brinkmann/Jpn/TUV
	08/13/2010 11:21:37 AM	Cuiping Deng/Chn/TUV