



VALIDATION REPORT

for the CDM Project Activity

CECIC HKC Gansu Changma Wind Power project

In

P. R. China

Report No. 01 997 9105052517

Version No. 06, 2011-05-31

TÜV Rheinland Japan Ltd.

I. Project description:

Project title: CECIC HKC Gansu Changma Wind Power project
Host Country: P. R. China
Methodology: ACM0002, version 12.1 ☒ Large Scale ☐ Small Scale
Annual average emission reductions (estimate): 430,588 tCO₂e/yr

GHG reducing measure/technology: Displacing fossil fuel based grid power generation with renewable wind power.

Party	Project Participants	Party considered a project participant
P. R. China	CECIC HKC Gansu Wind Power Co., LTD.	No
United Kingdom	Morgan Stanley & Co. International plc	No

II. Validation:

Contract party: Morgan Stanley & Co. International plc.

Validation Team:

Role	Full name	Appointed for Sectoral Scopes	Affiliation
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Note:

*Mr. Libo Ma is team leader since 3 May 2011;

**Mr. Sequoia A is team leader until 2 May 2011.

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:

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Final approval: | Released on:

| Designated Operational Entity (DOE):

	Date: 2011-06-23 By: Dr. Manfred Brinkmann	TÜV Rheinland Japan Ltd. Shin Yokohama Daini Center Bldg., 3-19-5, Shin Yokohama Kohoku-ku, Yokohama, JAPAN 222-0033 Tel.: +81 45 470 1850, Fax: +81 45 470-2361 E-mail: cdm@tuv.com
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Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CECIC	CECIC HKC Gansu Wind Power Co., LTD.
CER	Certified Emission Reduction
CL	Clarification request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
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)
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
LoA	Letter of Approval
MoC	Modalities of Communication
MP	Monitoring Plan
MUMSS	Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
NCV	Net Calorific Value
NDRC	National Development and Reform Commission
NGO	Non-governmental Organisation
NWCPG	Northwest China Power Grid
ODA	Official Development Assistance
OM	Operating Margin
PDD	Project Design Document
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-added Tax
VVM	Validation and Verification Manual

Executive Summary – Validation Opinion

The validation team of TÜV Rheinland Japan Ltd., TÜV Rheinland Group (TÜV Rheinland) has performed a validation of the “CECIC HKC Gansu Changma Wind Power project” (hereafter being referred to as the “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 review of the project design documentation and the subsequent follow-up interviews have provided DOE with sufficient evidence to determine the fulfillment of stated criteria.

The Validation was executed in the following steps so far:

- Desk review of preliminary PDD (Version 01, 5th March 2008)
- Public stakeholder comment process (7th Mar. 2009 to 5th Apr. 2009)
- On-site visit with stakeholder interviews (25th March 2009)
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report & protocol
- Desk review of revised PDD (version 3, 24 May 2011)
- 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.

The project activity is bilateral CDM-project, with United Kingdom identified as the Annex I party.

The validation did not reveal any information of public funding towards the Project.

The project applies approved consolidated baseline and monitoring methodology ACM0002: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (Version 12.1)

And also the project applies the tools as follows:

- Tool to calculate the emission factor for an electricity system (Version 02.1.0)
- Tool for the demonstration and assessment of additionality (Version 05.2)

The total emission reductions from the project are estimated to be on the average 430,588 tCO₂e per year over the first 7-year 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.

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 TÜV Rheinland's opinion that the CECIC HKC Gansu Changma Wind Power project in P.R.China as described in the PDD of Version 3, 24 May 2011, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and applies the baseline and monitoring methodology ACM0002, version 12.1. TÜV Rheinland thus requests the registration of the Project as a CDM project activity.

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1 INTRODUCTION

The Morgan Stanley & Co. International plc. has commissioned the DOE TÜV Rheinland Japan Ltd. to perform a validation of the CDM Project Activity “CECIC HKC Gansu Changma Wind Power project” in Gansu Province, 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 criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, ACM0002, version 12.1. The validation team has, based on the recommendations in the Validation and Verification Manual, ensured a thorough, independent assessment of proposed project activities submitted for registration as a proposed CDM project activity against applicable CDM requirement.

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/ Project Design Document for the Project, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., GSP version of 5 March 2009 and version 2.2 of 31 May 2010.
- /2/ Project Design Document for the Project, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., version 3 of 24 May 2011.
- /3/ Host Country Letter of Approval (LoA) [Ref No.: 1973] original English version, National Development and Reform Commission of the People's Republic of China (China DNA), Apr. 2009.
- /4/ LoA of Annex I Party, the Department of Energy and Climate Change of United Kingdom, 15th Sep. 2009.
- /5/ "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", ACM0002, version 12.1, 17 Sep. 2010
- /6/ Tool for the demonstration and assessment of additionality, Version 05.2, 26th Aug. 2008.
- /7/ Tool to Calculate the Emission Factor for an Electricity System, Version 02.1.0.
- /8/ Clean Development Mechanism Project Design Document Form (CDM-PDD), Version 03.
- /9/ Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM), Version 07, 2nd Aug. 2008.
- /10/ CDM Validation and Verification Manual, Version 01.2, Annex 1/EB55, 30 July 2010.
- /11/ Feasibility Study Report (FSR) for the project, China Power Construction Engineering Consulting Corporation, Mar. 2008, and the Approval Letter (Ref No.: FaGaiNengYuan [2008] No. 1508) by the NDRC on 17th June 2008.
- /12/ Environmental Impact Assessment of the project, Gansu Province Environment and Science Design Institute in October 2007, and the approval letter by Gansu Province Environment Protection Bureau on 6th November 2007.
- /13/ Chinese DNA's 2008 Baseline Emission Factors for Regional Power Grids in

- China, 18th July 2008.
<http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3359>
- /14/ China Electric Power Yearbook 2003 to 2007.
 - /15/ China Energy Statistical Yearbook 2005 to 2007.
 - /16/ Answer to DNV's request for deviation of Chinese project activities from AM0005, received on 1 December 2005.
 - /17/ Guidelines on the Assessment of Investment Analysis Version 03.1, 15 January 2010.
 - /18/ Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories
 - /19/ IRR calculation spreadsheet dated 12th Feb. 2009, 3rd Sep. 2009 and 30th May 2011.
 - /20/ Baseline emission factor calculation spreadsheet dated 12th Feb. 2009, 3rd Sep. 2009 and 24th May 2011.
 - /21/ Letter of Approval for establishing CECIC HKC Gansu Wind Power Co., LTD. 2nd Sep. 2008.
 - /22/ Commercial Registration License, Gansu Province Administration for Industry & Commerce.
 - /23/ Notice on power connecting system of the Changma Wind Power Plant (Ref No.: GanDianSiFaZhan [2007] No. 588), Gansu Province Electric Power Co., 5th Sep. 2007.
 - /24/ Land Use Right Transfer Contract, Yumen City Land Resources Bureau & CECIC, 10th Nov. 2008.
 - /25/ Loan Contract, China Development Bank & CECIC, 18 Sep. 2008.
 - /26/ Bidding Winning Notice, Zhongbiao International Bidding Co. Ltd., 30th Jan. 2008
 - /27/ Wind turbine purchase contract , CECIC Wind Power Investment Co. Ltd. & Dongfang Steam Turbine Co. Ltd. 19th May, 2008,
 - /28/ Foundation construction contract for Phase 1, CECIC Wind Power Investment Co. Ltd. & Gansu Construction Engineering Co., 6th Jun. 2008.
 - /29/ General Contracts List, CECIC, 23rd Jun. 2009.
 - /30/ Construction permission, Beijing Guoxuan Engineering and Technology Co. Ltd. (supervision party), 16th June, 2008
 - /31/ Tariff Bidding result of the Project, Fa Gai Ban Neng Yuan [2008] 388, Feb. 2008.
 - /32/ CDM Executive Board, 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 01), EB54, June 2010.
 - /33/ CER Project Development Bidding Invitation, CECIC HKC Gansu Wind Power Co., LTD., 7th Aug. 2008.

- /34/ ERPA and CDM Consulting agreement, 12th December 2008.
- /35/ Training records on technique, CECIC, 2008
- /36/ CDM Monitoring and Management Manual, CECIC, Mar. 2009.
- /37/ CDM consulting agreement and Project Idea Notes (PIN), CECIC Wind Power Investment Co. Ltd. & Dr. Zhang Shuwei, 12th March, 2008.
- /38/ Feasibility Study Report Development Agreement, CECIC Wind Power Investment Co. Ltd. & China Power Construction Engineering Consulting Corporation, Sep. 2007
- /39/ Minute of Board meeting on CDM development, CECIC Wind Power Investment Co. Ltd., 5th Mar. 2008
- /40/ Minute of the stakeholder consultation meeting and Copies of stakeholders consultation questionnaires, 6 March 2008.
- /41/ Letter of demonstration of no use of backup power, CECIC, 11th Jun. 2009.
- /42/ List of CECICI Employee, CECIC
- /43/ List of local employee for construction of the Project, 19th Jun. 2009
- /44/ Clarification on EIA related issues, Gansu Province Environmental Protection Bureau, 30th Jun. 2009.
- /45/ Table of Clarification on operating hours.
- /46/ Website of DNA of China regarding CDM,
<http://cdm.ccchina.gov.cn/web/index.asp>;
Website of DNA of Annex I country United Kingdom regarding CDM,
http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/intl_strat/mechanisms/clean_developm/clean_developm.aspx
- /47/ Notice on Strictly Prohibiting the Installation of Fuel-fired Generation with the Capacity of 135MW or below issued by State Council Office, decree, no. 2002-6
- /48/ Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects, The State Power Company, Mar. 2003.
<http://cdm.unfccc.int/UserManagement/FileStorage/JL694VF0I1STX3G7M3RL8W0TMHVOAR>
- /49/ Regulations on Wind power FSR preparation:
 - 1. Compilation Code of Wind Power Project Feasibility Study Report, DL/T 5067-1996, 1996;
 - 2. Compilation Method of Wind Power Project Pre Feasibility Study Report, FaGaiNengYuan [2003] No. 1403, NDRC, 2003
 - 3. Compilation Method of Wind Power Project Feasibility Study Report, FaGaiNengYuan [2005] No. 899, NDRC, 2005
- /50/ Clarification of Power Loss Factor for Wind Power Projects Implemented Within China, NDRC of China, 2 Jun. 2009
- /51/ Statistics on wind power installed capacity of China 2007,
<http://www.cwea.org.cn/upload/20080324.pdf>
- /52/ Approval of Ratifying Electricity Tariff for Wind Power Projects Heilongjiang Ma Anshan and Liaoning Fuxin and others (FaGaiJiaGe [2008] No 1876), NDRC of China, 23rd Jul. 2008.
- /53/ Technical Administrative Code of Electric Energy Metering, DLT 448-2000
- /54/ Guidance on The Demonstration and Assessment of Prior Consideration of The

- CDM, Version 03 of 11 Sep. 2009.
- /55/ Notice on Value Added Tax Policy Regarding Resource Multi-utilization and Other Products (Ref No.: CaiShui [2001] No. 198), Ministry of Finance of P. R. China & State Administration of Taxation, 1st Dec 2001
- /56/ Law of Enterprise Incoming Tax of People's Republic of China, as of effect on 1st Jan. 2008, 16 Mar. 2007.
- /57/ UNEP Risoe CDM/JI Pipeline Analysis and Database, 1 February 2011.
- /58/ Notice on Wind Power Construction and Management (Ref No.: FaGaiNengYuan [2005] No. 1204), NDRC of China, 4th Jul. 2005.
- /59/ Gold Standard Registry, Gansu Anxi Wind Farm Project is under the assistance of carbon finance (GS-VER).
(<https://gs1.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=554>)
- /60/ Power Engineering Economic Evaluation and Tariff (Second Edition), China Electric Power Press, Nov. 2009.
- /61/ A Study On the Pricing Policy of Wind Power in China, Green Peace & Global Wind Energy Council & Chinese Renewable Energy Industries Association, Oct. 2006
- /62/ Study Report on Development of Policy of Chinese Wind Power Tariff, China-Danish Wind Energy Development Program Office & Chinese Renewable Energy Industry Association, Nov. 2009.
(<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2364.doc>)
- /63/ China Power Construction Engineering Consulting Corporation, Clarification regarding the O&M cost calculation, 12 Nov. 2010.
- /64/ Units of First Phase Acceptance Certification was issued by Dongfang Steam Turbine Co. Ltd., 10 March 2010 and 8 May 2010
- /65/ Units of Second Phase Acceptance Certification was issued by Dongfang Steam Turbine Co. Ltd. 25 November 2010 and 15 February 2011.
- /66/ Modalities of Communication Form for the Project, CECIC HKC Gansu Wind Power Co., LTD. And Morgan Stanley & Co. International plc, 10 Sep. 2009.
- /67/ Modalities of Communication Form (F-CDM-MOC) Version 01, CDM Executive Board, Annex 60/EB45, 13 February 2009.
(http://cdm.unfccc.int/EB/045/eb45_repan60.pdf)
- /68/ Clarification and guidance about revisions of the MoC forms and acceptability for due processing by the secretariat, UNFCCC secretariat, email records on 13 April 2011.
- /69/ 2008 Electricity Price and Accounting Monitoring Report, State Electricity Regulatory Commission, 14 October 2009.
(http://www.serc.gov.cn/zwgk/jggg/200910/t20091014_12181.htm)
- /70/ Purchase Contract of Wind Turbine Tower for Phase 1, CECIC HKC Gansu Wind Power Co., LTD., 10 November 2008.
- /71/ Purchase Contract of Wind Turbine Tower for Phase 2, CECIC HKC Gansu Wind Power Co., LTD., 20 November 2008.
- /72/ Foundation construction contract for Phase 2, CECIC HKC Gansu Wind Power Co., LTD., 27 March 2009.
- /73/ Purchase Contract of Wind Turbine Transformer, CECIC HKC Gansu Wind Power Co., LTD., 20 November 2008.

- /74/ Purchase Contract of Main Transformer, CECIC HKC Gansu Wind Power Co., LTD., 20 November 2008.
- /75/ State Economic and Trade Commission, National industry standard of the Technical Administrative Code of Electric Energy Metering (DL/T448-2000), 3 November 2000.
- /76/ State Council: Implementation Rules for Law of the People's Republic of China on Enterprise Income Tax, Promulgated by Decree No. 512 of the State Council of the People's Republic of China, 6 December 2007.
(http://www.gov.cn/zwqk/2007-12/11/content_830645.htm)
- /77/ State Council, Decision on the revision of the "Provisional Regulations of Levying Education Surtax", 20 August 2005.
- /78/ State Council, Provisional Regulations on Urban Maintenance and Construction Tax, valid since 1985.
- /79/ Environmental Protection Department, Government of the Hong Kong Special Administrative Region, Supplementary Notes on the Implementation of Projects under the Clean Development Mechanism by Hong Kong Enterprises in Mainland, 1 December 2009.
- /80/ IRR calculation spreadsheet with earlier development schedule, dated 24 May 2011.
- /81/ List and Analysis Result of Registered Wind Projects in Gansu Province, Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., 24 May 2011.
- /82/ Power Purchase Agreement, CECIC HKC Gansu Wind Power Co., LTD., October 2009.

Main changes between the version published for the 30 days stakeholder commenting period and the final version submitted for registration:

- The applied methodology ACM0002 is updated from version 09 to version 12.1;
- Changes related to the CAR and CL identified in the TÜV Rheinland's draft validation report to the Project.

2.2 Follow-up Interviews with Project Stakeholders

	Date	Name	Organization	Topic
/i/	2009-03-25	ZHAO Min,(Deputy Director)	Yumen Environmental Protection Bureau	– Local energy supply condition
		ZHANG Jianjin (Deputy Director)	Yumen Development and Reform Commission	– Positive or negative impact brought by the Project
		ZHAO Minjie (Deputy Leader)	Yumen City Yumen Town Government	– Local Wind Resources
/ii/	2009-03-25	ZHANG Huayao (Deputy Director),	CECIC HKC Gansu Wind Power Co., LTD.	– Project Management
		XIA Guoxiong (Deputy Director)		– Technical issues
		MIAO Qingqiang (Manager)		– Approval status by the host country
				– Sustainable development issues
				– Investment risks and barriers
				– Additionality
				– Monitoring plan
				– Training plan
				– Environmental impacts
				– Stakeholder process
/iii/	2009-03-25	Matthew Setterfield (Senior Consultant)	Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. (MUMSS)	– Financial source
		Takeshi Miyata (Consultant)		– CDM incentive consideration
		XIAN Hongwei (CDM Consultant)		– Project design document
				– Baseline determination
				– Emission reductions calculation
				– Project additionality
				– Status of LoAs

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 three 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:

- i) mistakes have been made with a direct influence on project results;
- ii) CDM and/or methodology specific requirements have not been met; or
- iii) 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: Requirement checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the large-scale PDD template, version 03 - in effect as of: 28 July 2006. Each section is then further sub-divided.</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: Resolution of Corrective Action and Clarification Requests			
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 Internal Quality Control

The draft validation report including the initial validation findings underwent a technical review before being submitted to the project participants. The final validation report underwent another 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.

2.5 Validation Team

Role	Full Name	Appointed for Sectoral Scopes	Affiliation
Team Leader	Libo Ma*	1.1, 1.2, 4.5	TÜV Rheinland (China) Co., Ltd.
Team Member	Sequoia A**	1.2	TÜV Rheinland (Shanghai) Co., Ltd.
Trainee	Stefan Liang	N/A	TÜV Rheinland (Shanghai) Co., Ltd.
Trainee	Dzianis Isakau	N/A	TÜV Rheinland Japan Ltd.
Technical Reviewer	Kai Zhou	1.2, 5.1, 11.1, 12.1	TÜV Rheinland (Guangdong) Ltd.

Note:

*Mr. Libo Ma is team leader since 3 May 2011;

**Mr. Sequoia A is team leader until 2 May 2011.

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 as documented and described in the revised and resubmitted project design documentation.

3.1 Approval and Participation

The host party of the Project is P. R. China and the project participant from the host party is CECIC HKC Gansu Wind Power Co., LTD. /22/. The Letter of Approval (LoA) /3/ from the DNA of China, National Development and Reform Commission, to authorize the CECIC HKC Gansu Wind Power Co., LTD. as the project participant, was issued on April 2009. The Validation Team has assessed the LoA from China and confirms that the project name in this

LoA is the same to that indicated in the PDD. Also the voluntary participating and the contribution to the sustainable development of the host party are confirmed in the LoA.

According to the revised PDD, the project activity is bilateral CDM-project, with United Kingdom of Great Britain and Northern Ireland identified as the Annex I party, the LoAs from which have also been provided.

Project participants	1. CECIC HKC Gansu Wind Power Co., LTD. ¹	2. Morgan Stanley & Co. International plc
Parties involved	<i>P. R. China (host)</i>	<i>United Kingdom</i>
Ratification status of the parties	China ratified the Kyoto Protocol on 30 August 2002.	<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	<i>Apr. 2009 (original English version)</i>	<i>15th Sep. 2009</i>
Reference to document	<i>Ref./3/</i>	<i>Ref. /4/</i>
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=3576</i>	<i>The Audit Team made a comparison between the LoA of the Project with that of the latest registered CDM project as UK as the Annex I party and no doubts were 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	<i>N/A</i>	<i>No</i>

¹ The Project Participant CECIC HKC Gansu Wind Power Co., LTD. is a joint venture of CECIC Wind Power Investment Co. Ltd. and HongKong Construction Engineering, which was approved by the Ministry of Commerce of P.R.China on 18th June 2008. /21/, and license/22/ of the CECIC HKC Gansu Wind Power Co., LTD. was registered by Gansu Province Administration for Industry & Commerce on Dec. 2008. The CECIC HKC can continue development, construction, operation of the Project which was approved by the Ministry of Commerce of P.R.China /21/.

Project contribution to SD	Yes	N/A
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The Modalities of Communications (MoC) of the Project/66/ has been received by the validation team and it was confirmed that the MoC was signed on 10/09/2010 according to the Modalities of Communication Form (F-CDM-MOC) Version 01/67/, which is considered acceptable for processing by the UNFCCC secretariat/68/.

The validation did not reveal any information that indicates the project can be seen as a diversion of official development assistance (ODA) funding towards China. The Validation Team reviewed the FSR and the project approval. It is indicated in the approval issued by Gansu Government that 34% percent of the project invest will be raised by the project owner and 66% of the project invest will be raised from the commercial bank. This is also confirmed by the local governors/iii/. The Validation Team hence reviewed the bank loan contract signed with China Development Bank /25/, and confirmed the commercial bank loan sums up to be 1144.5 Million RMB, that is 66% of the project investment. All relevant supporting evidence has been assessed by the Validation Team.

3.2 Project Design Document

The Project Design Document is based on the currently valid PDD template /8/ and is completed in accordance with the applicable guidance document /9/.

3.3 Project Description

The CECIC HKC Gansu Wind Power Co., LTD. is located at Yumen Town, Gansu Province, P. R. China, which can be confirmed by the Validation Team during on site physical inspection. Based on the FSR, there are no exploitable hydro resources, rivers, lakes or geothermal resources and the location of the Project is in the desert. This could be confirmed by the Validation Team during on site physical inspection, the Validation Team noticed the project is located in Yumen area. As referred to the FSR, the project site is 7-10 km southwest of Yumen Town. And by interviewing local governors/iii/, the Validation Team was confirmed that the project site is far away from local inhabitants. The geographical coordinates of the Project are +96.8583 and +96.9575 East longitude and +40.1417 and +40.2572 North latitude, and is consistent with windfarm layout by the FSR design entity.

The Project involves installation 134 wind turbines; the model of the wind turbine is FD77/1500 purchased from Dongfang Steam Turbine Co. Ltd.; the capacity of each is 1.5MW; the total installation capacity is 201MW. The wind turbine's model can be confirmed by assessing the Equipment Purchase Agreement /27/ while the project total installation and confirmed by the project's approval /11/.

The generated electricity will be transmitted to Northwest China Power Grid (NWCPG) through onsite 35kV/110kV substation. By the time of on site assessment, the substation installation has been finalized. The scenario before the project implementation is the same to the baseline scenario. The electricity is provided by the NWCPG.

According to the PDD, the expected operational life time of the Project is 20 years, which is consistent with the wind turbine technical lifetime (i.e. 20 years) based on the manufacturer's technical specifications/27/. A renewable 7-year crediting period has been chosen for the Project, starting from 1 August 2011. The emission reductions are estimated to be 430,588 tCO₂e per year and totally 3,014,116 tCO₂e over the first 7-year crediting period.

The construction of the Project was commenced on 16 June 2008, which was confirmed by the *Construction Starting Permission Letter/30/*. The major construction contracts/28/ were signed in 6 June 2008 and the Wind Turbine Generator Purchasing Contract/27/ was signed between the project owner and Dongfang Steam Turbine Manufacture and CECIC on 19 May 2008, which is before the construction contract sign date. Therefore, the wind turbine contract sign date of "19 May 2008" is justified as the project starting date representing the earliest date on which the real action begins.

Before the commercial operation of the Project, the project owner carried out technical and administrative training on wind turbines structure and functions, wind turbine basic components, wind turbine operation and control, power connecting system and operation securities. The training records/35/ have been provided by the project proponent and reviewed by the Validation Team. To the Validation Team's opinion, the project description is accurate and complete.

<i>Starting date of Project</i>	<i>Justification of and evidences (references) on the starting date of project</i>	<i>Expected project operational lifetime</i>	<i>Crediting period</i>
19/05/2008	Wind Turbine Generator Purchasing Contract/27/	20 years 0 month	Renewable 7 years crediting period starting from 1 August 2011.

3.4 Baseline and Monitoring Methodology

3.4.1 Applicability of the selected methodology to the project activity

The project activity applies the approved "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", ACM0002, version 12.1/5/, which is the latest till 24 May 2011. The applicable criterion of the methodology is justified as the Project is:

1. The Project is a 201MW wind power plant and doesn't involve switching from fossil fuels to renewable energy sources. The Validation Team confirms that during on site assessment. The Project is a newly built wind farm project and doesn't involve switching from fossil fuels to renewable energy sources.
2. The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available. The Project generated electricity will be transmitted and connected with Gansu Grid/23/. The Validation Team has reviewed the Notification on Determining Baseline Emission Factor of

China's Grid/13/, issued on 18 July 2008 by Chinese DNA. Gansu Grid is part of NWCPG. The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available.

By onsite assessment and interview with local governmental official/i/, the validation team confirms that the project activity complies with all applicability conditions of the methodology and relevant tools. No other GHG emissions occurring within the project boundary as a result of the implementation of the project which is expected to contribute more than 1% of the overall expected average annual emissions reductions and not addressed by the applied methodology.

3.4.2 Project Boundary

The project boundary is defined as the site of the project activity and all power plants connected physically to the grid that the Project is connected to. A diagram reflecting the project boundary is illustrated in the PDD/2/ by the project proponent. The project activity site includes all the wind turbines, the central control room and the substation, all of which has been confirmed by the Validation Team during on site assessment. The project is connected is Northwest China Power Grid (NWCPG) according to the *Notice on Power Connecting System/23/*. The Validation Team has reviewed the *Notification on Determining Baseline Emission Factor of China's Grid/13/*, issued by China DNA on 18 July 2008, and confirmed that Gansu Grid is part of NWCPG, which includes the Shaanxi Province, Gansu Province, Qinghai Province, Ningxia Province and Xinjiang Province.

	GHGs involved	Description
Baseline emissions	CO ₂	The main emission from NWCPG
Project emissions	Not involved	The Project is power plant using wind source, no project emission is accounted
Leakage	Not involved	The Project does not need to consider the emissions arising due to activities such as power plant construction or land Inundation. The Project leakage is zero.

3.4.3 Baseline Identification

As discussion above, the application requirements of baseline methodology ACM0002, version 12.1, has been justified.

The Validation Team refers to the methodology ACM0002, version 12.1, and it is indicated clearly that the baseline for this a new grid-connected renewable power plant project is to be 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, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

Regarding the grid connected electricity system, the Validation Team refers to the Chinese DNA's publication/13/ and confirms the project grid-connected electricity system is NWCPG, which consists of Shaanxi Grid, Gansu Grid, Qinghai Grid, Ningxia Grid and Xinjiang Grid.

As specified in article 105 of the VVM Version 01.2/10/, no other alternatives are required to be analyzed as the selected methodology has prescribed the baseline scenario. To the Validation Team's opinion, the project baseline determination is made in a transparent manner.

<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)	☒ Yes ☐ No
<i>PDD includes all assumptions and data used by project participants</i>	☒ Yes ☐ No
<i>All the references and documents used are relevant for establishing the baseline scenario</i>	☒ Yes ☐ No
<i>All the references and documents used are correctly quoted and conservatively interpreted in the PDD</i>	☒ Yes ☐ No
<i>All relevant policies / regulations considered are listed in the PDD</i>	☒ Yes ☐ No
<i>Identified potential baseline scenarios reasonably represent what would/could occur in the absence of the proposed project activity</i>	☒ Yes ☐ No
<i>The baseline scenario selection is appropriate and determined according to the methodology</i>	☒ Yes ☐ No
<i>The approved methodology used is applicable to the identified baseline scenario</i>	☒ Yes ☐ No

To the Audit Team's opinion, the baseline scenario is determined according to the methodology and is plausible.

3.4.4 GHG Emission Reductions

The GHG emission reductions calculation is based on the methodology ACM0002, version 12.1 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" The emission reduction ER_y by the project during a given year y is calculated as the difference among baseline emissions (BE_y), project emissions (PE_y) and leakage due to the Project activity (L_y):

$$ER_y = BE_y - PE_y - L_y$$

The Audit Team has verified the emission reductions calculation by document review.

<i>All assumptions made for estimating GHG are listed in the PDD</i>	☒ Yes ☐ No	All the assumptions made for estimating GHG have been confirmed to be listed in the PDD Section B.6 and Annex 3. The main assumptions are in line with <i>Notice on</i>
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		<i>Publishing 2008 Baseline Emission Factors for Regional Power Grids in China/13/.</i>
<i>All data used by project participants are listed in the PDD</i>	☒ Yes ☐ No	All data used by the project participants have been confirmed to be listed according to the <i>Tool to calculate the emission factor for an electricity system (version 02.1.0)</i> and relevant China DNA's Guidance.
<i>Their references and sources are also listed in the PDD</i>	☒ Yes ☐ No	The references and sources have been confirmed to be listed in the PDD Section B.6 and Annex 3 Baseline Information.
<i>Formulas, parameters, values are complete, accurate, transparent and conservative</i>	☒ Yes ☐ No	- For $EF_{grid,CM,y}$ - The grid emission factor OM and BM and CM value is referred from and is consistent with the publications of Chinese DNA/13/. - For PE_y - The Project is a renewable energy power plant applying wind power. In this case, the project emissions are regarded as zero. - For L_y - The Project does not need to consider the leakage arises from construction or land inundation. The project leakage can be excluded.
<i>All the references and documents used are correctly quoted and conservatively interpreted in the PDD</i>	☒ Yes ☐ 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 <i>Tool to calculate the emission factor for an electricity system (version 02.1.0)</i> and relevant China DNA's Guidance.
<i>Methodology has been applied correctly to calculate project emissions, baseline emissions, leakage emissions and emission reductions</i>	☒ Yes ☐ No	All formulas are applied accordingly with the methodology.
<i>All the emissions of baseline emissions can be replicated using information provided in the PDD</i>	☒ Yes ☐ No	All the applied data is listed out in section B.6 and Annex 3 of the PDD. The baseline emissions can be replicated.

The emission reduction calculation spreadsheet/20/ has been assessed by the Audit Team. The project is expected to achieve emission reduction amount of 430,588 tCO₂e per year over

the first 7-year crediting period. The whole calculation process/20/ has been verified by the Validation Team.

3.5 Additionality

The additionality of the Project, as required by ACM0002, is demonstrated by applying the “Tool for demonstration and assessment of additionality (version 5.2)”.

3.5.1 CDM consideration

As per the ‘Guidelines on The Demonstration and Assessment of Prior Consideration of The CDM’/54/, for those project activities with a start date earlier than 2 August 2008, if the Project starting date is prior to the date of publication of the PDD for global stakeholder consultation, it is required to demonstrate that the CDM was seriously considered in the decision to implement the project activity. Hence the project starting date shall be verified in first place.

Regarding the project starting date, the Validation Team has assessed the relevant documents during validation.

In March 2008, China Power Construction Engineering Consulting Corporation finalized the Feasibility Study Report (FSR) for the project. During on site assessment, the Validation Team assessed the FSR. In section 14.3 of the FSR, the CDM revenue was stipulated and determined because the CDM revenue would improve the project’s financial attractiveness.

On 5th Mar. 2008, the project owner decided to develop the project as a CDM project to improve its financial attractiveness as per the Meeting Minutes/39/.

On 12th Mar. 2008, the CDM Consulting Contract/37/ was signed.

On 19th May 2008, the wind turbine purchase agreement/27/ was signed with Dongfang Steam Turbine Co. Ltd.

On 6th Jun. 2008, the major construction contract/28/ was signed with Gansu Construction Engineering Co., Ltd.

On 16th Jun. 2008, the construction permission/30/ was issued the Beijing Guoxuan Engineering and Technology Co. Ltd.

On 17th June 2008, Project Approval Letter (Ref No.: FaGaiNengYuan [2008] No. 1508) was issued by the NDRC /11/.

On 12th Dec. 2008, ERPA/34/ was signed.

Among the above mentioned activities, the earliest date of the project real action is the date purchasing the wind turbine generator, since the cost of wind turbine generator accounts for a major part of the Project total cost. So 19th May 2008 is deemed to be the Project starting date.

As can be seen, the project starting date is before the date of publication of PDD for stakeholder comments. However, it can be demonstrated that the CDM incentive has already been considered by the project proponents. Also the CDM development status, i.e. signing the ERPA/34/, has been secured along the project's implementation.

In section B.5 of the PDD, the project proponent provided 2 timelines, with one indicating the Project implementation and another one indicating the efforts tried for CDM registration. As discussion above, evidences, such as board resolution or FSR etc., supporting the earlier awareness of CDM benefits are available and verified by the Validation Team. And activities including signing CDM consulting contract/37/, signing ERPA/34/ and applying LoA from both parties after the project starting date can demonstrate that CDM status has been secured by the project proponents.

To the Validation Team's opinion, the proposed project complies with the requirements of the *Guidelines on The Demonstration and Assessment of Prior Consideration of The CDM/54/*.

<i>Starting date of project</i>	<i>Justification of and evidences (references) on the starting date of project</i>	<i>Date of CDM consideration</i>
19/05/2008	Wind Turbine Purchase Contract/27/	05/03/2008 as confirmed in the Meeting Minutes/39/.

3.5.2 Alternatives

The project proponent applied methodology ACM0002, in which the baseline scenario has been prescribed. As per article 105 VVM 01.2/10/, no further alternative analysis is required.

3.5.3 Investment analysis

According to the PDD, the additionality of the project is demonstrated by applying investment analysis according to the *Tool for the Demonstration and Assessment of Additionality* (Version 05.2/EB 39/Annex10)/6/. By reviewing the *Tool for the demonstration and assessment of additionality* version 05.2, the validation team confirms that the Option III (i.e. benchmark analysis) was appropriately adopted in the PDD based on following justifications:

- 1). Option I is not applicable since the proposed project generates financial and economic benefits through the sales of electricity other than CDM related income.
- 2). Option II is not applicable since the baseline scenario of the proposed project is the NWCPG rather than a similar investment project.

Therefore, the benchmark analysis is selected since the baseline is supply of electricity from a grid (i.e. NWCPG), which is in line with the paragraph 16 of the *Guidelines on Assessment of Investment analysis version 03.1/17/*.

The IRR calculation results indicate that the project IRR (after tax) without CDM revenue is 5.40% (after tax) which is lower than the Benchmark IRR (8%). Therefore, the Project is unlikely to be financial attractive without expected CDM revenue. The validation processes

are conducted in the following steps.

3.5.3.1 Assessing the Suitability of the Selected Benchmark

A Project IRR of 8% (after tax) is chosen as the benchmark according to the *Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects/48/*. The Validation Team has confirmed that 8% benchmark was used in investment analysis in FSR by the authorized institution/11/. The validation Team has assessed this *Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects* issued by State Power Co. in 2003, and confirmed the rule was still valid when pp making decision. The Validation Team confirmed that a Project IRR of 8% (after tax) is applied widely in power industry or power transmission& dispatching industry in China. This can be cross-checked with registered new-built wind power projects of China in UNFCCC website (<http://cdm.unfccc.int>).

3.5.3.2 Assessing Project IRR Calculation

The project IRR was selected as reference to demonstrate the financial viability in the PDD because the selected benchmark is prescribed as project IRR. The cost of financing expenditures (i.e. loan repayments and interest) has been excluded in the calculation of project IRR, which is confirmed to be in line with the requirement of paragraph 9 of the *Guidance on Assessment of Investment Analysis/17/*.

The IRR spread sheet has been provided in a transparent manner in accordance with paragraph 8 of the *Guidance on Assessment of Investment analysis*. By conducting the calculation and reproducing the results, the validation team confirms that the IRR calculation adopts fixed assumptions throughout the assessment period, which is in line with *Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects/48/*.

3.5.3.3 Assessing the Compliance with Requirements of EB38 Paragraph 54

As stated in paragraph 54 of EB 38 report (**reflected in paragraph 113 of VVM 01.2**)

"The CDM Executive Board clarified that in cases where project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities, DOEs are required to ensure that:

(a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed.

(b) The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE should validate the appropriateness of the values.

(c) On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision."

The IRR calculation sheet/19/ has been assessed by the Validation Team. The main parameters input in the IRR calculation are presented in Table B.5-1 of the PDD. The data source for each parameter has been clearly identified. Most of the input parameters are quoted from the FSR. The FSR is finalized by the China Power Construction Engineering Consulting Corporation /11/ in March 2008. And the main equipments were purchased on 19th

May 2008/27/, and the Project got construction permission on 16 Jun. 2008/30/. The time gap between the FSR's finalization and the investment decision can be deemed sufficient short. Therefore, the validation team confirms that it is unlikely in the context of the underlying project activity that the input values would have materially changed at the time of investment decision in accordance with VVM version 01.2 paragraph 113(a)/10/.

The validation team has cross-checked the main input values used in the PDD and IRR worksheet against the data of the FSR and found that the major input values used in the PDD and associated annexes are consistent with the FSR, which is in line with VVM version 01.2 paragraph 113(b)/10/.

Through cross-check the input values in the revised PDD/2/ and FSR, benchmark reference, major equipment purchase contracts, major construction contracts, tax policy, tariff notifications from NDRC and other relevant documents, the validation team confirms that the input values from the FSR are valid and applicable at the time of the investment decision, which is in line with VVM version 01.2 paragraph 113 (c)/10/. The validation processes are substantiated in the context below.

1). Period of Assessment

The project IRR was selected as reference to demonstrate the financial viability in the PDD. Assessment Period applied in IRR spread sheet is selected as 23 Years including 3-year construction period and 20-year operational lifetime. The operational lifetime (i.e. 20 years) was confirmed to be consistent with the technical lifetime of the wind turbine generators according to the wind turbine contracts. The validation team confirms that the assessment period has been selected in line with the paragraph 3 of the *Guidance on Assessment of Investment analysis version 03.1/17/*.

Questions 1 Raised during Completeness Check

"1. The PDD section C.1.1 indicates that the project will commence operating in January 2010 and the project starting date is defined by the PP, and validated by the DOE, to be 19 May 2008 which is the equipment purchase date. It can be seen that the period of time between the starting date of the project activity (May 2008) and the date when the project starts operating (January 2010) is less than two years (1 year 8 months) and 2 years 4 months until it has its full capacity installed (Septemehr 2010). The DOE should indicate how it has validated that in the investmwent analysis the project begins to partially produce electricity in year 3 and fully produce electricity only in year 4 and onwards."

For the response to the questions raised from the incomplete request for registration, the audit team hereby indicate below how it validated that in the investment analysis, the project begins to partially produce electricity in year 3 and fully produce electricity only in year 4 and onwards.

The audit team re-confirmed that the design of the electricity production in the investment analysis is from and consistent with that in the approved FSR. The FSR is finalized by the China Power Construction Engineering Consulting Corporation /11/ in March 2008, and the starting date of the project is confirmed as 19 May 2008. The time gap between the FSR's

finalization and the investment decision is within 3 months and deemed sufficient short that there was not any material change for the estimation of the electricity production at the time of investment decision.

In FSR of the project, after two years of construction period, it was designed that the project will partially produce the electricity by operation of the first phase 100.5MW of installed capacity. Nine months after the operation of the first phase, the second phase 100.5MW will be in place for operation. Thus in the calculation year 3, the power output will be power generation by 100.5MW for first nine months and 201MW for the last three months, which has been clearly presented in the submitted IRR calculation sheet/19/. The same calculation principle has also applied to the calculation of O&M cost in calculation year 3. In year 4, full outputs were designed in the FSR and applied in the investment analysis as well.

The schedule in Section A.4.4 and C.1.1 of the PDD version 2.2/1/ (i.e., 1st phase starts operation in January 2010 and 2nd phase starts operation in September 2010) was the expected schedule by the project owner during validation, which was after the project starting date on 19/05/2008. Up to now, the Audit Team is able to check the unit acceptance certification/64//65/ and confirm that the project began partially operating in May 2010 and fully operating in February 2011, which are described in the table below.

Actual Project Implementation Schedule

Date	Event	Time Gap
19/05/2008	The wind turbine purchase contract was signed and is justified as the project starting date.	N/A
10/03/2010	The reliability determination test of first 34 units of wind turbines for Phase 1 was completed and all the performance indicators were in compliance with the requirements in the equipment purchase agreements.	1 years and 10 months
08/05/2010	The reliability determination test of another 33 units of wind turbines for Phase 1 was completed and all the performance indicators were in compliance with the requirements in the equipment purchase agreements. The 67 units of the wind turbines for Phase 1 were then fully put into commercial operation.	2 years
25/11/2010	The reliability determination test of first 34 units of wind turbines for Phase 2 was completed and all the performance indicators were in compliance with the requirements in the equipment purchase agreements.	2 years and 6 months
15/02/2011	The reliability determination test of another 33 units of wind turbines for Phase 2 was completed and all the performance indicators were in compliance with the requirements in the equipment purchase agreements. The 67 units of the wind turbines for Phase 2 were then	2 years and 9 months

	fully put into commercial operation.	
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From the actual project implementation timeline listed above, it can be found that the project begins partially operating at the 3rd year from the project starting date and fully operating at the 10th month of the 3rd year, which is consistent with the estimated timeline in the FSR. For cross-check purpose, a separate IRR spreadsheet with the earlier development schedule/80/ in the PDD version 02.2/1/ has been prepared and the project IRR result is only slightly increasing to 5.61% after tax, which is still below the benchmark.

For the reason of inconsistency, the description of the earlier development schedule in the PDD version 02.2/1/ was removed from the PDD version 03/2/. The actual project implementation timeline has been completely presented in the Table B.5-9 of the PDD version 03/2/ and the relevant evidence has been checked to be consistent. In summary, the audit team confirms that the earlier development schedule has only slight impact on the project IRR and it is reasonable that the project participant made the investment decision based on the designed schedule in the FSR, which was valid and the latest information available to the project owner at that time in line with the paragraph 6 of the *Guidance on Assessment of Investment analysis version 03.1/17/*.

2). Project Installation

The Project total installation capacity is 201MW. This figure is consistent with that in the FSR and also confirmed by reviewing the equipment purchase contract/27/ during on site assessment.

3). Tax Rate

The VAT of the Project is 8.5% in the PDD. This is consistent with that in the FSR. The Validation Team has assessed the Chinese Law and Regulation: *Notice on Value Added Tax Policy Regarding Resource Multi-utilization and Other Products/55/* and confirms the selected VAT rate is valid for the proposed wind power project at the time of project starting date on 19/05/2008. The education surcharge tax is selected as of 3% of the VAT in line with the Decision on the revision of the *Provisional Regulations of Levying Education Surtax/77/* issued by the Stated Council. The urban maintenance and construction surcharge tax is selected as 5% of the VAT in line with the *Provisional Regulations on Urban Maintenance and Construction Tax/78/*. The income tax rate is 25% in line with the Law of the Enterprise Incoming Tax of P. R. China/56/ and deemed appropriate.

Furthermore, the equity ratio is selected as 30% and 70% of the total investment is arranged through bank loan, which is calculated in line with the approved FSR. The interest rates were selected as 7.83% for long-term loan and 7.29% for short-term loan according to the FSR which was completed by qualified third-party entity. The validation team confirms the selected interest rates were appropriately determined at the time of project starting date (i.e. 19 May 2008) according the prevailing commercial interest rates regulated by The People's Bank of China during the period of 21/12/2007 to 16/09/2008

(<http://www.pbc.gov.cn/publish/zhengcehuobisi/631/2011/20110210093635541134488/20110210093635541134488.html>). Therefore, the validation team confirms the actual interest payable has been taken into account in the calculation of income tax in the IRR spreadsheet, which is in line with paragraph 11 of the *Guidance on Assessment of Investment analysis*.

4). Electricity Output

The expected annual electricity delivered to the grid is 431,949 MWh. This Value is consistent with that in the FSR. Wind resource is the key factor affecting the project output. In section 2 of the FSR, the wind resource at the project site is discussed and assessed according to the FSR, the wind power resources are assessed by *GB/T18709-2002 Wind Resources Measurement Method for Windfarms* and *GB/T 18710-2002 Wind Resources Assessment Method for Windfarms*. Eleven anemometer towers were erected near to the project site to detect both the wind speed and wind direction; the collected data were cross checked against local 30 years statistics data (1977~2006) from Yumen Meteorological Observation Station. The average wind power density, 427.5W/m^2 (a height of 70m at the project site, the same to the wind turbine's hub height), was reached based on the observed wind data that were processed by professional program; considering the wind farm array effects, which occurs due to wind turbines shadowing one another in a wind farm, the theoretical project output is estimated to be 689,354 MWh by input the local analyzed wind speed data to the professional software WindPR 02.5. The practical project output shall take the power loss factor into consideration. The power loss factor constitutes of three parts: the foreseen power loss, the engineering uncertainties and experiences gained from local project developer i.e. the China Power Construction Engineering Consulting Corporation. The power loss factor are discussed in section 5.3.2 of the FSR and cross checked mainly against with Wind Power FSR compilation codes and methods/49/. Also DNA of China, Chinese NDRC has issued *Clarification of Power Loss Factor for Wind Power Projects Implemented Within China/50/* by entrusting General Institute of Hydropower & Water Conservation, who acting as constitutor for wind power technology standard in China. Comparing to the above mentioned documents, the power loss factor of the Project estimation is confirmed to be reasonable and plausible. The theory output, average wind speed and practical output for each wind turbine generator are clearly listed out in Table 5-10, section 5 of the FSR. Considering the factors including the wake impact, the wind turbine availability, rotor blade soiling loss, transmission loss & auxiliary consumption, and control & turbulence influence etc., the annual on-grid output is estimated as 431,949 MWh.

The plant load factor of the Project is ex-ante determined as 24.53% in the PDD according to the FSR compiled by China Power Construction Engineering Consulting Corporation, which is third-party entity contracted by the project participant and in line with clause 3(b) in *Guidelines for the Reporting and Validation of Plant Load Factors*. The FSR of the Project was approved by National Development & Reform Commission on 17 June 2008, which is in line with clause 3(a) in *Guidelines for the Reporting and Validation of Plant Load Factors*.

Plant Load Factors of Similar CDM Windfarm Projects within Gansu Province

Ref.	Project Title	Installed Capacity (MW)	Annual Output (MWh)	PLF
1081	Gansu Datang Yumen 49 MW	49.3	103,530	23.97%

	Wind Power Project			
2109	CGN Gansu Anxi Daliang 49.5MW Wind Power Project	49.5	117,368	27.07%
2193	Gansu Yumen Sanshiliqingzi Wind Power Project	49.3	107,872	24.98%
2680	Gansu Yumen Diwopu Wind Power Project	49.5	106,613	24.59%
2766	Gansu Jingtai 45MW Wind Power Project	45	84,206	21.36%
2883	Gansu Baiyin Pingchuan Jiancaitang 45MW Wind Farm Concession Project	45	99,320	25.20%
2916	Gansu Guazhou Daliangxi Wind Power Project	49.5	115,144	26.55%
3167	Gansu Yumen Diwopu Phase II Wind Power Project	49.5	113,800	26.24%
3241	Huadian Gansu Guazhou Ganhekou No. 7 Wind Farm Project	201	457,742	26.00%
3253	Gansu Guazhou Xiangyang Phase II Wind Power Project	49.5	111,280	25.66%
3512	Gansu Datang Changma Wind Power Project	201	457,911	26.01%
3919	Gansu Tianrun Liuyuan 1st Stage 49.5MW Wind Park Project	49.5	117,036	26.99%
	The proposed project	201	431,949	24.53%

From the table above, the plant load factor of the Project is about 3.35% lower than the average load factor of the listed projects (i.e., 25.38%) but well within the range of 21.36%~27.07% of other similar CDM projects in the same region.

Based on the analysis above, the validation team is therefore able to confirm that the annual electricity output has been appropriately estimated.

5). Fixed Asset Investment

As demonstrated in the FSR, the fixed asset investment was calculated in accordance with local policy and price level of Gansu Province at the year 2007. The assumptions and parameters were adopted from *Method and Standard of Investment Evaluation for Windfarm Engineering, Feasibility Study Report* and *Budget Estimation for Windfarm Engineering* and other relevant standards which were effective at the time of FSR design. The total statistic investment for the Project was assessed to be appropriate as 1,637.13 Million RMB which was in line with the FSR and PDD. Considering the total installed capacity is 201MW, the unit investment cost was calculated as 8,145 RMB/kW, which is about 12% lower than the average specific investment costs of the listed projects (i.e. 9,261 RMB/kW), but this is deemed conservative.

Specific Investment Cost of Other Similar Windfarm Projects within Gansu Province

Ref.	Project Title	Starting Date in PDD	Installed Capacity (MW)	Fixed Asset investment (RMB)	Specific investment (RMB/kW)
1081	Gansu Datang Yumen 49 MW Wind Power Project	01/12/2006	49.3	455,699,000	9,243
2109	CGN Gansu Anxi Daliang 49.5MW Wind Power Project	05/03/2007	49.5	463,610,000	9,366
2193	Gansu Yumen Sanshilijingzi Wind Power Project	19/04/2007	49.3	435,250,000	8,829
2680	Gansu Yumen Diwopu Wind Power Project	22/09/2008	49.5	452,120,000	9,134
2766	Gansu Jingtai 45MW Wind Power Project	24/08/2007	45	397,987,900	8,844
2883	Gansu Baiyin Pingchuan Jiancaitang 45MW Wind Farm Concession Project	17/10/2007	45	425,030,000	9,445
2916	Gansu Guazhou Daliangxi Wind Power Project	30/04/2008	49.5	474,331,000	9,582
3167	Gansu Yumen Diwopu Phase II Wind Power Project	20/12/2008	49.5	426,710,000	8,620
3241	Huadian Gansu Guazhou Ganhekou No. 7 Wind Farm Project	06/01/2009	201	1,954,110,000	9,722
3253	Gansu Guazhou Xiangyang Phase II Wind Power Project	27/02/2009	49.5	451,550,000	9,122
3512	Gansu Datang Changma Wind Power Project	22/05/2009	201	1,923,720,000	9,571
3919	Gansu Tianrun Liuyuan 1st Stage 49.5MW Wind Park Project	05/03/2009	49.5	477,804,800	9,653
	The proposed project	19/05/2008	201	1,637,130,000	8,145

For the cross-check purpose, the actual investment cost of main equipment and major construction, as evidenced in the relevant contracts signed with the equipment suppliers and engineering construction companies, has been listed and compared with the corresponding FSR estimated values. The comparison has demonstrated that the actual contracted cost is much higher than the FSR estimated cost (i.e. 12.95% of the total fixed asset investment cost), while these equipment costs and construction costs have aggregated to be around 95.20% of the total fixed asset cost in the FSR. Further, the validation team has reviewed the General Contract List/29/ dated on 23 June 2009 and confirmed the actual investment cost has been 1,657.55 million RMB, which is 1% higher than the total fixed asset investment estimated in the FSR. Therefore, the validation team confirms that the fixed asset investment has been conservatively estimated in IRR calculation.

Estimated and Actual Investment Cost Comparison (Unit: Million RMB)

Item	FSR Estimated (F)	Actual Cost (A)	Reference
Wind Turbine Generators	1,068.73	1240.17	/27/

Wind Turbine Tower	167.4052	218.08	/70//71/
Main Transformer	11.4811	11.35	/74/
Turbine Transformer	47.8827	37.51263	/73/
Turbine Foundation Construction	51.1247	51.384	/28//72/
Total	1,346.62	1,558.50	-
Percent of Total fixed asset investment	82.25%	95.20%	-
Differences	12.95%		-

6). Electricity Tariff

According to the PDD and FSR, two-phase tariff (i.e. 0.5206 RMB/kWh incl. VAT for the first 30,000 operational hours and local average beyond) was applied. This is consistent with that indicated clearly in the *Bidding Winning Notice/26/* issued by the Zhongbiao International Bidding Co. Ltd., Also, it shall be further noticed that on Feb. 2008, the NDRC of China issued the approved electricity tariff for the Project/31/.The finally approved electricity tariff for the Project's initial 30,000h operation was 0.5206RMB/kWh (including VAT), which is the same that applied in the IRR determining.

After 30,000h operation, the electricity tariff shall be the local average electricity tariff/11/. The estimated tariff (i.e. 0. 49 RMB/kWh including VAT) after 30,000 hours in FSR was cross-checked with the bus-bar electricity tariff for power plants in Gansu province/60/, and can be confirmed conservatively estimated in FSR. Further, the validation team has cross-checked the average tariff with the *2008 Electricity Price and Accounting Monitoring Report/69/* by State Electricity Regulatory Commission and confirmed that the local average tariff of Gansu Province in 2008 is 0.24901 RMB/kWh incl. VAT. It is thus deemed conservative that the project owner applied the 0.49 RMB/kWh incl. VAT as the average tariff beyond considering the local average tariff at the time of investment decision (i.e. 19 May 2008). Further, even if the tariff at the first 30,000 hours (i.e. 0.5206 RMB/kWh incl. VAT) is applied for the whole 20-year operational period, the project IRR would be slightly increasing to 5.55% after tax, which is still below the benchmark.

According to *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/32/* issued in EB54 Para 53, the highest applicable wind tariff in Gansu Province applied by Executive Board is 0.585 RMB/kWh incl. VAT. As reflected in the "Outcome Summary" in the IRR spreadsheets, the validation team has confirmed that when the highest applicable tariff in the IRR worksheet for the first 30,000 hours, the project IRR would be 6.78% after tax, which is below the benchmark. **Even if the 0.585 RMB/kWh is applied for the entire operational period, the project IRR would be 7.16% after tax, which is still below the benchmark IRR 8%. Therefore, it is validation team's opinion that the suitability of electricity tariff has been sufficiently demonstrated in line with EB54 Para. 53.**

7). O&M cost

The annual O&M cost is sourced from and consistent with the FSR/11/ of the proposed project, which is confirmed by the Audit Team. The audit team also checked the clarification on O&M cost/63/ issued by the design institution of the FSR, and confirmed that the O&M cost components, which include the repair and maintenance costs, Salary of employees,

Insurance Fee, Materials cost and Other fees were from the FSR of the project, which was designed by the authorized third party/11/, and approved by the NDRC. Therefore the audit team deems the O&M cost is scientifically designed and valid.

Questions 2 Raised during Completeness Check

"2. The DOE should indicate how it has validated the suitability of input values to the investment analysis, in particular: (i) the O&M cost, the O&M composition and, if applicable, its economies of scale; (II) O&M increase through the investment analysis period when the other values remain fixed; and (iii) zero residual value."

The detailed breakdown of the annual O&M cost has been completely presented in the revised IRR spreadsheets in line with the approved FSR/11/. Among the components of the O&M cost, the repair and maintenance costs was designed to increase during the operation lifetime of the project. The repair and maintenance cost was estimated within the range of 1.0%~1.55% of the total investment during the operation period, which is deemed reasonable as the tear and wear generally increases with increasing electricity production and well within the range of 1.5%~2% for new wind turbine recommended by Danish Wind Industry Association (http://wiki.windpower.org/index.php/O_%26_M). As per the IRR spreadsheets, the average annual O&M cost is calculated as 307.87 RMB/kW and the lowest annual O&M cost is 283.53 RMB/kW from the year 4 to year 7. Further, the IRR calculation was made based on the scenario the O&M cost was not increased (i.e., keep fixed as 307.87 RMB/kW and 283.53 RMB/kW through the whole operational lifetime). The calculation results show that the project IRR is calculated as 5.31% and 5.64% respectively, which is within slight variation range. Therefore, the validation team is able to confirm that the O&M increasing through the investment analysis period is due to more frequent repair, maintenance and replacement as wind turbine get older and the increasing has minor impact on the project IRR.

The audit team has reviewed the *List and Analysis Result of Registered Wind Projects in Gansu Province/81/* and confirmed that the information as listed are public available and all sourced from the UNFCCC website. The ratio annual O&M cost per installed capacity of the projects in Gansu Province was ranging from 168.80 RMB/kW (i.e. Project Ref. 4253) to 316.08 RMB/kW (i.e. Project Ref. 3919). The ratio of the proposed projects is 307.87 RMB/kW, at a top level in Gansu Province, but still within the range. In particular, each O&M component has been listed for comparison and it can be found that the maintenance & repair cost, material cost and other fees are higher than the average level, while the salaries & welfare and insurance are lower than the average level. Even with the average level of the registered wind projects (i.e. 230.40 RMB/kW), the project IRR is only still increasing to 6.35% after tax, which is still far below the benchmark 8%.

The possible effect of economies of scale was considered through comparison of O&M cost per installed capacity with other registered windfarm projects in Gansu Province, of which the installed capacity ranges from 49.3MW to 300MW. As per the Danish Wind Industry Association (http://wiki.windpower.org/index.php/O_%26_M), the economies of scale vary with the turbine size, semi-annual maintenance visits, surveillance and administration, etc. Further, the registered wind projects vary with wind turbine type, climate conditions, wind speed and local price indices, et al. Therefore, it is difficult to figure out the economy of scale for the proposed project activity. However, even with the lowest annual O&M cost per kW among registered wind project in the province (i.e. 168.80 RMB/kW), the project IRR was calculated as 7.11%, which is still below the benchmark.

Further, it was assessed during sensitivity analysis that if the project IRR would reach the benchmark, the annual O&M cost should be decrease to 90 RMB/kW, which is not realistic since it is only 39% of the average level of the registered wind projects (i.e., 230.40 RMB/kW).

8). Residue value and depreciation period

In response to the issue raised for the residue value during completeness check, the residue value rate was selected as 5% in the revised IRR spreadsheets, which is confirmed reasonable compared with other registered windfarm projects in Gansu Province (i.e. with range of 3%~5% for residue value rate). The fair value has also been included as cash inflow at the final year. Therefore, the validation team confirms the fair value has been appropriately calculated in line with the paragraph 4 of the *Guidelines on Assessment of Investment analysis version 3.1*.

The depreciation period is selected as 20 years and the annual depreciation rate is calculated as 4.75% (i.e. $(1-5\%)/20=4.75\%$). The selected depreciation period (i.e. 20 years) is confirmed reasonable for wind power generating facilities since the *Implementation Rules for Law of the People's Republic of China on Enterprise Income Tax/76/* stipulates a minimum 10-year depreciation period for manufacturing equipment. The depreciation cost has been deducted in estimating gross profits and has not been included as expenses (i.e. cash outflow) to avoid double counting. Only taxation (i.e. electricity sale tax and income tax) has been considered as expenses since the selected benchmark is intended for post-tax comparison. Therefore, the validation team confirms the depreciation has been appropriately calculated in line with paragraph 5 of the *Guidelines on Assessment of Investment analysis version 3.1*.

3.5.3.4 Sensitivity Analysis

According to the PDD and IRR spread sheet, the sensitivity analysis, with four financial parameters (i.e. fixed asset investment, annual O&M cost, electricity tariff and power generation) selected, has been conducted through assessment of variation range (i.e. +/-10%) and it has demonstrated to validation team that the project IRR would not reach benchmark with +/-10% variation of the selected financial parameters.

The calculation has been reviewed by the validation team during validation and confirmed that the sensitivity analysis has been carried out in accordance with the FSR. The results also show that the project IRR would reach 8% when:

- The electricity tariff increases by 20.70%; or
- The fixed asset investment decreases by 19.05%; or
- The power generation increases by 21.35%; or
- The annual O&M cost decrease by 70.00%.

The details on validation of these critical conditions are summarized in the table below.

Critical Condition	Justifications by Validation Team
Electricity tariff increases by 20.70%	As discussed above, the tariff has been fixed as 0.5206 RMB/kWh (Including VAT) for first 30,000 operating

	hours and local average beyond in the PPA/82/ signed in October 2009. Therefore, it is unlikely for the tariff to increase significantly in the context of the project activity.
Fixed asset investment decreases by 16.90%	As discussed above, that the actual contracted cost is much higher than the FSR estimated cost (i.e. 12.95% of the total fixed asset investment cost), while these equipment costs and construction costs have aggregated to be around 95.20% of the total fixed asset cost in the FSR. Further, the validation team has reviewed the General Contract List/29/ dated on 23 June 2009 and confirmed the actual investment cost has been 1,657.55 million RMB, which is 1% higher than the total fixed asset investment estimated in the FSR. Therefore, the validation team confirms that the fixed asset investment has been conservatively estimated in IRR calculation. Therefore, it is unrealistic for the total static investment to reduce significantly.
Power generation increases by 21.35%	As discussed above, the wind power resources are assessed on the basis of over 30 years regional wind resources statistics and 1-year onsite wind measurement at the proposed project. Meanwhile, the annual average wind speed in recent 10 years was keeping stable within 2.9 m/s~3.1 m/s according to the wind speed monitoring records of the local weather station. Therefore, it is unlikely the power generation increases significantly under the context of the project activity.
Annual O&M cost decrease by 70.00%	It has been checked that the annual O&M cost mainly involves staff salary & welfare, material cost, repair cost and insurance cost. The estimated O&M cost per kW is calculated as 307.87 RMB/kW, which is confirmed realistic as compared with other registered wind projects in Gansu Province. Therefore, it is obviously unrealistic for the annual O&M cost to decrease by 70%.

In summary, the sensitivity analysis have sufficiently demonstrated in accordance with VVM version 01.2 paragraph 111 (e) that the Project is unlikely to be financial attractive without consideration of the expected CDM revenue and is hence additional.

3.5.4 Barrier analysis

No other barrier analysis is applied in the PDD by the project proponent for the proposed project activity.

3.5.5 Common practice analysis

As required by 'Tool for the demonstration and assessment of additionality'/6/, a common practice is requested to be carried out as a credibility check to complete the investment analysis. The geographic scope of common practice made in the PDD is within in Gansu Province, where the project is located. The geographic scope shall be in a comparable environment with respect to regulatory framework, investment climate, access to financing, etc.

According to article 1 of the 'Notice on Wind Power Construction and Management'/58/ issued by China NDRC, wind farm project development plan should be developed at provincial level based on its own wind resources and local social economical conditions, the Validation Team can confirm that Gansu Province can be regarded as the geographic scope with respect to regulatory framework. Electricity Tariff is also an important issue for development wind farm projects. The determined tariff shall be finally approved by the Chinese NDRC. By referring to the most latest approved electricity tariff set by the Chinese NDRC/52/, the electricity tariff could significantly different among provinces within China. Hence project financing incentives could be different to each other province. As discussed above, the Validation Team was able to confirm that the geographic scope for common practice analysis is appropriate.

Since the proposed project is large scale windfarm project with installed capacity of 201 MW, the small scale windfarm project with capacity below 15 MW is not deemed similar scale with the proposed project.

The windfarm projects after 2002 were identified for common practice analysis since the plant-grid separation policy was implemented since 2002³. The validation team considers that this was transparently substantiated for the project identification as this was one of the major milestones for the Chinese power industry, in which the power industry was reformed from national power companies to several independent power enterprises authorized by the State Council. The private investors were especially affected by this policy as some of the financial supports such as tariff privilege were no longer guaranteed by the government. Financial competitions were introduced in the open market among the independent power enterprises.

Similar wind power projects since 2002 observed in Gansu Province are sourced out from "Statistic on wind power capacity of China 2007"/51/ (hereafter referred as to the "Statistics"), issued by Mr.SHI Pengfei from China Wind Energy Association, and other publicly available sources According to the 'Tool for the demonstration and assessment of additionality', CDM project activities, including registered project activities and project activities which have been published on the UNFCCC website for global stakeholder consultation as part of the validation process, are not to be included in this analysis. The Validation Team checked each wind power project and only one project should be listed for further analyzing, which is presented in the below table:

Project Name	Installation	Installed	Validation findings
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³ NDRC, State Council approved the reformation of China power system in April 2002 for "Separate power plants from network and compete in price to enter network" http://www.ndrc.gov.cn/xwfb/t20050708_28096.htm

	time	Capacity	
Gansu Anxi Wind Farm Project (Beidaqiao CPI)	Dec. 2006 Oct 2007	100.5MW	Being developed as a Golden Standard VER project/59/

The validation team has accessed in the information provided in the PDD and confirmed the project owner of Gansu Anxi Wind Farm Project is a registered company in Hong Kong and is not eligible for applying CDM in China at the time of project construction/79/. Since the project was making losses, the project owner was applying for Gold Standard VER to improve its financial status, which was confirmed by accessing at the Gold Standard Registry/59/. Therefore, the “Gansu Anxi Wind Farm Project” can be excluded from the similar project activities analysis.

In summary, the validation team has confirmed that there are essential distinctions between the project activity and other similar wind power projects and the project activity is not common practice and is hence additional.

3.6 Monitoring

The project proponents applies the approved monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, Version 12.1. The justification of applying the monitoring methodology is clearly defined in the section B.2 of the PDD transparently and completely.

The Project is a newly built wind power plant using renewable resources. Leakage rising from plant construction or land inundation needs not to be considered. Hence the project leakage is considered as zero. Monitoring of sustainable development indicators is not required by the Chinese DNA. The Validation Team has assessed the Project Environmental Impact Assessment (EIA)/12/, which was approved by Gansu Environment Protection Bureau. The environmental impacts are considered minor in the EIA.

It has been clearly defined in the PDD that the electricity supplied to the NWCPG will be continuously measured and monthly recorded by the main monitoring meter installed on site. In addition, the electricity sales receipts may be provided for data quality control and cross check.

A CDM executive team will be set up serving the monitoring work. In order to achieve a smooth monitoring job, a detail Project CDM Monitoring and Management Manual/36/ has been developed by the project owner.

3.6.1 Parameters determined ex-ante

The baseline grid emission factor is determined ex-ante, based on the most recent information available, and is calculated as a combined margin, consisting of the weighted average of the OM and BM emission coefficients, which is in compliance with “Tool for calculation of emission factor for electricity systems”. The data determined ex-ante for calculating the OM and BM are listed in the PDD and verified by the Validation Team.

3.6.2 Parameters monitored ex-post

The only parameter monitored ex-post is the net electricity supplied to the NWCPG by the Project, which is in compliance with the monitoring methodology. The monitoring is stated to be continuous and will be recorded monthly. Additionally, these data will be cross-checked with receipts of electricity sales.

3.6.3 Management system and quality assurance

The project monitoring organizing structure has been specified in the PDD/2/. During on site interview with project owner /ii/, the Validation Team was introduced the responsibility of each function of the monitoring structure.

During on site physical inspection and interview with the project owner, the audit team has confirmed both the main meter(s) and backup meter(s) have been installed at high voltage side of 35kV/110kV substation according to the PPA signed with the grid company/82/. The measurement accuracy, calibration interval, erroneous procedure and maintenance procedure has been clarified in the revised PDD /2/, and can be confirmed ensuring quality of monitoring data and records. The metering equipment will be calibrated at least once a year. The accuracy level of the metering equipment will be no less than 0.5S.

To the Validation Team's opinion, the project participants are able to implement the monitoring plan.

3.7 Sustainable Development

The DNA from the host country NDRC has issued the Letter of Approval/3/, which has been assessed by the Validation Team to be valid, and confirms the Project will assist China in achieving sustainable development.

During on site interview with the ZHAO Min/i/, a director of Yumen City Development and Reform Commission, Validation Team was introduced that the Project will bring positive effects to the local people. First of all, the Project can provide clean energy; Secondly, the Project can provide permanent job opportunities and temporary job opportunities during construction phase/42//43/; Finally, the Project stimulate the local economy conditions because the construction materials are purchased locally.

3.8 Environmental Impacts

An EIA /12/ has been finalized on Oct. 2007 and got approval/12/ by Environmental Protection Bureau of Gansu Province on 6th Nov. 2007. The environment impacts have been described in Section D.1 of the PDD. According to the EIA, no significant environmental impacts are expected. During on site interview with ZHANG Jianjin /i/, the director from Environment Protection Bureau of Yumen City, that no complaints are received for the construction of the Project. The EIA has been performed in accordance with all relevant local regulations.

3.9 Local Stakeholder Consultation

By interviewing ZHANG Jianjin /i/, the director from Environment Protection Bureau of Yumen City, the Validation Team was introduced that the stakeholders are from Dongqu Village, Nanmen Village and Yumen Town, where is most near to the Project site.

The local stakeholder survey meeting was carried out in 6th Mar. 2008. Project owner introduced to the Audit Team that at start of the stakeholder interview, the local stakeholders were informed by means of published posters. Totally 44 questionnaires were distributed. The survey results and statistics analysis are presented in section E.2 of the PDD. The survey demonstrates that the local community are supportive to the project. The implementation of the project could benefit the local in aspects of environment protection and better business environment. The local stakeholder consultation process of the project is adequate.

3.10 Comments by Parties, Stakeholders and NGOs

The PDD of “GSP version of 5 March 2009” was made publicly available on UNFCCC website (<http://cdm.unfccc.int/Projects/Validation/DB/9LRRXC1QZP9PY6JGKS3CMLAJK1L0IU/view.html>), Parties, stakeholders and NGOs were through the CDM website invited to provide comments from “7th Mar. 2009 to 5th Apr. 2009”, where no public comments were received during that period.

APPENDIX A

CDM VALIDATION PROTOCOL

CECIC HKC Gansu Changma Wind Power project

**in
Gansu Province, China**

REPORT No. 01 997 9105052517

Table 1: Validation requirements

(based on § 37 of the CDM Modalities and Procedures and on CDM Validation and Verification Manual, Annex 3 of EB44)

Checklist question	Ref.	MoV ⁴	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/	DR I	No. The letters of approval from the DNAs of China and United Kingdom have not been obtained.	~~GAR 1~~	OK (Refer to Table 2)
1.2 Are all Parties, who issued the LoA, Parties to the Kyoto Protocol <u>and</u> is this stated in the LoA?	/1/	DR I	Ditto	~~GAR 1~~	OK (Refer to Table 2)
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/	DR I	Ditto	~~GAR 1~~	OK (Refer to Table 2)
1.4 Is the participation in the CDM project activity voluntary <u>and</u> is this stated in all LoAs?	/1/	DR I	Ditto	~~GAR 1~~	OK (Refer to Table 2)
1.5 Is the LoA unconditional with respect to 1.2 to 1.4?	/1/	DR I	Ditto	~~GAR 1~~	OK (Refer to Table 2)

⁴ 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/	DR I	Ditto	~~CAR-1~~	OK (Refer to Table 2)
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/	DR I	Ditto	~~CAR-1~~	OK (Refer to Table 2)
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.	/1/	DR I	The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards China.		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) have been listed in the section A.3 of the PDD correctly and the information are consistent with the contact details provided in Annex 1 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/	DR I	See 1.1.	~~CAR-1~~	OK (Refer to Table 2)
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/	DR	Not exactly. The latest PDD template is to be employed.	~~GAR-2~~	OK (Refer to Table 2)
3.2	Has the PDD been established in accordance with the CDM requirements for completing PDDs issued by the CDM EB?	/1/	DR	Yes.		OK
4. Project Description (VVM E.4)						
4.1	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?	/1/ /11/	DR I	Yes.		OK
4.2	In the case of greenfield project activity, is the project design described sufficiently by means of specifications, drawings and manuals?	/1/ /11/	DR I	Yes.		OK
4.3	Does the project activity reflects current good practices, uses state of the art technology or would the technology result in a significantly better performance, than any commonly used technologies in the host country?	/1/	DR	The main equipments in the project are domestically produced and the project doesn't involve technology and installations from abroad.		OK
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/	DR	Not applicable since the project activity is a newly-built wind power project and there are no any other existing installations around the project site,		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/	DR	Yes		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/	DR	Not applicable since the project is a large-scale windfarm project with a total installed capacity of 201MW		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/	DR	Not applicable		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/ /5/	DR	Yes. The project meets all the applicability criteria stated in the methodology: · The project is a capacity addition from a renewable energy source, i.e. wind resources; · The project does not involve an on-site switch from fossil fuels to a renewable source; · The geographic and system boundaries for the relevant electricity grid, the NWCPG, can be clearly identified and information on the characteristics of the grid is available.		OK

5.2.3 Is the selection of the applied baseline and monitoring methodology justified?	/1/ /5/	DR	Yes		OK
5.2.4 Is the selected methodology correctly quoted in all related documents?	/1/ /5/	DR	Yes		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/ /5/	DR	The project utilizes renewable wind power resources and no fossil fuel will be consumed during normal operation. The internal electricity consumption will be imported from the Grid. Furthermore, the greenhouse gas emissions, emerging from the power plant construction, fuel handling and land inundation, need not be considered according to applied methodology.		OK
5.3 Project boundary					
5.3.1 Does the PDD correctly describe the project boundary?	/1/	DR	Yes. The project is a capacity addition from a renewable energy source and does not involve on-site fuel switch from fossil fuels to a renewable source. The power plant and Northwest China Power Grid (NWCPG) are defined as project system boundary.		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/	DR	Yes. In compliance with the Methodology.		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/	DR	Not applicable, the applied methodology does not provide any options for project participants to choose whether a source or gas is to be included in the project boundary.		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/	DR	Yes. The baseline scenario has been prescribed for new wind power project in ACM0002.		OK
5.4.1.1 Is the identified baseline scenario plausible?	/1/	DR	Ditto		OK
5.4.1.2 Are all assumptions stated in a transparent and conservative manner?	/1/	DR	Ditto		OK
5.4.2 Does the selected methodology require the use of tools <u>and</u> does PDD reflects that correctly?	/1/	DR	Tool to Calculate Project or Leakage CO ₂ Emissions from Fossil Fuel Combustion was wrongly involved, which is to be deleted.	~~GAR-3~~	OK (Refer to Table 2)
5.4.2.1 Were all the tools applied correctly?	/1/	DR	Ditto	~~GAR-3~~	OK (Refer to Table 2)
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/	DR	Not applicable		OK
5.4.3.1 Has the choice of the baseline scenario been done using conservative assumptions?	/1/	DR	Ditto		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/	DR	The baseline scenario has been prescribed in ACM0002.		OK

5.4.6 Does the PDD describe how the national and sectoral policies relevant to the baseline scenario have been identified and considered in the PDD?	/1/	DR	Ditto		OK
5.4.7 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/	DR	Yes		OK
5.5 Algorithm and/or formulae used to determine emission reductions					
5.5.1 Are all calculations applied and documented according to the selected methodology and in a complete and transparent manner?	/1/	DR	The grid emission factor is calculated as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM). The calculation is based on the Methodology.		OK
5.5.2 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?	/1/	DR	Yes.		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/	DR	Yes.		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/	DR	Yes.		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/	DR	The major risks and uncertainties, which can influence the emission reduction estimates, are to be clarified and addressed in the PDD.	~~CL1~~	OK (Refer to Table 2)
5.6 Leakage					
5.6.1 Has the leakage been identified and calculated according to the approved methodology?	/1/	DR	There are no leakages that need to be considered in applying this methodology.		OK
5.6.2 Have the leakage been addressed in complete, conservative and substantiated manner?	/1/	DR	Ditto		OK
5.6.3 Are uncertainties in the leakage emission estimates properly addressed?	/1/	DR	Ditto		OK
6. Methodology-related issues for afforestation or reforestation CDM project activities					
Add specific A/R requirements – if applicable!	/1/	DR	Not applicable for this CDM project activity		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?	/1/ /11/ /39/	DR	Board meeting's decision on 5 March 2008. And the FSR's approval by NDRC on 17 June 2008		OK

7.1.2 Is the starting date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms" <u>and</u> CDM VVM (§97)?	/1/	DR	The starting date of the project is defined as 19 May 2008. Please provide a description of how this start date has been determined, and a description of the evidence available to support this start date.	~~CAR 4~~	OK (Refer to Table 2)
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/	DR	Ditto	~~CAR 4~~	OK (Refer to Table 2)
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/	DR	Not applicable		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/	DR	See 7.1.1		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/	DR	Ditto		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?	/1/	DR	Yes		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/	DR	Yes		OK
7.1.7 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/	DR	Not applicable		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/	DR	The baseline scenario has been given in ACM0002.		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/	DR	Yes		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/	DR	Not necessary. The baseline scenario has been given in ACM0002.		OK

7.2.4 Is the exclusion of the alternatives for legal reasons justified?	/1/	DR	Yes. Alternative of Coal-fired plant is eliminated for legal reason.		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/ /11/	DR I	Yes		OK
7.3.2 Is the type of investment analysis selected correctly in the PDD?	/1/ /11/	DR I	Yes. Benchmark analysis		OK
7.3.3 Is the selected financial indicator chosen and applied correctly?	/1/ /11/	DR I	Yes. IRR		OK
7.3.4 Is the guidance on IRR calculation and assessment correctly applied?	/1/ /11/	DR I	The IRR calculation is under evaluation. It is to be clarified and evidenced further how to determine the tariff, the annual operational hours, the total investment and the annual O&M Cost. The calculation about VAT is to be clarified further.	~~CL2~~	OK (Refer to Table 2)
			It should be clarified how the project assessment period was selected. It was confirmed that the technical lifetime of the wind turbine generators are 20 years according to the wind turbine contracts. However, from the IRR calculation worksheet, the electricity sale revenues have been considered for over 20-year operation. Please clarify such consistency.	CL15	
			The basic parameter sheet should be	~~CL16~~	

			incorporated in the IRR spreadsheets. It should be clarified on 1) how the VAT surtax cost was calculated; 2) how the depreciation period and residue value rate has been determined as appropriate for the proposed project. It should be clarified how the O&M cost was determined appropriate for the proposed project through comparison with other similar windfarm projects. In particular, it was observed that the assumption of material cost and other fees was higher than other similar windfarm projects in the same region.	CL17	
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/ /11/	DR I	Yes.		OK
7.3.6 Are all the values consistent between FSR and PDD <u>and</u> are inconsistencies properly justified?	/1/ /11/	DR I	See 7.3.4	CL2 CL15 CL16 CL17	OK (Refer to Table 2)
7.3.7 Were all the values from FSR applicable and valid at the time of the investment decision?	/1/ /11/	DR I	See 7.3.4	CL2 CL15 CL16 CL17	OK (Refer to Table 2)

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?	/1/ /11/	DR I	Not applicable.		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/ /11/	DR I	See 7.3.4	~~CL 2~~ ~~CL15~~ ~~CL16~~ ~~CL17~~	OK (Refer to Table 2)
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/	DR	Not applicable		OK
7.4.2 Do the listed barriers exist <u>and</u> is their existence substantiated? Note: (a) by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics and/or (b) by interviews with relevant individuals: including members of industry associations, government officials or local experts if necessary?	/1/	DR	Not applicable		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/	DR	Not applicable		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/	DR	Not applicable		OK
7.5.2 Are the geographical boundaries of the project activity identified correctly?	/1/	DR	Yes. Gansu Province is identified in common practice analysis.		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/	DR	It is to be clarified.	~~CL-3~~	OK (Refer to Table 2)
7.5.4 Are there similar operational project activities, other than CDM activities, “widely observed and commonly carried out” in the defined region? <i>Note: Use official sources and local and industry expertise.</i>	/1/	DR	Four projects are identified.		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/	DR	The discussion is not sufficient now. It is to be clarified why these four projects can be operated without CDM's support.	~~CL-4~~	OK (Refer to Table 2)
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/	DR	Electricity supplied to the grid by the Project will be monitored.		OK

8.2	Is the measurement method clearly stated for each value to be monitored and deemed appropriate?	/1/	DR	Yes. In compliance with the Methodology.		OK
8.3	Are values of the ex-ante parameters / monitoring parameters selected correctly and conservative in accordance to methodology or tools?	/1/	DR	Yes. See 5.5		OK
8.4	Is the measurement equipment for each parameter described and deemed appropriate?	/1/	DR	Yes. In compliance with the Methodology.		OK
8.5	Is the measurement accuracy addressed and deemed appropriate?	/1/	DR	The measurement accuracy is to be clarified.	~~CL-5~~	OK (Refer to Table 2)
8.6	Are procedures in place on how to deal with erroneous measurements <u>and</u> are the corrective actions identified?	/1/	DR	The procedures on how to deal with erroneous measurements are to be clarified.	~~CL-6~~	OK (Refer to Table 2)
8.7	Is the frequency of measurement identified and deemed appropriate?	/1/	DR	Yes. In compliance with the Methodology.		OK
8.8	Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	See 8.5 and 8.6		OK
8.9	Are the sampling, measurement methods and procedures defined?	/1/	DR	Yes. In compliance with the Methodology.		OK
8.10	Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR	The procedures for maintenance of monitoring equipment and installations are to be clarified.	~~CL-7~~	OK (Refer to Table 2)
8.11	Are the equipment calibration intervals identified and justified?	/1/	DR	Not exactly. The equipment calibration intervals are to be clarified further.	~~CL-8~~	OK (Refer to Table 2)

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/	DR	Yes		OK
8.13 Are the monitoring arrangements described in the monitoring plan feasible within the project design?	/1/	DR	Yes		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/	DR	Not applicable		OK
8.15 Do the PPs make provisions for personnel training needs?	/1/ /35/	DR	Yes		OK
8.16 Is the authority and responsibility of overall project management clearly described?	/1/	DR	Yes		OK
8.17 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	Not applicable		OK
8.18 Are procedures identified for review of reported results/data?	/1/	DR	Yes		OK
8.19 Is the data archiving period for this project activity stated in the PDD and appropriate?	/1/	DR	Yes		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/	DR	Not applicable		OK

8.2.2 Is the choice of project leakage indicators made according to selected methodology in a reasonable and conservative manner? <i>Note: local knowledge and sectoral expertise shall also be considered.</i>	/1/	DR	Not applicable		OK
8.2.3 Is the measurement method clearly stated and deemed appropriate for each leakage value?	/1/	DR	Not applicable		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?	/1/	DR	Not received	~~CAR 1~~	OK (Refer to Table 2)
9.2 If PDD indicates any additional environmental benefits of the project, other than GHG emission reductions, were those benefits properly substantiated?	/1/ /11/ /12/	DR	Yes. Those benefits properly substantiated in FSR and EIA.		OK
10. Stakeholders' consultation and comments					
10.1 Were the stakeholders identified in appropriate and complete manner?	/1/	DR	Yes		OK
10.2 Are the identified stakeholders plausible?	/1/	DR	Yes		OK
10.3 Does PDD describe the means being used to invite local stakeholder's comments?	/1/	DR	Yes		OK
10.4 Were those means appropriate?	/1/	DR	Yes		OK
10.5 Was the project presented to the stakeholders in unbiased manner?	/1/	DR	Yes		OK

10.6 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/	DR	Yes		OK
10.7 Is a summary of the stakeholder comments provided in the PDD?	/1/ /40/	DR I	Stakeholders gave many comments and suggestions, which should have been considered seriously. A detail summary is to be provided.	~~GAR-5~~	OK (Refer to Table 2)
10.8 Has due account of any stakeholder comments been taken by PPs and reflected in the PDD?	/1/	DR	Ditto	~~GAR-5~~	OK (Refer to Table 2)
11. Environmental impacts					
11.1 Is the documentation supplied by the PPs regarding environmental impacts relevant and accurately reflected in the PDD?	/1/	DR	Yes		OK
11.2 Is an environmental impact assessment (EIA) required for the CDM project activity?	/1/ /12/	DR I	Yes		OK

11.3 In case an EIA is required, has the EIA been approved by local authorities and is the outcome accurately reflected in the PDD?	/1/ /12/	DR I	The project belongs to Gansu Huineng New Energy Institute in EIA, not the project owner. Therefore, the relationship between two companies is to be clarified. Two EIA's approvals have been provided, with the same authority and the same approval date, but the total investments in two documents are highly different. It is to be clarified which one of both is the truth. Moreover, there is no serial Number in the document of EIA's approval, which is difficult to be verified and is not a common practice in Chinese authorities. It is to be clarified further.	~~CL-9~~ ~~CL-10~~	OK (Refer to Table 2)
11.4 Does the PDD include a brief description of the environmental effects of the project, including transboundary?	/1/ /12/	DR I	Yes		OK
11.5 Are those effects properly addressed in the design of the project activity?	/1/ /12/	DR I	Yes		OK
11.6 Does the project comply with environmental legislation in the host country?	/1/ /12/	DR I	Yes		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	The letters of approval from the DNAs of China and United Kingdom have not been obtained.	1 9.1	Chinese LOA and UK LOA are provided to DOE.	OK The LoA from the DNAs of China and United Kingdom are been obtained and verified valid. The CAR is therefore closed.
2.	CAR 2	The PDD template has been modified at least with respect to page numbers and UN-logo (missing). The latest PDD template is to be employed.	3.1	Template of the PDD has been changed and applied the latest template.	OK. By checking the final version of PDD, the latest PDD template has been employed to the Project. The CAR is therefore closed.
3.	CAR 3	Please reconfirm whether or not there will be any backup power installed. If that is not the case, reference to the "Tool to Calculate Project or Leakage CO ₂ Emissions from Fossil Fuel Combustion" is obsolete and should be indicated as such.	5.4.2	A clarification letter, confirming that there is no back-up power generation, was issued by the developer and submitted to DOE (attachment 2-2). Accordingly, deleted the "Tool to Calculate Project or Leakage CO ₂ Emissions from Fossil Fuel Combustion" from section B.1 of the PDD.	OK. The evidence of no backup power will be used for the Project is described in the reference /41/, which was checked appropriate and valid. The "Tool to Calculate Project or Leakage CO ₂ Emissions from Fossil Fuel Combustion" is therefore not applicable to the Project, and checked being deleted in the Final version of PDD. The CAR is therefore closed.
4.	CAR 4	The starting date of the project is defined as 19 May 2008. Please provide a description of how this start date has been determined, and a description of the evidence available to support this start date.	7.1.2 7.1.3	The project starting date indicates equipment order date which was the first significant investment and commitment developer had made for the Project. The date can be confirmed through Equipment purchasing agreement, which was	OK 19 th May 2008 can be confirmed as the earliest date on which the real actions of the project began, which is stated in the equipment purchasing agreement/27/. The description of

				submitted to the DOE (attachment 1-1). Accordingly, an explanation was added on section C.1.1.	justification of choices of the starting date is stated in the Section C.1.1 in the revised PDD. Evidences (FSR /11/, loan contract/25/, equipment purchase agreement/27/, and construction permission /30/) for confirming the starting date are checked valid. The CAR is therefore closed.
5.	CAR 5	Stakeholders gave many comments and suggestions, which should have been considered seriously. A detail summary is to be provided.	10.7 10.8	Added detailed summary of comments received by stakeholders and developer's response in section E.2 of the PDD.	OK The detailed summary of the stakeholders comments and suggestions, and responses to comments have been provided in revised PDD, and can be confirmed consistent with documents verified (minute of stakeholders consultation meeting and copies of stakeholders consultation questionnaires /40/). The CAR is therefore closed.
6.	CAR 6	Permanent employment opportunities for local contractors and population, if any, should be quantified.		The developer directly retained 27 new local employees, while 308 new local jobs were created through construction companies contracted for the Project. Lists of these employees' names and hometowns were provided to the DOE (attachment 2-3, 2-4 and 2-5)	OK The List of CECIC employee /42/ and the List of local employee for construction of the project /43/ are checked valid, and information on job creation in Section A.2 can be confirmed correctly described in revised PDD. The CAR is therefore closed.
7.	CAR 7	In order to avoid any confusion, please delete the word '("the Project")' which follows the project title.	PDD A.1	Wording "the Project" has been deleted from the A.1.	OK. It has been revised in the PDD. The CAR is therefore closed.

8.	CAR 8	One accurate location map of the installed wind generation units should be provided to the DOE. And in which the main geographic coordinates should be indicated.	PDD A.4.1.4	Detailed coordinates have been added to section A.4.1.4	The provided coordinates can identify the project location clearly. Closed.
9.	CAR 9	In the table B.5-1 it is indicated Electricity tariff for 15th year is RMB 0.4611 (excl. VAT). The related data source in the PDD is unavailable.	PDD Table B.5-1,	A clear explanation has been added to the PDD.	OK. It has been revised in the PDD. The CAR is therefore closed.
10.	CAR 10	The parameter electricity generated should be appended into the sensitivity analysis.	PDD Sub-step 2d. Sensitivity analysis,	Considering the timing of 30,000 h (which is triggering point of tariff change), sensitivity analysis has been updated. Accordingly, PDD has been revised.	OK. It has been revised in the PDD. The CAR is therefore closed.
11.	CAR 11	In the footnote 16 it is not found the calculation results of emission factor by Chinese DNA. Please indicate which version is quoted and revise the footnote 16.	PDD footnote 16	Since a number of foot notes were inserted, the original footnote 16 has been changed as the following. PDD before technical review (Submitted to DOE on Oct. 29): Footnote 16 (page 14, based on without track changes view) “http://cdm.ccchina.gov.cn/web/index.asp” PDD response to the 1st technical review (Submitted to DOE on Feb. 16): Footnote number was changed to 32 (page 22, based on without track changes view), whereas link was revised to “http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3239” PDD response to the 2nd technical review (Submitted to DOE on Apr. 8):	OK. It has been revised in the PDD. The CAR is therefore closed.

				Footnote number was changed to 30 (page 21, based on without track changes view), without no change of link " http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3239 "	
12.	CAR 12	Please correctly quote the formulae which are indicated in the tool.	PDD page 17 step 5	PDD has been revised. As stated in the new step 5 and EB clarification (footnote 33), we are taking an approach which is different from the Tool, due to lack of data availability. In addition, the approach taken in the new step 6 is the same approach which has been taken by the NDRC (please refer to BM section of the website in the footnote).	OK. It has been revised in the PDD. The CAR is therefore closed.
13.	CAR 13	Please correctly quote the table which is described in the GUIDELINES FOR COMPLETING THE CDM-PDD AND CDM-NM.	PDD B.6.2	The table is consistent with the Guideline	OK. It has been revised in the PDD. The CAR is therefore closed.
14.	CAR 14	Please indicated if Clean Energy Finance Committee Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. Is one of the project participants.	PDD B.8	PDD has been amended to address this issue	OK. It has been revised in the PDD. The CAR is therefore closed.
15.	CAR 15	It is unreasonable for the starting date of the first crediting period, 1st January, 2010. Please revise it.	PDD C.2.1.1	PDD has been amended to address this issue	OK. It has been revised in the PDD. The CAR is therefore closed.
16.	CAR 16	Please keep the same style of the set up type and the font in the whole PDD.	PDD D.1	PDD has been amended to address this issue	OK. It has been revised in the PDD. The CAR is therefore closed.
17.	CL 1	The major risks and uncertainties, which can influence the emission reduction estimates, are to be	5.5.5	Added risk and uncertainty analysis to section B.6.3.	OK Major risks and uncertainties have

		clarified and addressed in the PDD.			been clarified and addressed in the PDD. The CL is closed.
18.	CL 2	The IRR calculation is under evaluation. It is to be clarified and evidenced further how to determine the tariff, the annual operational hours, the total investment and the annual O&M Cost. The calculation about VAT is to be clarified further.	7.3.4 7.3.6 7.3.7 7.3.9	IRR: Construction period of the Project is three years and investment will be made in each year. Since the Project will install equipments in phases, earlier completed turbines will start operation in the third year of the construction. Accordingly, IRR calculation has been corrected (attachment 2-6). As result, IRR has decreased. The changes have been reflected in the section B.5 of the PDD. Tariff: Please refer to Tariff Bidding Result document (attachment 1-2) and Bid winning notice (attachment 1-3). Annual operational hours: Please refer to attachment for detailed calculation, which was explained to DOE at the site visit (attachment 1-4). VAT: All the equipments, construction and O&M are calculated without VAT. This can be confirmed from Chapter 13 of the FS (attachment 1-5). For an example, Turbine price is 793.59x104 Yuan/turbine without tax and 928.5x104 Yuan/turbine after 17 % VAT as shown on page 197. On the page 200, total investment for Electromechanical device and instalment of 141,874x104 Yuan, which was also used for IRR calculation as find on the Excel, was calculated using the pre-VAT	OK The IRR calculation procedure can be confirmed correctly presented in the revised IRR calculation spreadsheet/19/, and clearly reflected in revised PDD /2/. Sources of most of data are from FSR, which is prepared by China Power Construction Engineering Consulting Corporation, a qualified FSR compilation entity, and the FSR has approved by NDRC on 17th Jun. 2008. All data sources are cross checked by the Validation Team, please see the Validation Report. The evidences Tariff Bidding Result of the Project/31/ and Bidding Winning Notice /26/ are valid and appropriate to the Project, and Tariff used in the IRR calculation /19/ can be confirmed correctly determined. The Table of Clarification on operating hours is provided and checked sufficient for demonstration on how Annual operational hours is calculated, which is consistent logically with that in FSR. By checking the reference "Statistics of prices of construction contracts"

			price of 793.59x104 Yuan/turbine. Subsequently, revenue from tariff is also calculated, at without VAT level, for the purpose of consistency. Investment Costs: For total initial investment, a list of actual contracted prices for the initial investment was provided to the DOE (attachment 2-7). As the list shows, the total of actual contracted cost is 1,657 million RMB, whereas the initial estimation used in the FS (also in the IRR) is 1,637 million RMB. Therefore the investment cost in the FS can be seen as a conservative estimate. Copies of these contracts are available upon specific request. O&M Costs: O&M consists of following costs, repair cost, wage, insurance cost, material cost and amortization charge. Following information was taken from FS chapter 14 (attachment 2-8). Please note that below is just an approximate translation. Please refer to the Attachment 2-8 for the exact explanation. 14.2.4.1 Total costs (2) Repair expenses The repair and overhaul expenses are adjusted yearly and the average expenses of repair and overhaul is calculated at 1.34% and 0.9% of fixed assets respectively. 80% of repair expenses are fixed costs and the	and FSR, which is confirmed valid, the investment costs used in the investment analysis can be confirmed consistent with that in FSR, and conservative compared with actual investment by the Project. VAT is verified clearly and appropriately presented in the IRR calculation spreadsheet and consistent with VAT calculation method in FSR. The O&M cost used in the investment analysis can be confirmed consistent with that in FSR and reasonable designed in the FSR. The CL is therefore closed.
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			remaining 20% are variable costs. (3) Staff welfare There are 30 staff at the wind power plant with annual salary of 40,000 RMB. The welfare fee, labor insurance and housing fund is 14%, 17% and 10% of salary respectively. (4) Insurance Insurance includes fixed asset insurance and other insurances and amounts to an annual insurance premium of 2.5% of fixed assets value. (6) Material cost and other expenses Material cost is 30 RMB/kw and other expenses are 60RMB/kw. (7) Amortization Intangible asset and long-term amortization. Amortization is zero for the Project. Credibility of the FS: As mentioned above, some key parameters were based on the FS. The FS was prepared by the China Power Construction Engineering Consulting Corporation (CPCECC) and qualification of CPCECC are attached (Attachment 2-9). From these certificates, it is reasonable to conclude that CPCECC is a well qualified company to make a proper FS and that information in the FS can be considered credible. Furthermore, the credibility of CPCECC is demonstrated in the Investment cost, as the estimated investment costs were	
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				consistent with the actual costs.	
19.	CL 3	An explanation why this region was selected in common practise analysis is to be clarified	7.5.3	Added an explanation on Step 4 of section B.5	OK The explanation on choice of the region Gansu Province as the geological region of common practice has been provided in revised PDD, and has been verified appropriate and reasonable. The CL is therefore closed.
20.	CL 4	It is to be clarified why these four projects can be operated without CDM's support.	7.5.5	First 4 phases of 30 Lijingzi-1 used smaller turbines, 600KW and 300KW per turbine, these projects had much lower initial investment, while had much higher tariff rate as shown on an article (attachment 1-6). Furthermore, these projects have capacity less than 10MW, which are less than 5% of the project, and cannot be really compared.	OK It can be confirmed that the four projects "first 4 phases of 30 Lijingzi-1" are essentially distinct from the Project, by verifying the public sourced evidence /32/ and /51/, which are checked valid and appropriate to the Project. The CL is therefore closed.
21.	CL 5	The measurement accuracy is to be clarified.	8.5	Further explanation was added to section B.7.2.	OK The measurement accuracy has been provided in the revised PDD, and has been verified correctly described as per relevant national standard /53/. The CL is therefore closed.
22.	CL 6	The procedures on how to deal with erroneous measurements are to be clarified.	8.6	Further explanation was added to section B.7.2.	OK The erroneous responding procedure has been provided in the revised PDD and been confirmed sufficient. The CL is therefore closed.
23.	CL 7	The procedures for maintenance of monitoring equipment and installations are to be clarified.	8.10	Further explanation was added to section B.7.2.	OK The maintenance and installation procedures of monitoring equipment has been provided in the revised PDD

					and been confirmed sufficient. The CL is therefore closed.
24.	CL 8	The equipment calibration intervals are to be clarified further.	8.11	The developer will calibrate monitoring equipment according to local and national standards, which is likely to be once a year.	OK The equipment calibration has been provided in the revised PDD and been confirmed sufficient. The CL is therefore closed.
25.	CL 9	The project belongs to Gansu Huineng New Energy Institute in EIA, not the project owner. Therefore, the relationship between two companies is to be clarified.	11.3	Gansu Huineng New Energy Institute (GHNEI) was committed by DRC of Gansu Province to do the project preliminary evaluation works for attracting outside project investors. GHNEI is not the project owner and has no relationship with the project developing company.	OK The evidence "Clarification on EIA related issues" /44/ has been provided for explaining the relationship between the Gansu Huineng New Energy Institute in EIA and CECIC HKC Gansu Wind Power Co., LTD. The evidence can be confirmed valid, and issued by the Gansu Province EPB, which gives clear explanation, that Gansu Huineng New Energy Institute is the entity to perform pre-preparation of the Project (including EIA application), and CECIC HKC Gansu Wind Power Co., LTD., which is the owner of the Project, was approved by NDRC for owning, constructing and implementing the Project. The CL is therefore closed.
26.	CL 10	Two EIA's approvals have been provided, with the same authority and the same approval date, but the total investments in two documents are highly different. It is to be clarified which one of both is the truth.	11.3	A confirmation letter issued by Gansu Provincial Environmental Protection Bureau was submitted to the DOE (attachment 2-10)	OK. The validation team has reviewed the confirmation letter from Gansu Provincial Environmental Protection Bureau and is acceptable. The CL is therefore closed.

		Moreover, there is no serial Number in the document of EIA's approval, which is difficult to be verified and is not a common practise in Chinese authorities. It is to be clarified further.			
27.	CL 11	It is unclear why the project should 'reduce reliance on imported fossil fuel', whilst the electricity generation China is mostly based on domestic resources.		Changed the PDD section A.2	OK. It has been revised in the PDD. The CL is therefore closed.
28.	CL 12	The concrete year information should be indicated. For example, 2009, 2010 etc. Please clarify why the annual electricity output (and thus CER) for the first year is significantly less than in subsequent years.	PDD table A.4.4	The clarification has been added into the Section A.4.4 of the revised PDD.	OK. It has been revised in the PDD. The CL is therefore closed.
29.	CL 13	Please clarify how to determine the emission reduction when reading error of either meter exceeds the allowable range or any inconsistency occurs.	PDD p25 procedure	Further explanation was added to the section B.7.2	OK. It has been revised in the PDD. The CL is therefore closed.
30.	CL 14	Please clarify the following issue raised from the EB51 meeting. Regarding the suitability of the tariff as indicated in paragraph 48, EB49 report has not been adequately addressed by the DOE i.e. the DOE has not confirmed that there was a reduction in applicable tariffs between 2002 and the start date of the project activity and if so whether a higher tariff could be considered	EB 51 meeting	Please refer to the attached document "response on question on tariff". The highest tariff 0.585RMB/kWh is considered acceptable for the Gansu province, which is also cross-checked with another registered wind project in Gansu province "Gansu Jingtai 45MW Wind Power Project" (UNFCCC No. 2766), in which 0.585RMB/kWh is considered as the highest tariff for wind power projects in Gansu province. By	OK. <i>According to 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/32/ issued in EB54 Para 53, the highest applicable wind tariff in Gansu Province applied by Executive Board is 0.585 RMB/kWh incl. VAT. As reflected in the in the IRR spreadsheets, the validation team has</i>

		an E- policy or whether any such reductions could be a comparative advantage for more emissions intensive technology.		using the highest tariff, the IRR of the project will not exceed the benchmark.	confirmed that when the highest applicable tariff in the IRR worksheet for the first 30,000 hours, the project IRR would be 6.78% after tax, which is below the benchmark. Even if the 0.585 RMB/kWh is applied for the entire operational period, the project IRR would be 7.16% (after tax), which is still below the benchmark IRR 8%. Therefore, it is validation team's opinion that the suitability of electricity tariff has been sufficiently demonstrated in line with EB54 Para. 53. The CL is therefore closed.
31.	CL 15	It should be clarified how the project assessment period was selected. It was confirmed that the technical lifetime of the wind turbine generators are 20 years according to the wind turbine contracts. However, from the IRR calculation worksheet, the electricity sale revenues have been considered for over 20-year operation. Please clarify such consistency.	7.3.4 7.3.6 7.3.7 7.3.9	Although the FSR assumed for up to 23 years of operation, the technical lifetime of the turbine is set at 20 years, according to the turbine contract. Accordingly, the 20 years of technical lifetime is mentioned in the table A.4-1 of section A.4.3. Furthermore, the IRR was also revised with operation lifetime of each turbine to be 20 years.	OK. The validation team has reviewed the wind turbine purchase contract and confirmed that the wind turbine design lifetime is 20 years. The expected operational lifetime in the IRR spreadsheets has been revised to be consistent with the technical lifetime of the wind turbine generators, which is in line with the paragraph 3 <i>Guidance on the Assessment of Investment Analysis</i> version 03.1. The CL is therefore closed.
32.	CL 16	The basic parameter sheet should be incorporated in the IRR spreadsheets. It should be clarified on 1) how the VAT surtax cost was calculated; 2) how the depreciation period and residue value rate has	7.3.4 7.3.6 7.3.7 7.3.9	The IRR sheet was completed revised. In the revised IRR sheet, assumed VAT surtax cost, depreciation period and residue values are specified. For the depreciation period and residual	OK. The residue value rate was selected as 5% of the fixed asset value in the IRR spreadsheets, which is confirmed reasonable compared with other registered windfarm projects in Gansu

		been determined as appropriate for the proposed project.		values, the FSR assumed depreciation period of 13 years and 0 residual value therefore after. However, it is unrealistic to assume 0 residual value at the end of the operation lifetime (20 years). Therefore, 5% residual value was assumed at the end of 20 years operation, while adjusted the depreciation period and rate.	Province (i.e. with range of 3%~5% for residue value rate). The fair value has also been included as cash inflow at the final year. Therefore, the validation team confirms the fair value has been appropriately calculated in line with the paragraph 4 of the <i>Guidelines on Assessment of Investment analysis version 3.1</i>. The depreciation period is selected as 20 years and the annual depreciation rate is calculated as 4.75% (i.e. $(1-5\%)/20=4.75\%$). The selected depreciation period (i.e. 20 years) is confirmed reasonable for wind power generating facilities since the <i>Implementation Rules for Law of the People's Republic of China on Enterprise Income Tax/76/</i> stipulates a minimum 10-year depreciation period for manufacturing equipment. The CL is therefore closed.
33.	CL 17	It should be clarified how the O&M cost was determined appropriate for the proposed project through comparison with other similar windfarm projects. In particular, it was observed that the assumption of material cost and other fees was higher than other similar windfarm projects in the same region.	7.3.4 7.3.6 7.3.7 7.3.9	O&M cost and components of the O&M cost were analyzed by comparing with average of registered wind projects in Gansu Province. The comparison table and results were submitted to DOE. It was confirmed that maintenance & repair, material cost and other fees of the Project are found to be higher than the average, whereas salaries & welfare and insurance are below the average. In addition, the average of total O&M cost was found to	OK. The audit team has reviewed the <i>List and Analysis Result of Registered Wind Projects in Gansu Province/81/</i> and confirmed that the information as listed are public available and all sourced from the UNFCCC website. The ratio annual O&M cost per installed capacity of the projects in Gansu Province was ranging from 168.80 RMB/kW to 316.08 RMB/kW.

			be 25.16% lower than the Project assumed O&M cost. To analyze further on the O&M cost, additional sensitivity analyses were conducted as shown in the table B5-5 of PDD and table 8 of worksheet "outcome summary" in the IRR calculation excel file. The results indicate that O&M cost needs to decrease by 70% for IRR to cross the benchmark of 8%. Considering the fact that the average is only 25.16% lower than the Project, it is unrealistic to assume that O&M cost will decrease for 70%.	The ratio of the proposed projects is 307.87 RMB/kW, at a top level in Gansu Province, but still within the range. In particular, each O&M component has been listed for comparison and it can be found that the maintenance & repair cost, material cost and other fees are higher than the average level, while the salaries & welfare and insurance are lower than the average level. Even with the average level of the registered wind projects (i.e. 230.40 RMB/kW), the project IRR is only still increasing to 6.35% after tax, which is still far below the benchmark 8%. To reach the benchmark, the annual O&M cost should be decrease to 90 RMB/kW, which is not realistic since it is only 39% of the average level in the same region. The CL is therefore closed.
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APPENDIX B

CERTIFICATES OF COMPETENCE

Qualification

Ma, Libo /

Emission Trading

United Nations Framework Convention on Climate Change

Auditor No.:

(AuditorenRegNr)

Appointed:

(Zugelassen)

☒ ja

Qualification Level:

(Qualifikationsstufe)

Auditor

External:

(Externer)

☐ ja

Add. reviewer:

(Zusätzlicher Prüfer)

☐ yes

EAC Scopes:

(EAC Branchen)

CDM 01 - Energy industries (renewable - / non-renewable sources)

CDM 04 - Manufacturing industries

Add. qualification:

(zus. Qualifikation)

First Appointment:

(Erstberufung)

2009/06/02

Valid to:

(Gültig bis)

2012/06/01

Remarks:

CDM 01: valid for TA 1.1, 1.2

CDM 04: valid for TA 4.5 - Other WHR and Fuel Switch

Languages:

Chinese

English

Experience Exchange

Date

Location

Remarks

Accreditation(s)

Monitoring

Latest Monitoring:

(letzte Beurteilung)

Next Monitoring:

(nächste Beurteilung)

Remarks:

[View / Edit Monitoring](#)

History of scope allocation

Date: 2009-06-02
Change: EAC CDM added
By: Manfred Brinkmann
Reason:

History

Created:	2008/03/20 15:44:05 ZE8	Daxun Li/Bj/Chn/TUV
Modified:	2011/01/17 14:43:10	Manfred Brinkmann/Jpn/TUV
	2011/01/17 14:42:56	Manfred Brinkmann/Jpn/TUV
	2008/03/20 15:44:19 ZE8	Daxun Li/Bj/Chn/TUV

Qualification

A, Qingxing (Sequoia) /

Emission Trading United Nations Framework Convention on Climate Change

Auditor No.:
(AuditorenRegNr)

Appointed:
(Zugelassen)

☒ ja

Qualification Level:
(Qualifikationsstufe)

Lead Auditor

External:
(Externer)

☐ ja

Add. reviewer:
(Zusätzlicher Prüfer)

☐ yes

EAC Scopes:
(EAC Branchen)

CDM 01 – Energy industries (renewable – / non-renewable sources)

Add. qualification:
(zus. Qualifikation)

First Appointment:
(Erstberufung)

2008/05/20

Valid to:
(Gültig bis)

2011/05/19

Remarks:

CDM 01 valid for TA1.2 – Renewable Energies

Languages:

Chinese
English

Experience Exchange

Date

Location

Remarks

Accreditation(s)

Monitoring

Latest Monitoring:
(letzte Beurteilung)

Next Monitoring:
(nächste Beurteilung)

Remarks:

[View / Edit Monitoring](#)

History of scope allocation

Date: 2008-05-20
Change: EAC CDM, CDM added
By: Manfred Brinkmann
Reason:

History

Created: 2008/05/19 17:35:31 ZE8
Modified: 2011/01/25 22:52:07

Sequoia A/Shg/Chn/TUV
Manfred Brinkmann/Jpn/TUV

2010/12/19 14:23:04
2010/12/19 14:21:19
2010/12/19 14:19:54
2010/12/19 14:19:18
2010/09/13 16:07:36

Manfred Brinkmann/Jpn/TUV
Manfred Brinkmann/Jpn/TUV
Manfred Brinkmann/Jpn/TUV
Manfred Brinkmann/Jpn/TUV
Manfred Brinkmann/Jpn/TUV

Qualification

Zhou, Kai /

Emission Trading United Nations Framework Convention on Climate Change

Auditor No.:
(AuditorenRegNr)

Appointed:
(Zugelassen)

☒ ja

Qualification Level:
(Qualifikationsstufe)

Auditor

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:
(Erstberufung)

2008/08/24

Valid to:
(Gültig bis)

2011/08/23

Remarks:

Appointed for:
TA 1.2, 5.1, 11.1, 12.1

Languages:

Chinese simplified
English
German

Experience Exchange

Date

Location

Remarks

Accreditation(s)

Monitoring

Latest Monitoring:
(letzte Beurteilung)

Next Monitoring:
(nächste Beurteilung)

Remarks:

[View / Edit Monitoring](#)

History of scope allocation

Date:

2008-09-25

Change:

EAC CDM, CDM added

By:

Manfred Brinkmann

Reason:

1st project to be accompanied by an appointed team leader for 'monitoring' and mutual exchange of

experience & knowledge

Appointment for scope 1 based on project experience (almost exclusively Hydropower), therefore limited to renewable energies; other projects subject to case-by-case decision.

History

Created:	2008/09/01 17:27:46 ZE8	Kai Zhou/Gz/Chn/TUV
Modified:	2010/11/10 18:23:22	Manfred Brinkmann/Jpn/TUV
	2010/11/10 18:22:19	Manfred Brinkmann/Jpn/TUV
	2010/07/23 14:52:05	Peter Popovics/Jpn/TUV