

VALIDATION REPORT

EDF Trading Ltd

**Shandong Taipingshan Wind Farm
Project**

SGS Climate Change Programme

SGS United Kingdom Ltd
SGS House
217-221 London Road
Camberley Surrey
GU15 3EY
United Kingdom

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Organisation:		Client:	
SGS United Kingdom Limited		EDF Trading Ltd	
Publication of PDD for Stakeholders Consultation			
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Summary:			
EDF Trading Ltd has commissioned SGS to perform the validation of the project: Shandong Taipingshan Wind Farm Project. Methodology Used: ACM0002 – Consolidated methodology for grid-connected electricity generation from renewable sources (version 12.2.0) The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against CDM Validation and Verification Manual (version 1.2), Kyoto Protocol requirements and UNFCCC rules. The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow up actions (e.g site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations. The report and the annexed validation describes a total of 7 findings which include: • 5 Corrective Action Requests (CARs); • 2 Clarification Requests (CLs); • 0 Forward Action Requests (FARs); and All findings have been closed and the project will be recommended to the CDM Executive Board with a request for registration.			
Subject:		Document Distribution	
CDM Validation			
Validation Team:		☒ No Distribution (without permission from the Client or responsible organisational unit)	
Simon Zhao – Team Leader/ Lead Assessor/ Local Assessor Xue Yuan – Sectoral Scope Expert (TA1.2) Richard Huang – Financial Expert			
Technical Review:		☐ Limited Distribution	
Date: 13-04-2012 Name: Joe Sun			
Authorised Signatory:		☐ Unrestricted Distribution	
Name: Siddharth Yadav			
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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CERs	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EIA	Environmental Impact Assessment
ERs	Emission Reductions
GHG	Green House Gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoC	Modality of Communications
MP	Monitoring Plan
NCPG	North China Power Grid
NECPG	Northeast China Power Grid
ODA	Official Development Assistance
PAR	Project Application Report
PDD	Project Design Document
PP	Project Participant
SGS	SGS United Kingdom Ltd
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by EDF Trading Ltd to perform a validation of the project: Shandong Taipingshan Wind Farm Project in China.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism Validation and Verification Manual (Version 1.2) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

By constructing and operating a new wind farm project and supplying the electricity generated by the project to North China Power Grid, replacing the same amount of electricity that would be generated by fossil-fuel-fired power plants in the North China Power Grid, the project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

The total emission reductions from the project are estimated to be 593,180 t of CO₂e over a 7 year crediting period during 01/03/2012 to 28/02/2019, averaging 84,740 t of CO₂e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Siddharth Yadav

Date: 24 April 2012

2. Introduction

2.1 Objective

EDF Trading Ltd has commissioned SGS to perform the validation of the project: Shandong Taipingshan Wind Farm Project with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

2.3 GHG Project Description

The project is a new wind power project. The project involves the installation of 58 wind turbines with unit capacity of 850 kW each, reaching a total installed capacity of 49.3 MW. The electricity generated by the project will be supplied to North China Power Grid.

2.4 The Names and Roles of the Validation Team Members

Assessment Team	
Name	Role
Simon Zhao	Team Leader/ Lead Assessor/ Local Assessor
Richard Huang	Financial Expert
Xue Yuan	Sectoral Scope Expert (TA 1.2)

Technical Review Team	
Name	Role
Joe Sun	Technical Reviewer
Lenore Yin	Sectoral Scope Expert (TA 1.2)

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project document version 01 dated 21/03/2011 and the subsequent version 02 dated 01/06/2011, version 03 dated 16/09/2011, version 04 dated 02/12/2011 and version 05 dated 12/04/2012. The assessment is performed by trained assessors using a validation protocol attached as Annex 2, table 2.

The site visit was performed on 12/05/2011 by all members of the assessment team. The results are summarized in Annex 1.

Local staff members were also involved to confirm other statements in the PDD through review of documents and interview with key stakeholders.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the Validation and Verification Manual, Version 01.2 dated 30 July 2010. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of verification are document review (DR) or interview (I). N/A means not applicable.	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.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex A.1 to this report

3.3 Findings

As an outcome of the validation process, the team can raise different types of findings

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and client must address them within agreed timeline.

4. Validation Findings

4.1 Approval

Parties involved in the project are China and the United Kingdom, as indicated in Section A.3 of the PDD.

The LoA from the DNA of China is not provided. **CAR #1** is raised for requesting the PP to provide the LoA from China DNA. The LoA from Chinese DNA entitled “Letter of Approval for Shandong Taipingshan Wind Farm Project by National Development and Reform Commission of the People’s Republic of China”, with document No. 2988, dated June 2011, was forwarded to SGS by the PP.

The LoA shows that:

- a) China approved the Kyoto Protocol to the UNFCCC on 30/08/2002, and is a Party to the Kyoto Protocol; and
- b) The participation is voluntary; and
- c) The project assists China in achieving sustainable development.

The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration, i.e. Shandong Taipingshan Wind Farm Project. The LoA from Chinese DNA is unconditional with respect to the aspects mentioned above. SGS assessors checked the ratification status of China to the Kyoto Protocol on the UNFCCC website: <http://maindb.unfccc.int/public/country.pl?country=CN>, and confirm that China approved the Kyoto Protocol on 30/08/2002, and is a Party to the Kyoto Protocol. The list of DNAs on the UNFCCC website: <http://cdm.unfccc.int/DNA/index.html> was checked by SGS assessors, and it is confirmed that the National Development and Reform Commission of the People’s Republic of China is the DNA of China. To check the authenticity of the LoA, the list of projects approved by the Chinese DNA on its website: <http://cdm.ccchina.gov.cn> is checked by SGS assessors, and it is confirmed that the proposed project has been approved by the Chinese DNA. CAR #1 is closed out.

The LoA from the DNA of the United Kingdom is not provided. **CAR #2** is raised for requesting the PP to provide the LoA from the DNA of the United Kingdom. In response to the finding, the PP did not provide the LoA from the DNA of the United Kingdom, but provided the LoA from the DNA of France. The name of Party involved was changed from the United Kingdom to France in the revised PDD. The LoA from Ministry of Ecology, Sustainable Development, Transports and Housing of France issued to EDF Trading Ltd for Shandong Taipingshan Wind Farm Project, dated 05/10/2011, was forwarded to SGS by the PP.

The LoA from the DNA of France shows that:

- a) France ratified the Kyoto Protocol on 31/05/2002; and
- b) France participates voluntarily in the CDM.

The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration, i.e. Shandong Taipingshan Wind Farm Project. The LoA from French DNA is unconditional with respect to the aspects mentioned above. SGS assessors checked the ratification status of France to the Kyoto Protocol on the UNFCCC website: <http://maindb.unfccc.int/public/country.pl?country=FR>, and confirm that France approved the Kyoto Protocol on 31/05/2002, and is a Party to the Kyoto Protocol. The list of DNAs on the UNFCCC website: <http://cdm.unfccc.int/DNA/index.html> was checked by SGS assessors, and it is confirmed that the Ecology, Sustainable Development, Transports and Housing is the DNA of France. The assessment team compared the format and signature of the French LoA with other French LoAs on the UNFCCC website and confirmed its authenticity. Through checking with the representative of the French DNA by email, it is confirmed by SGS that the project has been approved by the DNA of France. CAR #2 is closed out.

SGS confirms that all Parties listed in Section A.3 of the PDD Version 05 have approved the project activity.

4.2 Participation Requirements

The project participants are listed in tabular form in section A.3 of the PDD and the information is consistent with the contact details provided in annex 1 of the PDD. The participation of each project participant has

been approved by at least one Party involved in the form of Letter of Approval. And the LoAs are issued from relevant DNAs. No entities other than those approved as project participants are included in section A.3 or Annex 1 of the PDD.

CAR #3 was raised for requesting the PP to provide the Modalities of Communication signed by the Project Participants. The MoC signed by the PPs have been provided and checked by the validation team, The MoC is completed in accordance with the template from the UNFCCC. CAR #3 is closed.

4.3 Project Design Document including Project Description

The proposed project activity is a new wind power project. The proposed project is not in existing facilities and does not utilize existing equipments.

A physical site visit was carried out by members of the assessment team, including the Lead Assessor, Sectoral Scope Expert and the Local Assessor, on 12/05/2011.

The assessment team reviewed the project design through checking the PAR and visited the physical site of the project. Based on the information checked during the site visit, it can be confirmed that the project had been implemented as per the design in the PAR and the PDD version 01 until the time of the site visit.

The purpose of the project activity, type of technology used and the contribution of the project to sustainable development are described in Section A.2 of the PDD. The proposed project is planned to utilize renewable wind resources for power generation, which involves the installation of 58 sets of wind turbines with the rated capacity of 850 kW each, providing a total installed capacity of 49.3MW. It is estimated that the annual power output is 91,030.5 MWh once the proposed project is put into operation. The electricity generated by the proposed project will be exported to the North China Power Grid (NCPG).

The project scenario, the scenario existing prior to the implementation of the Project and the baseline scenario are described in Sections A.2 and A.4.3. The descriptions follow the requirement of "Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)", version 07.0, and are complete.

Main changes and reason for revision between the final PDD against the first version published for the international stakeholder consultation	
PDD Section No.	Description and reason for changing the information in that section
Section B.5	Response to CAR #4, change of the starting date of the project activity; Response to CL #5, more information supporting appropriateness of input values is included in PDD version 05; Response to CL #6, added justifications regarding the identification of similar projects in common practice analysis;
Section B.7	Response to CAR #7, changes to monitoring procedures for $EG_{export,y}$ and $EG_{import,y}$, QA/QC procedures and training information are included in PDD version 05.
Section C	Change of Starting date of the project activity and the start date of crediting period

4.4 Applicability of selected methodology to the project activity

The baseline methodology ACM0002 version 12.2.0 used by the project is previously approved by the CDM EB. As indicated on the UN website, ACM0002 version 12.2.0 was the latest version. ACM0002 version 12.2.0 refers to the Tool for the demonstration and assessment of additionality, version 05.2.1 (hereinafter referred to as the Additional Tool) and the Tool to calculate the emission factor for an electricity system, version 02.2.1 (hereinafter referred to as the Emission Factor Tool).

The choice of ACM0002 version 12.2.0 is correctly justified in Section B.2. of the PDD and the project is in conformance with all applicability criteria of the applied methodology.

The project is a grid-connected renewable power generation project activity and a green field plant. It is the installation of wind power plant. It does not involve capacity addition, retrofit or replacement.

This project does not involve switching from fossil fuels to renewable energy source at the site; the proposed project does not involve biomass fired power generation. The project is in conformance with all applicability criteria of ACM0002 version 12.2.0.

By document review and on site inspection, the assessment team verified that there are not any GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs, which are not addressed by the applied methodology.

The applicability conditions of the methodology are met and the project activity is not expected to result in emissions other than those allowed by the methodology. The selected approved methodology applies to the project activity.

4.5 Project Boundary

The project boundary includes the physical delineation of the proposed CDM project activity.

The spatial extent of the proposed project boundary includes the proposed project power plant and all power plants connected physically to NCPG that the proposed project power plant is connected to. CO₂ is included in the baseline emission, and CH₄ and N₂O are not included in the baseline emission. CO₂, CH₄ and N₂O are all not included in the project emission. For wind farm project, there is no leakage.

All above information has been validated to be in compliance with ACM0002 Version 12.2.0.

The proposed project is a grid connected electricity generation project. In accordance with the latest version of the "Tool to Calculate the Emission Factor for an Electricity System", the delineation of the project electricity system and connected electricity systems published by the Chinese DNA is applied in the PDD of the project activity. The North China Power Grid is identified as the project electricity system. The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to, i.e. North China Power Grid. The project site includes the power plant, turbines themselves and auxiliary electric equipments that are used to support the turbines operation.

4.6 Baseline Selection and Additionality

The baseline scenario is identified in the PDD transparently as per ACM0002 version 12.2.0. As per ACM0002 version 12.2.0, for installation of a new grid-connected renewable power plant, the baseline scenario is 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".

4.6.1 Additionality

Tool for the demonstration and assessment of additionality, version 05.2.1 is used. All steps are followed in a transparent manner.

As per the Additionality Tool, the following steps are taken for the demonstration of the additionality of the project in section B.5 of the PDD.

Step 1. Identification of alternatives to the project activity consistent with current laws and regulations;

Step 2. Investment Analysis;

Step 3. Barrier Analysis; (Not used)

Step 4. Common Practice Analysis.

4.6.2 Prior Consideration of the Clean Development Mechanism

The starting date of the project activity is 08/08/2009, which was the date when the Turbines Purchasing Agreement was signed and was the earliest date at which either the implementation or construction or real action of a project activity began.

According to the information on the UNFCCC website, the PP notified the UNFCCC of the prior consideration of CDM of the proposed project on 20/01/2010.

The PP also notified the DNA of China of the prior consideration of CDM of the proposed project on 20/01/2010 and the DNA of China confirmed receiving the notification on 08/02/2010 (/22/).

The project is a new project after 02/08/2008. The project participant informed the Chinese DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status within six months of the project activity start date (/22//23/). The prior consideration of CDM of the project is in line with the latest version of the Guidelines for the demonstration and assessment of prior consideration of the CDM.

The wind turbine contract signing date and CDM consultancy agreement signing date in the PDD are not consistent with the evidences verified. CAR#4 is raised for requesting the PP to take relevant action and submit the revised document(s). The PP revised the information of the dates for signing the wind turbine contract and CDM consultancy agreement in the revised PDD. The information in the revised PDD is consistent with the verified wind turbine contract and consultancy agreement. CAR #4 is closed.

4.6.3 Identification of alternatives

Four alternatives have been defined i.e.:

1. The proposed project activity undertaken without being registered as a CDM project activity;
2. Construction of a fossil fuel power plant with equivalent amount of annual electricity output;
3. Construction of a power plant using other source of renewable energy with equivalent amount of annual electricity output; and
4. Supply of equivalent annual power output by the grid to which the proposed project is connected.

The assessment team confirms that the listed alternatives are credible and complete. All alternatives include technologies and practices that include outputs or services comparable with the proposed CDM project activity.

Alternative 3 was excluded from further analysis as it is not a realistic and credible alternative because of the technology development status and high cost for power generation using solar PV, geothermal energy, and biomass, and the availability of water resources at the project site area. The PDD justified the exclusion of Alternative 3 with sufficient references and evidences. The references and evidences mentioned in the PDD have been checked by the assessment team. And it is confirmed by the assessment team that the exclusion of Alternative 3 is sufficiently justified in the PDD.

4.6.4 Investment analysis

In step 2, investment analysis was used to demonstrate that alternative 1 is not a realistic and credible alternative.

In sub-step 2a, the benchmark analysis is chosen as an analysis method because the simple cost analysis is not applicable as the project generates financial or economic benefits (electricity sales) other than CDM related income, and the investment comparison analysis was not applicable because the baseline alternative is not a new investment in a comparable project.

It has been validated that the benchmark analysis is the most applicable analysis method as per the "Tool for the demonstration and assessment of additionality" version 05.2.1.

Benchmark determination

The project IRR of total investment after tax was identified to be the financial indicator. In the PDD, benchmark of 8% was applied in the benchmark analysis.

Following **Paragraph 12** of the Guidelines on the Assessment of Investment Analysis, benchmark approach is used, and the benchmark applied is appropriate to the IRR calculated. The "Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects" issued by the State Power Corporation of China, the former state authority to manage relevant power issues including new constructions of power plants, states that the benchmark is based on The Methodology and Parameters for Financial Evaluation of Construction projects (Chapter 1 General, Section 1.1) which is the national criteria in evaluating new construction projects including fossil-fuel-fired power plants and renewable energy projects. The proposed project activity is an electricity generation project and the project IRR of total investment is calculated to be compared with the benchmark. The benchmark of 8% is widely applied in financial assessments of wind farms in China and

has also been accepted as the benchmark for registered CDM projects in power sector of China. The benchmark of 8% is validated to be suitable for the project activity by SGS Assessors. The benchmark used in the PAR was 8%.

Following **Paragraph 13** of the Guidelines on the Assessment of Investment Analysis, the project activity could be developed by an entity other than the project participant. As discussed above, the benchmark of 8% is widely applied in financial assessments of wind farms in China and has also been accepted as the benchmark for registered CDM projects in power sector of China. The benchmark of 8% is validated to be standard in the market by SGS Assessors.

The 8% benchmark of post-tax project IRR adopted is from the “Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects”. This benchmark IRR has been widely accepted in newly constructed power plants in China, and has also been accepted as the benchmark for registered CDM projects in power sector. This is not internal company benchmarks/expected returns. Therefore **Paragraph 14** is not applicable for the project activity.

The 8% post-tax project IRR is adopted as benchmark. The cost of equity is not involved in the investment analysis of the proposed project. **Paragraph 15** is not applicable for the project activity.

A company’s internal benchmark is not used in the investment analysis of the proposed project. **Paragraph 16** and **Paragraph 17** are not applicable for the proposed project.

Following **Paragraph 19** of the Guidelines on the Assessment of Investment Analysis, the alternative to the project activity is the supply of electricity from a grid. It is appropriate to use benchmark analysis.

Investment Analysis was used in the PDD, but the suitability of the input values was not sufficiently demonstrated.

CL #5 is raised for requesting the PP to demonstrate the suitability of the input values, especially the plant load factor, annual electricity supply, the total static investment, the electricity tariff, the annual O&M cost, the residual value rate, the interest rate, and the tax rate. In the response to the finding, the PP justified the suitability of the input values in detail. The references and evidences mentioned in the PP response are verified by the assessment team.

The input values used in the PDD are derived from PAR designed by a qualified third party and approved by Development and Reform Committee of Shandong Province. The PAR was developed in May 2008 and the approved on 11/06/2008. The turbines purchasing agreement of the project was signed on 08/08/2009. The time period between the finalisation of the PAR and the investment decision was sufficiently short and it is unlikely in the context of the underlying project activity that the input values would have materially changed. Requirement of Para. 113 (a) of VVM version 01.2 is met.

The values used in the PDD and associated annexes are fully consistent with the PAR. The requirement of Para. 113 (b) of VVM version 01.2 is met.

The assessment team cross checked the input values of other similar wind farm projects in the same region as the project. Based on the local and sectoral expertise of the assessment team, we confirm that that the input values from the PAR are valid and applicable at the time of the investment decision, as follows:

Plant load factor and Annual power supply:

The plant load factor of the project used in the PDD (0.211) is derived from the PAR, which was designed by a qualified third party contracted by the PP. The requirements from EB48, Annex 11 “Guidelines for the Reporting and Validation of Plant Load Factors” are met. Based on our database of registered CDM projects, the plant load factors of wind from projects in Shandong provinces range are from 0.188 to 0.258. The PLF of the project falls in the range. Thus, the PLF used in the PDD is suitable.

CDM-EB Ref.	Project Title	Total Installed Capacity (MW)	Load Factor
1010	Laizhou Diaolongzui Wind Farm	48.75	0.226

1019	Qixia Tangshanpeng Windfarm Project	21.75	0.192
1090	Shandong Changdao 27.2 MW Wind Power Project	27.2	0.237
1128	Shandong Weihai 69 MW Wind Power Project	69	0.232
2019	Shandong Luneng Dongying 48MW Wind Power Project	48	0.226
2094	The 48MW wind power project in Lubei, Shandong Province	48	0.234
2397	Shandong Penglai Pingdingshan Wind Farm Project	48	0.236
2436	Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1)	49.5	0.236
2438	Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1)	49.5	0.229
2442	Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1)	49.5	0.238
2530	Shandong Laizhou phase I Wind Power Project	49.5	0.222
2584	Shandong Dongying 1st phase Wind Power Project	49.5	0.221
2764	Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I	48.5	0.208
2814	Shandong Rushan Luneng Wind Farm	42	0.188
2831	Huadian Laizhou Wind Farm Project	40.5	0.218
3353	Huaneng Changyi Phase I Wind Farm Project	49.5	0.258
3391	Shandong Huaneng Shouguang 49.5MW Wind Farm Project	49.5	0.222
4402	Shandong Penglai Wind Farm Phase II Project	48	0.223
Minimum		--	0.188
Maximum		--	0.258
Average		--	0.226
The Proposed Project Activity		49.3	0.211

The value of annual power supply used in the PDD is consistent with the estimation using the PLF used in the PDD. Thus, the value of annual power supply used in the PDD is suitable.

Total Static Investment:

Based on our database of registered CDM projects, the total static investment per kW of wind farm projects in Shandong province ranges from 7,448 to 12914 CNY/kW. The total static investment per kW of the proposed project falls in the range and is close to the average value in the database. Thus, the total static investment of the project used in the PDD is suitable.

CDM-EB Ref.	Project Title	Total Installed Capacity	Total static Investment (million)	Total static Investment per kW
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		(MW)	Yuan)	(Yuan/kW)
1010	Laizhou Diaolongzui Wind Farm	48.75	450.1359	9,233.56
1019	Qixia Tangshanpeng Windfarm Project	21.75	162	7,448.28
1090	Shandong Changdao 27.2 MW Wind Power Project	27.2	268.68	9,877.94
1128	Shandong Weihai 69 MW Wind Power Project	69	705.1141	10,219.04
2019	Shandong Luneng Dongying 48MW Wind Power Project	48	520.58	10,845.42
2094	The 48MW wind power project in Lubei, Shandong Province	48	548.05	11,417.71
2397	Shandong Penglai Pingdingshan Wind Farm Project	48	582.7	12,139.58
2436	Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1)	49.5	507.58	10,254.14
2438	Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1)	49.5	479.77	9,692.32
2442	Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1)	49.5	510.318	10,309.45
2530	Shandong Laizhou phase I Wind Power Project	49.5	516.3	10,430.30
2584	Shandong Dongying 1st phase Wind Power Project	49.5	639.24	12,913.94
2764	Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I	48.5	449.24	9,262.68
2814	Shandong Rushan Luneng Wind Farm	42	389.3882	9,271.15
2831	Huadian Laizhou Wind Farm Project	40.5	425.56	10,507.65
3353	Huaneng Changyi Phase I Wind Farm Project	49.5	624.48	12,615.76
3391	Shandong Huaneng Shouguang 49.5MW Wind Farm Project	49.5	559.07	11,294.34
4402	Shandong Penglai Wind Farm Phase II Project	48	528.04	11,000.83
Minimum		--	--	7,448.28
Maximum		--	--	12,913.94
Average		--	--	10,485.23
The Proposed Project Activity		49.3	522.325	10,595

According to the Project Application Report of the project, the major components of the total static investment are costs for wind turbine purchase, costs for tower tube purchase, costs for main construction, costs for main transformers, costs for box transformers and costs for installations. According to the PAR, the total values of the 6 major components account for 86% of the estimated total static investment 522.325 million Yuan. And the other 14% is consisted of many other minor components such as transmission lines, central control room, etc. These minor components are minor in nature and do not have significant impact on total static investment. The actual investment of the 6 major components are analyzed in detail as

follows. At the time of the conclusion of the validation, the contracts for wind turbine purchase, tower tube purchase, main construction, main transformers, box transformers and installations are available and have been validated by the assessment team. The details of the actual investment for the major components are:

Components of total static investment	Estimation in the PAR (Million CNY)	Actual value in signed contracts (Million CNY)	Difference between actual value and PAR	Date of signed contract
Wind Turbine Purchase	344.84	384.30	+11.44%	08/08/2009
Main Constructions	15.49	21.00	+35.57%	27/08/2009
Tower Tube Purchase	63.8	67.89	+6.40%	01/09/2009
Main Transformer	3.8	3.89	+2.37%	01/09/2009
Box Transformers	17.4	19.62	+12.74%	02/09/2009
Installation	4.06	4.85	+19.46%	12/09/2009
Summary of Above	449.39	501.54	+11.60%	

The actual investments on the six major components of the total static investments were higher than the estimates in the Project Application Report. And the actual investments of only the six major components have reached 96% of the total static investment estimated in the PAR, which is applied in the investment analysis of the PDD. It is highly likely that the actual total static investment in the project is higher than the total static investment estimated in the PAR.

The assessment team validated the suitability of the total static investment based on its sectoral and local expertise, and cross checked the input values of the total static investment with the actual contracts, and is able to confirm that the total static investment in the PDD for investment analysis is suitable and conservative.

Tariff:

On 23rd July 2008, the Approval of the Tariff for the Proposed Project was issued by the Shandong Provincial Price Bureau and the tariff of the proposed project was 0.6100 RMB/kWh (including VAT). On 20th July 2009, a notification on the tariff policy of wind farms was issued by NDRC, in which the on-grid tariff of wind farm in Shandong Province is confirmed as 0.61 RMB Yuan/kWh (including VAT). 0.61 RMB/kWh is the most possible tariff that the PP can expect at the time of investment decision. According to the "Information note on the highest tariffs applied by the EB in its decisions on registration of projects in the People's Republic of China", Version 02 (http://cdm.unfccc.int/Reference/Notes/reg_note07.pdf), the highest tariff of wind power projects in Shandong province should be 0.61 RMB Yuan/kWh (including VAT) for the first 30,000 hrs, after that tariff for thermal power plants will be applicable. The tariff applied by the project in the PDD is the highest tariff. Thus, the electricity tariff applied in the PDD is considered suitable.

O&M cost:

The assessment team validated the appropriateness of all the components of the O&M cost, including the Maintenance rate (1.20%), Welfare rate (41%), Number of employees (15), Annual average wage of employee (RMB 28,800), Material rate (10 RMB/kW), Miscellaneous cost rate (20 RMB/kW), Insurance rate (0.40%) through checking the values applied by other wind power projects in the same region, and confirmed the values of the components of the O&M cost applied for investment analysis are appropriate. The information in the registered PDDs of the 18 projects listed for cross check of total static investment was analysed by the assessment team. Information of the cross checking for components of the O&M cost is as follows:

Components of O&M cost	The Proposed Project	Information available for registered CDM projects		
		Minimum	Maximum	Average

Maintenance rate *	1.20%	0.55%	2.5%	1.75%
Welfare rate	41%	14%	66%	42%
Number of employees	15	10	25	18
Annual average wage of employee (10 thousand yuan RMB)	2.88	3.0	5.42	4.3
Material rate(RMB/kW)	10	5	11.65	7.98
Miscellaneous cost rate(RMB/kW)	20	8	45	23.5
Insurance rate	0.40%	0.12%	0.40%	0.24%

Note: * The maintenance rate of 1.2% is applied from the 4th year. For the first two operation years (i.e. Year 2 and Year 3), 0.3% is applied. This is conservative.

It is confirmed by the assessment team that the components of the O&M cost applied in the project for investment analysis fall in the range of registered CDM project and are considered suitable.

The calculation formula of O&M was validated to be consistent with what was determined in the *Economical Assessment Method and Parameters for Construction Project* (the 3rd edition) issued by NDRC and Ministry of Construction of China in August 2006 and the determination in the PAR. Because what has direct impact on the investment analysis (or Project IRR) of the project is the total O&M cost, or the annual O&M cost, the assessment team focused on checking the suitability of the annual O&M cost applied in the investment analysis. According to our database of registered CDM projects, the ratio of O&M cost/total investment of the wind power projects in Shandong province ranges from 0.74% to 4.81% and the average value is 2.28%. The ratio of O&M cost/total investment for the project is 1.95%, which falls in the range and is close to the average value. Thus, the assessment team confirms the O&M cost applied in the PDD for the project is suitable.

CDM-EB Ref.	Project Title	Annual O&M Cost (million Yuan)	Total Investment (million Yuan)	O&M cost/total investment
1010	Laizhou Diaolongzui Wind Farm	14.6114	450.1359	3.25%
1019	Qixia Tangshanpeng Windfarm Project	7.8	162	4.81%
1090	Shandong Changdao 27.2 MW Wind Power Project	10.94	268.68	4.07%
1128	Shandong Weihai 69 MW Wind Power Project	12.85	705.1141	1.82%
2019	Shandong Luneng Dongying 48MW Wind Power Project	15.0771	520.58	2.90%
2094	The 48MW wind power project in Lubei, Shandong Province	4.05	548.05	0.74%
2397	Shandong Penglai Pingdingshan Wind Farm Project	11.58	582.7	1.99%
2436	Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1)	14.286	507.58	2.81%
2438	Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1)	14.6141	479.77	3.05%
2442	Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1)	14.349	510.318	2.81%
2530	Shandong Laizhou phase I Wind Power Project	10.1877	516.3	1.97%
2584	Shandong Dongying 1st phase Wind Power Project	7.69	639.24	1.20%

2764	Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I	14.03573	449.24	3.12%
2814	Shandong Rushan Luneng Wind Farm	9.074	389.3882	2.33%
2831	Huadian Laizhou Wind Farm Project	4.59	425.56	1.08%
3353	Huaneng Changyi Phase I Wind Farm Project	9.25	624.48	1.48%
3391	Shandong Huaneng Shouguang 49.5MW Wind Farm Project	12.33	559.07	2.21%
4402	Shandong Penglai Wind Farm Phase II Project	10.53	528.04	1.99%
Minimum		--	--	0.74%
Maximum		--	--	4.81%
Average		--	--	2.28%
The Proposed Project Activity		10.18	522.325	1.95%

Residue value, depreciation rate, interest rate and tax rates:

Based on our local and sectoral expertise, we confirm the residue value, depreciation rate, interest rate and tax rate applied in the PDD comply with applicable Chinese laws and regulations. The justification for the suitability of the residue value, depreciation rate, interest rates and tax rates in the PP response to CL #5, including the references and evidences describe in the PP response, have been checked by the assessment team, and it is confirmed by the assessment team that the values for residue value, depreciation rate, interest rate and tax rate applied in the PDD are suitable.

(a) Tax rate

The tax rate of city construction of 7% comes from the approved PAR, which is also in compliance with an official document: The provisional regulation of city construction tax of People's Republic of China (<http://www.gxxhpcpa.com/Article.asp?id=762>)

The education surtax rate of 3% comes from the approved PAR, which is also in compliance with the Decree No. 395 of the State Council of the People's Republic of China (http://www.gov.cn/zwqk/2005-09/27/content_70440.htm)

The income tax of 25% complies with Enforcement Regulation of Business Income Tax Law of PRC, State Council Decree No.521 (http://www.gov.cn/zwqk/2007-12/11/content_830645.htm)

The VAT of electricity sales of 8.5% comes from the approved PAR finished in May 2008, which is in compliance with The Provisional Regulation of VAT of People's Republic of China effective from 01/01/1994 Issued by State Council, (<http://www.taxchina.com/ssfg/1993-12/03/cms72624article.shtml>); and the Council and Financial Tax [2001] No.198 Notification issued by China Tax Bureau dated 01/12/2001. (<http://www.dxtax.com/tax/cs01-198.htm>)

(b) Residual value

Following **Paragraph 4** of the Guidelines on the Assessment of Investment Analysis, the residual value rate of 4% was in compliance with relevant regulation in China, Notice of Clarifying Enforcement Time of Adjustment of Residual Value Ratio of Enterprise Fixed Assets issued by State Administration of Taxation of China.

(c) Depreciation rate

Following **Paragraph 5** of the Guidelines on the Assessment of Investment Analysis, depreciation rate is set as 6.4% annually with a depreciation period of 15 year, which is consistent with the data in the PAR and also the determination of residual value as validated above. The 15 year depreciation period is validated to be common practice in wind power industry in China. Depreciation and other non-cash items related to the project activity were not deducted in estimation of gross profits and thus did not need to be added back to

the net profits. Taxation was included in the calculation because the benchmark is intended for post-tax comparison.

(d) Interests rate

The interest rate of the proposed project used in the investment analysis is 7.83%, which is taken from the approved PAR and used in the investment analysis. Besides, it is the same one as prevailing commercial interest rate in China obtained from People's Bank of China.

(http://www.boc.cn/finadata/lilv/fd32/200809/t20080918_2398.html)

The suitability of the input values have been sufficiently justified by the PP and verified by the assessment team based on our local and sectoral expertise. CL #5 is closed.

In summary, all the parameters and input values applied in the PDD and used for IRR calculation are valid and applicable at the time the decision. The calculation of the Project IRR is carried out by using a spreadsheet. The spreadsheet was verified by SGS assessors. The calculation result of the Project IRR without CDM income is 4.28%, which is lower than the benchmark of 8%.

Sensitivity Analysis

Sensitivity Analysis has been correctly applied in accordance with the Additionality Tool. All the variables that constitute more than 20% of either total project costs or total project revenues, i.e. the total static investment, annual O & M cost, annual power supply and tariff, have been subjected to a range of +10% and -10% variation. The selection of +/-10% variation is in accordance with "Code on Compiling Feasibility Study Report of Wind Farms" issued by National Development Reform Committee and the "Guidance on the Assessment of Investment Analysis". It is the opinion of SGS that the variation of the variables is reasonable. The conclusion of the sensitivity analysis is that the proposed project activity is unlikely to be financially/economically attractive, even if the electricity tariff or the annual out is increased by 10%, or the total investment or the annual O&M cost is decreased by 10%.

1. Total Static Investment

If the total static investment is decreased by 25%, the project IRR would cross the benchmark. The assessment team has checked the main contracts of the proposed project, including the wind turbine purchase agreement, the main construction contract, the purchase and construction agreements for the lines and transformers. The contract value that has already happened to the project has reached 96% of the estimated static investment in the PDD. SGS can confirm that it is impossible for the total static investment of the project to decrease by 25%, based on information provided by the PP.

2. O & M Cost

If the O & M cost is decreased by 100%, the project IRR would cross the benchmark. The O & M cost of the project has correlation with the raw materials price, staff welfare, etc. Along with the growth of the Chinese economy, we can not predict the raw materials price and staff welfare in China will decrease significantly in the next 20 years. The assessment team validated the Price index from 2002~2008 in Table 3 of the PDD, It is confirmed that based on the Price Index from 2002 to 2008 listed in Table 3 of the PDD, it is indicated that Chinese economy is experiencing a relatively high inflation in the past several years. Furthermore, the price of labour, material and fuel are gradually increasing in China, which leads annual O&M cost gradually increasing. We consider the total O & M cost of the project is unlikely to decrease by 100%.

3. Annual power supply

If the annual power supply is increased by 29% during every year of the next 20 years, the project IRR would cross the benchmark. The PAR was completed by a qualified third entity. The estimation of the annual power supply is in accordance to the related standards, "Wind Resources Measurement Method of Wind Farms" (GB/T 18709-2002) and "Wind Resources Evaluation Method of Wind Farms" (GB/T 18710-2002). Furthermore it is based on 30 years wind speed data (1977 - 2006). The calculation for the project was carried out by using professional WASP software. The data in the PAR is deemed to be reliable. It is

the opinion of SGS that it is unlikely that the output of electricity will be increased by 29% in every year of the next 20 years.

4. Tariff

If the tariff of electricity is increased by 29% during every year of the next 20 years, the project IRR would cross the benchmark. According to the power industry policy of China, the on-grid tariff of a wind farm project will be finally approved by National Development and Reform Commission (NDRC) when the wind farm project has been put into delivery for one year. The electricity applied by the project is the highest tariff in the province, as per the information note released by the UNFCCC. Besides, according to the policies in the power sector in China at present, if there would be an increase in the electricity tariff, the increase of electricity is probably caused by the increase of raw materials price, staff welfare and operation and maintenance cost. It would be inappropriate to solely consider the increase of the electricity tariff without considering other parameters that may impact the electricity tariff. It is the opinion of SGS that it is unlikely that the electricity tariff will be increased by 29% in each year of the next 20 years.

4.6.5 Barrier analysis

No barrier was identified in the PDD.

4.6.6 Common practice analysis

Common Practice Analysis was carried out on the proposed project. But it was found that the requirement of the Additionality Tool was not sufficiently followed by the proposed project.

CL #6 is raised for requesting the PP to further clarify how similar projects are identified as per the requirement of "Tool for the demonstration and assessment of additionality". In the revised PDD, the PP justified by common practice analysis sufficiently.

The geographical scope for the common practice analysis was set as Shandong Province in which the comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing are comparable to the propose project, which was also widely used by other registered projects in Shandong Province. Wind power projects with the capacity over 15 MW in this region are included in the comparison, which was deemed reasonable as the project lower than 15 MW was defined as small scale project. It is the opinion of the assessment team that the selection of geographical scope, scale of project, and time of starting operation are appropriate for the assessment of common practice related to the project activity's technology or industry type.

In April 2002, China implemented the policy of "Separate power plants from network and compete in price to enter network". The objective of this power sector reform is to establish a more commercialized power market in China. The regulatory and market conditions for wind power projects have been changed since 2002. So the selection of wind power projects starting operation after 2002 for common practice is appropriate.

Except for the projects registered as CDM projects, Shandong Changdao Wind Farm Project (project ID: 517) applied for Voluntary Emission Reduction under Verified Carbon Standard (VCS) to obtain the support from VCS VER funding to solve the financial barriers (/39/), and Shandong Jimo Qingdao Huawei Wind Power Project received ODA support from DEG (part of KfW Bankengruppe) and was commission in 2003 with the tariff 0.76RMB/kWh approved in 2001. Considering the tariff of 0.76RMB/kWh in 2001 is not comparable to the later tariff of 0.61RMB/kWh in 2009, so it has essential distinctions from the proposed project. Therefore, the proposed project activity is not common practice. The essential distinctions with the proposed project activity were reasonably explained in the revised PDD. CL #6 is closed.

It is the opinion of SGS that the project is not common practice.

4.7 Application of Baseline Methodology and Calculation of Emission Factors

Baseline Emissions (BE_r)

The latest version of Emission Factor Tool is applied. Following steps are followed accordingly:

Step 1. Identify the relevant electricity systems;

Step 2. Choose whether to include off-grid power plants in the project electricity system (optional);

Step 3. Select a method to determine the operating margin (OM);

Step 4. Calculate the operating margin emission factor according to the selected method;

Step 5. Calculate the build margin (BM) emission factor;

Step 6. Calculate the combined margin (CM) emission factor.

In Step 1, the project electricity system is identified as the North China Power Grid (NCPG), which consists of Beijing, Tianjin, Hebei, Shanxi, Shandong and Inner Mongolia Power Grids, as per the delineation from Chinese DNA. The connected electricity system is Northeast China Power Grid (NECPG) including Liaoning, Jilin and Heilongjiang Power Grids and Central China Power Grid (CCPG) including Henan Province, Hubei Province, Hunan Province, Jiangxi Province, Sichuan Province and Chongqing Province Power Grids. This has been verified to be in compliance with the information from the DNA of China.

In Step 2, Option I, Only grid power plants are included in the calculation, is chosen.

In Step 3, Simple OM method is selected with ex-ante option, as the share of low-cost/must-run generation in NCPG is less than 50% of the total generation in the five most recent years.

In Step 4, Option B is selected for the calculation of Simple OM, as

- (a) The necessary data for Option A is not available; and
- (b) Only nuclear and renewable power generation are considered as low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources is known; and
- (c) Off-grid power plants are not included in the calculation.

Simple OM is calculated using the following formula:

$$EF_{grid, OMsimple, y} = \frac{\sum_{i, m} FC_{i, y} \cdot NCV_{i, y} \cdot EF_{CO_2, i, y}}{\sum_m EG_y}$$

In Step 5, Option1 is chosen to calculate the build margin emission factor. And the BM is calculated using the method approved by the EB.

In Step 6, the baseline emissions factor (EF_{CM}) is calculated as the weighted average of the Operating Margin emission factor and Build Margin emission factor. For wind projects, the default weights are as follows: $w_{OM} = 0.75$ and $w_{BM} = 0.25$:

Ex-ante options are selected for the calculation of OM and BM. The most recent data publicly available at the start of validation are used for the calculation of OM and BM. The combined margin CO₂ emission factor is calculated ex-ante and will be fixed for the first crediting period.

Equation and parameter have been correctly applied during calculation process. After $EG_{grid, CM, y}$ is obtained, baseline emission is calculated following formula

$$EG_{PJ, y} = EG_{facility, y}$$

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

The calculation formulas for baseline emission and emission reductions are consistent with the applied methodology and the project emission and leakage are not considered as per the methodology for the wind power project.

Project emissions (PE_y)

The proposed project is a wind power plant. Project emissions do not have to be taken into account according to ACM0002 version 12.2.0. $PE_y = 0$ tCO₂e.

Leakage (L_y)

According to ACM0002 version 12.2.0, the leakage for the proposed project is not considered.

Emission Reductions (ER_y)

Emission reductions are calculated using the below formula:

$$ER_y = BE_y - PE_y.$$

It is validated that ACM0002 version 12.2.0 has been applied exactly as defined for determining emission reductions. The PDD clearly stated which equations will be used in calculating emission reductions. All the required steps and calculations have been followed as per ACM0002 version 12.2.0. The PDD documents how each equation is applied in a manner that enables readers to reproduce the calculation. Conservative assumptions have been used to calculate emission reductions.

The projection of emission reductions is based on estimated annual power supply in the PAR and official data source for baseline emission factor. The projection is based on same procedures as to be used for later monitoring. The calculation of ERs is not expected to change for the first crediting period. It is validated that the formulae used to calculate emission reductions are correct and in compliance with ACM0002 Version 12.2.0.

As a wind farm project, the project emission is zero. The table required for the indication of projected emission reductions is correctly applied in Section B.6.4 of the PDD. It is validated that the projection of emission reductions is in line with the envisioned time schedule for the project's implementation and the indicated crediting period.

4.8 Application of Monitoring Methodology and Monitoring Plan

$EG_{\text{facility},y}$ is required to be monitored according to monitoring methodology.

During the site visit, it was found that the main meter mentioned in the PDD version 1 is a shared meter which does not measure electricity exchanged with the grid for the proposed project only. Hence, it is unable to be used for monitoring $EG_{\text{output},y}$ and $EG_{\text{import},y}$. **CAR #7** is raised for requesting the PP to make relevant correction and submit revised document(s). In the revised PDD, Electricity exported by the project activity to the grid in year y ($EG_{\text{export},y}$) and Electricity imported from the project activity to the grid in year y ($EG_{\text{import},y}$) are directly monitored by meters installed at the project site. Quantity of net electricity generation supplied by the project plant/unit to the Grid in year y . ($EG_{\text{facility},y}$) is the difference of $EG_{\text{export},y}$ and $EG_{\text{import},y}$.

The monitoring and recording frequencies are continuous measurement and monthly recording. The meters will be calibrated once a year. Sales receipts will be used for double check for $EG_{\text{export},y}$ and $EG_{\text{import},y}$.

Except for the meters at the project for direct monitoring of $EG_{\text{export},y}$, some other meters are also installed for cross checking purpose. M1 is used for monitoring the total electricity supplied to the grid the project and another project (Shandong Yishui Tangwangshang Wind Farm Project), and M5 is used for monitoring the electricity supplied to the grid by the other project. In section B.7.2 of the PDD, the PP provides an equation explaining how to cross check with the meters M1 and M5. This does not mean $EG_{\text{export},y}$ is calculated. The equation provided is just a cross checking method.

Monitoring parameters are provided with the source of data, measurement methods and procedures, calibration frequency and standard, accuracy, measurement interval, and QA/QC procedures. The monitoring plan is in accordance with the applied monitoring methodology.

Through document review of the PAR and the installation plan of the project activity, and interviews with the relevant personnel from the project developer, it is confirmed that monitoring arrangements described in the monitoring plan are feasible within the project design and that the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified. The staffs will be trained properly. Through onsite visit and interview with the project participant, it is considered that the project participants have the ability to implement the monitoring plan. CAR #7 is closed.

4.9 Environmental Impacts

China requires for an EIA for the project activity. EIA for the project was completed by Shandong Academy of Environmental Science in December 2007 and approved by Shandong Provincial Environmental

Protection Bureau on 11/01/2008. The Project use clean renewable energy to generate electricity whose environmental impact comply with relevant environmental laws and regulations in the host country. The environmental impacts of the proposed project are not considered as significant.

4.10 Local Stakeholder Comments

Local stakeholders were consulted on 16/06/2009 by means of consultation meeting and distributing questionnaires, prior to the publication of the PDD on the UNFCCC web. Meeting minutes of the local stakeholder consultation meeting has been provided by the PP and verified by the assessment team. The PP published a notice for the local stakeholder consultation meeting on 06/06/2009 and distributed 50 copies of questionnaires.

There is a summary of the stakeholder comments received in Section E.2 of the PDD. All the stakeholder representatives who participated in the survey support the implementation of the project. According to comments from the stakeholders, it is not necessary to adjust the design, construction or operation of the proposed project.

It is confirmed that local stakeholders were invited by the PP to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website and the local stakeholder consultation taken by the PP for the project is adequate.

5. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

5.1 Description of how and when the PDD was made publicly available

The Project Design Document for this project was made available on <http://cdm.unfccc.int/Projects/Validation/DB/78EDZ03I69BA83HKU2AV9SHLG9OWTM/view.html> and was open for comments from 24/03/2011 until 22/04/2011. Comments were invited through the UNFCCC CDM homepage.

5.2 Compilation of all comments received

Comment Number	Date Received	Submitter	Comment
N/A	N/A	N/A	N/A

No comments were received.

5.3 Explanation of how comments have been taken into account

N/A

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
12/05/2011	Wang Xianjun	Anqiu Taipingshan Wind Power Co., Ltd.	Project design, technology, financing, investment decision, project timeline, monitoring plan
12/05/2011	Li Gongde	Anqiu Taipingshan Wind Power Co., Ltd.	Project design, technology, monitoring plan
12/05/2011	Yu Xincheng	Anqiu Taipingshan Wind Power Co., Ltd.	Project design, technology, monitoring plan
12/05/2011	Zhou Zhiqiang	Anqiu Taipingshan Wind Power Co., Ltd.	Project design, technology, monitoring plan
12/05/2011	Huang Zhiyu	CGN Wind Power	Project design
12/05/2011	Wang Zisong	CGN Wind Power	Project design
12/05/2011	Ma Liang	Local government	Policies for wind power projects, Environmental impact
12/05/2011	Li Sijian	Local DRC	Project time line and local approval
12/05/2011	Wang Xingzhong	Local grid company	Connection with the grid
12/05/2011	Xue Junfeng	Local resident	Local Stakeholder consultation
12/05/2011	Liu Chunli	Local resident	Local Stakeholder consultation
12/05/2011	Wang Yuan	Easy Carbon	Project design document
12/05/2011	Liu Yang	Easy Carbon	Project design document

7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

Name of document
/1/ PDD, Version 01, dated 21/03/2011, published for Global Stakeholder Consultation
/2/ PDD, Version 02, dated 01/06/2011, revised for responding to the findings
/3/ PDD, Version 03, dated 16/09/2011, revised for responding to the findings.
/4/ PDD, Version 04, dated 02/12/2011, revised for responding to the findings.
/5/ PDD, Version 05, dated 12/04/2012, revised for editorial changes to some typographical errors
/6/ IRR Calculation Spreadsheet
/7/ Grid Emission Factor Calculation Spreadsheet
/8/ Letter of Approval issued by DNA of China dated 13/06/2011
/9/ Letter of Approval issued by DNA of France dated 05/10/2011
/10/Modality of Communication signed by both parties dated 09/08/2011

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

Name of document
/11/Clean Development Mechanism Validation and Verification Manual Version 01.2
/12/ACM0002, version 12.2.0
/13/Tool for the Demonstration and Assessment of Additionality (version 05.2.1);
/14/Tool to Calculate the Emission Factor for an Electricity System (version 2.2.1);
/15/Environmental Impact Assessment report of the project, issued by Shandong Academy of Environmental Science in December 2007
/16/EIA Approval of the project, issued by Shandong Provincial Environmental Protection Bureau on 11/01/2008
/17/Project Application Report of the project, issued by Shandong Industrial Design Institute Co., Ltd. in May 2008
/18/Approval for the Project Application Report, issued by Shandong Provincial Development and Reform Committee, dated 11/06/2008
/19/Turbines Purchasing Agreement, dated 08/08/2009
/20/Construction Commence Report of the project, dated 11/08/2009
/21/Minutes of the General Manager Office for the Application of CDM, dated 03/03/2009
/22/Notification of commencement of the project to the Chinese DNA, dated 20/01/2010
/23/Notification to the UNFCCC secretariat dated 20/01/2010 (http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html)
/24/Civil construction contract, dated 27/08/2009
/25/CDM Consultancy Agreement, dated 17/10/2009

/26/ Emission reduction purchase agreement of the project, dated 18/12/2009
/27/ Meeting minutes for the local stakeholder consultation on 16/06/2009
/28/ Questionnaires of the project for local stakeholder consultation
/29/ Power Purchase Agreement of the project
/30/ Line connection diagram of the project
/31/ Main transformer purchase agreement of the project dated 01/09/2009
/32/ Wind turbine tower purchase agreement of the project dated 01/09/2009
/33/ Box Transformer purchase agreement of the project dated 02/09/2009
/34/ Contract for installation of the wind turbines dated 12/09/2009
/35/ Approval for electricity tariff of the project issued by Shandong Price Bureau dated 30/12/2009
/36/ Website of Chinese DNA (http://cdm.ccchina.gov.cn/web/index.asp)
/37/ China Electric Power Yearbook 2007, ISBN: 978-7-5083-6078-2, first edition in Dec. 2007; China Electric Power Yearbook 2008, ISBN: 978-7-5083-7856-5, first edition in Dec. 2008; China Electric Power Yearbook, 2009, ISBN: 978-7-5083-9436-7, first edition in Dec. 2009.
/38/ China Energy Statistical Yearbook 2007, ISBN: 978-7-5037-5358-9/F-2600, first edition in Mar. 2008; China Energy Statistical Yearbook 2008, ISBN: 978-7-5037-5605-4/F-2797, first edition in Dec. 2008; China Energy Statistical Yearbook 2009, ISBN: 978-7-5037-5959-8/F-2921, first edition in Jul. 2010;
/39/ https://vcsprojectdatabase1.apx.com/mymodule/mypage.asp https://gs1.apx.com/mymodule/mypage.asp
/40/ The provisional regulation of city construction tax of PRC (http://www.gxxhcca.com/Article.asp?id=762)
/41/ http://www.gov.cn/zwqk/2005-09/27/content_70440.htm
/42/ Enforcement Regulation of Business Income Tax Law of PRC, State Council Decree No.521 (http://www.gov.cn/zwqk/2007-12/11/content_830645.htm)
/43/ The Provisional Regulation of VAT of PRC (http://www.taxchina.com/ssfg/1993-12/03/cms72624article.shtml)
/44/ Council and Financial Tax [2001] No.198 Notification issued by China Tax Bureau. (http://www.dxtax.com/tax/cs01-198.htm)
/45/ Commercial interest rate in China issued by People's Bank of China. (http://www.boc.cn/finadata/lilv/fd32/200809/t20080918_2398.html)

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Shandong Taipingshan Wind Farm Project. It serves as a “**reality check**” on the project that is completed by a local assessor from SGS China.

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
1. Evidence of the legality of the project.	Relevant evidences have been provided to show the legality of the project. No findings were raised in this regard.	Plant design, implementation plan, Project Application Report (PAR), business license, official permit, etc	No
2. Interview with local stakeholders and realize actual status of the project activity	List of the stakeholders who attended the initial stakeholder consultation has been provided to SGS assessors. Two representatives of the stakeholders have been phone interviewed. No findings were raised in this regard.	Official representatives from concerned local governments, like the EPA and representatives of local residences need to attend the site visit.	No
3. In regard to the Stakeholder's comments mentioned in PDD, please provide the contact details of those who attended the meeting.	Minutes of the stakeholder consultation have been provided. Questionnaires that were sent to the stakeholders have been provided. The stakeholder consultation reports have also been provided. No findings were raised in this regard.	Minutes, questionnaires and other documentation available for the process. Need to Interview sample of stakeholders mentioned and confirm the text adequately reflects what has been discussed during site visit.	No
4. Verify the Environmental Impact Assessment and its approval.	The EIA for the project and the approval for the EIA have been provided to and verified by SGS assessors.	Provide copy of EIA and approval.	No

A.2 Annex 2: Validation Checklist

Table 1 - Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference Criteria	SGS Assessment	Conclusion/CARs/CLs
1. All Parties involved have approved the project activity 1.1. Has the DNA of each Party involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval which confirms a) The country is a Party to the Kyoto Protocol b) Participation is Voluntary c) The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country Non-Annex 1 Party shall submit a letter of approval d) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration 1.2. Whether the LoA is unconditional with respect to (a)-(d) above? 1.3. Is the LoA from the project participant or directly from the DNA, indicate the means of validation employed to assess the authenticity with DNA if the team doubt the authentic of LoAs.	Clean Development Mechanism, Validation and Verification Manual, Version 01.2 (from this point forwarded referenced as VVM) - – Para 44-50 and 126-127 Paragraph 37 CDM Modalities and procedures	Parties involved in the project are China and UK, as indicated in Section A.3 of the PDD. The LoA from the DNA of China is not provided. CAR #1 is raised for requesting the PP to provide the LoA from the DNA of China. The LoA from Chinese DNA entitled “Letter of Approval for Shandong Taipingshan Wind Farm Project by National Development and Reform Commission of the People’s Republic of China”, with document No. 2988, dated June 2011, was forwarded to SGS by the PP. The LoA shows that: a) China approved the Kyoto Protocol to the UNFCCC on 30/08/2002, and is a Party to the Kyoto Protocol; and b) The participation is voluntary; and c) The project assists China in achieving sustainable development. The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration, i.e. Shandong Taipingshan Wind Farm Project. The LoA from Chinese DNA is unconditional with respect to the aspects mentioned above. SGS	CAR #1 CAR #2 OK

		assessors checked the ratification status of China to the Kyoto Protocol on the UNFCCC website: http://maindb.unfccc.int/public/country.pl?country=CN, and confirm that China approved the Kyoto Protocol on 30/08/2002, and is a Party to the Kyoto Protocol. The list of DNAs on the UNFCCC website: http://cdm.unfccc.int/DNA/index.html was checked by SGS assessors, and it is confirmed that the National Development and Reform Commission of the People's Republic of China is the DNA of China. To check the authenticity of the LoA, the list of projects approved by the Chinese DNA on its website: http://cdm.ccchina.gov.cn is checked by SGS assessors, and it is confirmed that the proposed project has been approved by the Chinese DNA. CAR #1 is closed out. The LoA from the DNA of the United Kingdom is not provided. CAR #2 is raised for requesting the PP to provide the LoA from the DNA of the United Kingdom. In response to the finding, the PP did not provide the LoA from the DNA of the United Kingdom, but provided the LoA from the DNA of France. The name of Party involved was changed from the United Kingdom to France in the revised PDD. The LoA from Ministry of Ecology, Sustainable Development, Transports and Housing of France issued to EDF Trading Ltd for Shandong Taipingshan Wind Farm Project, dated 05/10/2011, was forwarded to SGS by the PP. The LoA from the DNA of France shows that: a) France ratified the Kyoto Protocol on 31/05/2002; and b) France participates voluntarily in the CDM.	
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		The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration, i.e. Shandong Taipingshan Wind Farm Project. The LoA from French DNA is unconditional with respect to the aspects mentioned above. SGS assessors checked the ratification status of France to the Kyoto Protocol on the UNFCCC website: http://maindb.unfccc.int/public/country.pl?country=FR, and confirm that France approved the Kyoto Protocol on 31/05/2002, and is a Party to the Kyoto Protocol. The list of DNAs on the UNFCCC website: http://cdm.unfccc.int/DNA/index.html was checked by SGS assessors, and it is confirmed that the Ecology, Sustainable Development, Transports and Housing is the DNA of France. The assessment team compared the format and signature of the French LoA with other French LoAs on the UNFCCC website and confirmed its authenticity. It is confirmed by SGS that the project has been approved by the DNA of France. CAR #2 is closed out.	
2. Please state the project participants listed in the PDD and check with which of these project participants does SGS have a contract for the projects validation	Para 37 CDM M & P Para 7 EB 50 Annex 48	The PPs listed in the PDD are Anqiu Taipingshan Wind Power Co., Ltd. and EDF Trading Ltd EDF Trading Ltd is the PP that have contractual relationship with SGS for the validation of the project.	OK
2.1. If the project participant(s) listed in the PDD published at international stakeholder ¹ consultation are not included in the PDD submitted with request for registration, a letter should be obtained from the withdrawn project participant(s) confirming its voluntary withdrawal from the proposed project	EB 30 Para. 41. EB50 Annex 48 Para. 8	All the PPs listed in the PDD for International Stakeholder Consultation are included in the PDD submitted with request for registration.	OK

¹ Stakeholders mean the public, including individuals, groups or communities affected, or likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity

activity.			
2.2. Confirm while submitting a request for registration – all of the project participants with a contractual relationship are still listed in the PDD.	EB50 Annex 48 Para.7-9	Yes. EDF Trading Ltd contracted SGS to perform the validation. It is still listed in the PDD.	OK
2.3. Project participants who are listed in the PDD (submitted for global stakeholder consultation) but who do not have a contractual relationship with SGS for the purposes of the validation activity may be removed from the PDD which is submitted for registration	EB50 Annex 48 Para.7-9	All the PPs listed in the PDD for ISC are included in the PDD submitted with request for registration.	OK
2.4. SGS may restart the validation activity through the new or revised contract with a different set of project participants by; a. Indicating that the first validation contract has been terminated and; b. Republishing the PDD or revised PDD for global stakeholder consultation.	EB50 Annex 48 Para.7-9 (If applicable)	Not applicable	OK
2.5. The letter/s of approval are unconditional with respect to above	VVM Para. 49/54	~~Pending CAR #1 and CAR #2~~ Yes, the letters of approval are unconditional with respect to above.	~~Pending~~ OK
3. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	VVM Para. 54 Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	~~Pending CAR #1 and CAR #2~~ Yes, the LoA from China confirmed the project assist it in achieving sustainable development and are entered into voluntarily.	~~Pending~~ OK
4. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days, and the project design document and comments have been made publicly available	VVM Para. 40-42 Marrakech Accords, CDM Modalities, §40	The PDD Version 01 dated 21/03/2011 has been made publicly available and comments were invited through the UNFCCC website: http://cdm.unfccc.int/Projects/Validation/DB/78EDZ03169BA83HKU2AV9SHLG9OWTM/view.html	OK

		Starting date: 24/03/2011 Closing date: 22/04/2011 Number of comments received: 0	
5. The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVM Para. 55 - 57 Marrakech Accords, CDM Modalities, Appendix B, EB Decisions EB 25 Annex 15 EB 41 Annex 12	The project applied the latest PDD template version 3.0. The completing of the PDD follows the latest version of "Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)", version 07.0 (available at http://cdm.unfccc.int/Reference/Guidclarif/pdd/index.html).	OK

Table 2 - PDD

Checklist Question	Reference Criteria	MoV*	SGS Assessment	Conclusion/ CARs/CLs
A. General Description of Project Activity				
A.1. Project Title				
A.1.1. Does the used project title clearly enable the reader to identify the unique CDM activity?	VVM Para.56 Guidelines for completing a CDM-PDD (PDD) section A.1	DR	The project title used in PDD, "Shandong Taipingshan Wind Farm Project", enables the reader to identify the unique CDM activity.	OK
A.1.2. Is there an indication of a revision number and the date of the revision?	VVM Para.56 PDD section A.1	DR	Yes, the version number and the date of the PDD are clearly indicated in Section A.1 of the PDD.	OK
A.2. Description of the Project Activity				
A.2.1. Does the proposed CDM project activities in existing facilities or utilizing existing equipments? Does a site inspection carried out by the assessment team?	VVM Para 60 Guidelines for completing a CDM-PDD (PDD) section A.2	DR	The proposed project activity is a new wind power project. The proposed project is not in existing facilities and does not utilize existing equipments. A physical site visit was carried out members of the assessment team, including the lead assessor, sectoral scope expert and the local assessor, on 12/05/2011. The assessment team reviewed the project design through checking the PAR and visited the physical site of the project. Based on the information checked during the site visit, it can be confirmed that the project had been implemented as per the design in the PAR and the PDD version 01 until the time of the site visit.	OK
A.2.2. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately and provide the reader with a clear understanding of the	VVM Para.58-59 VVM Para. 64(a) PDD section A.2 see also A.4, A.4.3 and B.3	DR, SV	Yes, the purpose of the project activity, type of technology used and the contribution of the project to sustainable development are described in Section A.2 of the PDD. Yes, the information provides the reader with a clear understanding of the proposed CDM project activity. The proposed project is planned to utilize renewable wind resources for power generation, which involves the installation of 58 sets of wind turbines with the rated capacity of 850 kW each, providing a total installed capacity of 49.3MW. It's estimated that the annual power output is 91,030.5 MWh once the	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

nature of the proposed CDM project activity?			proposed project is put into operation. The electricity generated by the proposed project will be exported to the North China Power Grid (NCPG).	
A.2.3. If the project activity involves the alternation of an existing installation or process, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM Para.63 PDD section A.2 see also A.4, A.4.3 and B.3	DR, SV	Not Applicable, as the project does not involves the alternation of an existing installation or process.	OK
A.2.4. Is all information provided consistent and in compliance with the actual situation or planning?	VVM Para.64 PDD section A.2 see also A.4, A.4.3 and B.3	DR, SV	Yes, all information provided is consistent with details provided in further chapters of the PDD. The assessment team reviewed the project design through checking the PAR and visited the physical site of the project. Based on the information checked during the site visit, it can be confirmed that the project had been implemented as per the design in the PAR and the PDD version 01 until the time of the site visit.	OK
A.2.5. Is all information with respect to project description deemed accurate and complete?	VVM Para.64(b) PDD section A.2	DR	The project scenario, the scenario existing prior to the implementation of the Project and the baseline scenario are described in Section A.2 and A.4.3. The descriptions follow the requirement of "Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)", version 07.0, and are accurate and complete.	OK
A.3. Project Participants				
A.3.1. Is the table required for the indication of project participants correctly applied?	VVM Para. 51-54 PDD section A.3	DR	The table in A.3 of the PDD is correctly applied. The participants are listed as follows Anqiu Taipingshan Wind Power Co., Ltd. EDF Trading Ltd	OK
A.3.2. Whether the participation of each project participant has been approved by at least one Party involved, either in a letter of approval or in a separate letter	VVM Para. 52	DR	~~Pending CAR #1 and CAR #2~~ Yes. The participation of each project participant has been approved by at least one Party involved, in a letter of approval.	~~Pending~~ OK

specifically to approve?				
A.3.3. Is all information provided in consistency with details provided by further chapters of the PDD (in particular Annex 1)?	VVM Para. 51 PDD section A.3/Annex 1	DR	Yes. All information provided in Section A.3 of the PDD is in consistency with details provided by further chapters of the PDD.	OK
A.3.4. Has the MoC been completed as per the latest Procedures for MoC between the project participants and the Executive Board?	EB 48 Annex 60 EB 45 Annex 59	DR	As per para. 8 (e) of EB 48 Annex 60, A modalities of communication form should be submitted with a request for registration. CAR #3 is raised for requesting the PP to provide the Modalities of Communication between Project Participants and the Executive Board. The MoC signed by the PPs have been provided and checked by the validation team, The MoC is completed in accordance with the template from the UNFCCC. CAR #3 is closed.	~~CAR #3~~ OK
A.4. Technical Description of the Project Activity				
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? A.4.2. Are the latitude and longitude of the site indicated (decimal points)	VVM Para.64 PDD section A.4	DR	Yes, the information provided on the location of the project activities allow for a clear identification of the site. The project is located in Weifang City, Shandong Province, P. R. China. The project has geographical coordinates with longitude from 118°42'46"E to 118°50'27"E and latitude from 36°10'20" to 36°13'30"N..	OK
A.4.3. Does the proposed CDM project activity involve the alteration of existing installations or process?	VVM Para.64 PDD section A.4	DR,S	No, the project activity is a new project and does not involve the alteration of existing installations or processes.	OK
A.4.4. Is the category(ies) of the project activity correctly identified?	VVM Para.64 PDD section A.4	DR, SV, I	Yes. The category of the project activity is correctly identified. Category: Renewable electricity in grid connected applications Sectoral Scope: 1 Energy industries	OK
A.4.5. Is all information provided in compliance with actual situation or	VVM Para.64 PDD section A.4		Yes. The assessment team reviewed the project design through checking the PAR and visited the physical site of the project. Based on the information checked during the site visit, it can be confirmed that the project had been implemented as	OK

planning as available by the project participants?	Guidelines for completing a CDM-PDD (PDD)		per the design in the PAR and the PDD version 01 until the time of the site visit.	
A.4.6. Is the projected emission reductions in consistency with the ex-ante estimation in Section B.6.4?	VVM Para.64 PDD section A.4.4	DR	Yes. The table used for the indication of projected emission reductions is correctly applied. The projected emission reductions is in consistency with the ex-ante estimation in Section B.6.4	OK
A.5. Public Funding				
A.5.1. Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD section A.4.5	DR,S V,I	Yes. There is no public funding from Annex I Parties for the Project. This is confirmed through checking the PAR and interview with the PP.	OK
A.5.2. Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD section A.4.5	DR,S V,I	Yes, all information provided is consistent with details provided by further chapters of the PDD	OK
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	PDD section A.4.5	DR,S V,I	Not applicable as the project does not receive public funding from Annex 1 Parties.	OK
B. Baseline and Monitoring Methodology				
B.1. Title and reference of the approved baseline and monitoring methodology applied of the project activity				
B.1.1. Is the baseline methodology previously approved by the CDM	VVM Para.65 VVM Para 68	DR	Yes, the baseline methodology ACM0002 version 12.2.0 used by the project is previously approved by the CDM EB. As indicated on the UN website, ACM0002 version 12.2.0 is the latest version.	OK

Methodology Panel?	PDD section B.1			
B.1.2. Is there any specific guidance (including the Tools) provided by EB and has these guidance been applied?	VVM Para.68-69 PDD section B (B.1-B.2)	DR	ACM0002 version 12.2.0 refers to the Tool for the demonstration and assessment of additionality, version 05.2.1 (hereinafter referred to as the Additional Tool) and the Tool to calculate the emission factor for an electricity system, version 02.2.1 (hereinafter referred to as the Emission Factor Tool), which are the latest version available at the start of validation for the project.	OK
B.2. Choice and Applicability of methodology				
B.2.1. Is the selected approved methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 PDD section B (B.1-B.2)	DR, SV	Yes, the choice of ACM0002 version 12.2.0 is correctly justified in Section B.2. of the PDD and the project is in conformance with all applicability criteria of the applied methodology. 1. The proposed project is the installation of wind power plant; and it does not involve capacity addition, retrofit or replacement 2. The proposed project does not involve switching from fossil fuels to renewable energy at the site	OK
B.2.2. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.70-76 PDD section B (B.1-B.2)	DR, SV	The project is a grid-connected renewable power generation project activity and a green field plant. It is the installation of wind power plant. This project does not involve switching from fossil fuels to renewable energy source at the site; the proposed project does not involve biomass fired power generation. The project is in conformance with all applicability criteria of ACM0002 version 12.2.0.	OK
B.2.3. Is there any GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs, which are not addressed by the applied methodology.	VVM Para 77	DR, SV	By document review and on site inspection, the assessment verified that there are not any GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs, which are not addressed by the applied methodology.	OK

B.2.4. Is the applicability of the selected methodology satisfied?	VVM Para.76	DR, SV	Yes. The applicability conditions of the methodology are met and the project activity is not expected to result in emissions other than those allowed by the methodology. The selected approved methodology applies to the project activity.	OK
B.3. Project Boundary				
B.3.1. Does the project boundary include the physical delineation of the proposed CDM project activity?	VVM Para. 78-80 PDD section B.3 also see section A.4.3	DR, SV, I	Yes. The project boundary includes the physical delineation of the proposed CDM project activity. The spatial extent of the proposed project boundary includes the proposed project power plant and all power plants connected physically to NCPG that the proposed project power plant is connected to. CO ₂ is included in the baseline emission, CH ₄ and N ₂ O are not included in the baseline emission. CO ₂ , CH ₄ and N ₂ O are all not included in the project emission. For wind farm project, there is no leakage. All above information has been validated to be in compliance with ACM0002 version 12.2.0.	OK
B.3.2. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner?	VVM Para.79-80 PDD section B.3	DR	Yes. All emission sources and gases related to the baseline scenario, project scenario and leakage are clearly identified and described in a complete manner in Section B.3 of the PDD. CO ₂ is the main emission source and included in the baseline. In the PDD, CO ₂ is included in the baseline emissions; CH ₄ and N ₂ O are not included in the baseline emission. CO ₂ , CH ₄ and N ₂ O are all not included in the project emission. As a wind farm project, there is no leakage. All above information has been validated to be in compliance with ACM0002 version 12.2.0	OK
B.3.3. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the latest version of tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	VVM Para.79 PDD section B.3 EB 50 Annex 14	DR	Yes, NCPG is correctly identified in accordance with Emission Factor Tool version 02.2.1 and ACM0002 version 12.2.0.	OK
B.3.4. Are the project's geographical boundaries	VVM Para.76/79	DR, SV, I	Yes. The project's spatial boundaries are clearly defined in Section B.3 of the PDD. The spatial extent of the proposed project boundary includes the proposed project	OK

and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	PDD section B.3 also see section A.4.3		power plant and all power plants connected physically to NCPG that the proposed project power plant is connected to. Therefore, the boundary of proposed project is within of NCPG. According to information from the Chinese DNA official website, NCPG is composed of Beijing, Tianjin, Hebei, Shanxi, Shandong and Inner Mongolia Autonomous Region power grid.	
B.4. Identification of the Baseline Scenario				
B.4.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology/tool and has the application of the tools as per methodology been consulted, if the Tool(s) are required by the methodology?	VVM Para. 82/86 PDD Section B.4/B.5	DR	Yes. The baseline scenario is identified in the PDD transparently as per ACM0002 version 12.2.0. As per ACM0002 version 12.2.0, for installation of a new grid-connected renewable power plant, the baseline scenario is <i>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"</i> .	OK
B.4.2. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario, including "relevant national and/or sectoral policies and circumstances?"	VVM Para.85/87(d) EB 22 Annex 3 EB 53 Annex 32	DR	As per the methodology, ACM0002 version 12.2.0, the baseline scenario is 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" for installation of a new grid-connected renewable power plant	OK
B.4.3. Are all potential realistic and credible alternative scenarios listed in the methodology are considered in identification of the most reasonable baseline	VVM Para. 81-84 PDD Section B.4/B.5	DR	As per the methodology, ACM0002 version 12.2.0, the baseline scenario is 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" for installation of a new grid-connected renewable power plant The baseline scenario is correctly identified in the PDD as per the methodology.	OK

scenario? Are all scenarios are reasonable in the con-text of the proposed CDM project and no reasonable alternative scenario has been excluded?				
B.4.4. Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90 PDD Section B.4/B.5	DR	Yes. Conservativeness is addressed in the way of identifying the baseline.	OK
B.4.5. Is there a verifiable description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM Para.86 PDD Section B.4/B.5	DR	As per the methodology, ACM0002 version 12.2.0, the baseline scenario is 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" for installation of a new grid-connected renewable power plant The baseline scenario is correctly identified in the PDD as per the methodology.	OK
B.4.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	VVM Para.87 PDD Section B.4/B.5	DR	Yes. The selected baseline represents the most likely scenario among other possible and/or discussed scenarios.	OK
B.5. Additionality				
B.5.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para. 94-97 PDD Section B.1/B.4/B.5	DR	Yes. Version 05.2.1 of the Additionality Tool during validation is used. All steps are followed in a transparent manner. As per the Additionality Tool, the following steps are taken for the demonstration of the additionality of the project in section B.5 of the PDD. Step 1. Identification of alternatives to the project activity consistent with current laws and regulations;	OK

			Step 2. Investment Analysis; Step 3. Barrier Analysis;(Not used) Step 4. Common Practice Analysis.	
B.5.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	PDD Section B.1/B.4/B.5	DR	The applied version of the Additionality Tool is version 05.2.1.	OK
B.5.3. Has all information been backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	VVM Para.93/91 PDD Section B	DR	Yes. the sources and references (2006 IPCC guidelines for National Greenhouse Gas Inventories, China Energy Statistical Yearbook, China Electric Power Yearbook, China DNA website and etc) used in the project emission, baseline emission, leakage are listed in Section B.6.1 and B.6.2 of the PDD. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD; Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable; The identified baseline scenario is in compliance with ACM0002 version 12.2.0; Relevant national and/or sectoral policies and circumstances (the website of China DNA) are considered and listed in the PDD; The approved baseline methodology (ACM0002 version 12.2.0) has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario (Supply of equivalent annual electricity output by NCPG) reasonably represents what would occur in the absence of the proposed CDM project activity.	OK
B.5.4. Is the discussion on additionality and the evidence provided	VVM Para.98-99 VVM Para.103-	DR	Yes. The discussion on additionality and the evidence provided is consistent with the starting date of the project. The starting date of the project activity is 08/08/2009, which was the date when the	~~CAR #4~~ OK

consistent with the starting date of the project? If the project activity start date is prior to the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	104 PDD Section B.5		Turbines Purchasing Agreement was signed and was the earliest date at which either the implementation or construction or real action of a project activity began. According to the information on the UNFCCC website, the PP notified the UNFCCC of the prior consideration of CDM of the proposed project on 20/01/2010. The PP also notified the DNA of China of the prior consideration of CDM of the proposed project on 20/01/2010 and the DNA of China confirmed receiving the notification on 08/02/2010. The prior consideration of CDM of the project is in line with the latest version of the Guidelines for the demonstration and assessment of prior consideration of the CDM. The wind turbine contract signing date and CDM consultancy agreement signing date in the PDD are not consistent with the evidences verified. CAR#4 is raised for requesting the PP to take relevant action and submit the revised document(s). The PP revised in the information of the dates for signing the wind turbine contract and CDM consultancy agreement in the revised PDD. The information in the revised PDD is consistent with the verified wind turbine contract and consultancy agreement. CAR #4 is closed.	
B.5.5. Is the project activity a new project activity or existing project activity? How is the early consideration demonstrated?	VVM Para.100-102 PDD Section B.5	DR	Yes. The project is a new project after 02/08/2008. The project participant informed the Chinese DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status within six months of the project activity start date.	OK
B.5.6. For an existing project activity with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, is the real documented evidence for an assessment of real	EB 49, annex.22	DR, SV, I	N/A, this is a new project with a start date after 02/082008.	OK

and continuing actions available for validation and is this evidence authentic?				
B.5.7. Are all credible and plausible alternatives correctly identified? Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity? Do they also abide by the same applicable laws and legislations?	VVM Para.105-107	DR	Four alternatives have been defined i.e.: 1. The proposed project activity undertaken without being registered as a CDM project activity; 2. Construction of a fossil fuel power plant with equivalent amount of annual electricity output; 3. Construction of a power plant using other source of renewable energy with equivalent amount of annual electricity output; and 4. Supply of equivalent annual power output by the Grid to which the proposed project is connected. Assessment team confirms that the listed alternatives are credible and complete. All alternatives include technologies and practices that include outputs or services comparable with the proposed CDM project activity.	OK
B.5.8. If an investment analysis has been used, has it been demonstrated that the proposed project activity is not the most economically or financially attractive alternative, or is not economically or financially feasible, without the revenue from the sale of CERs.	VVM Para. 108-109 PDD Section B.5	DR	Investment Analysis was used in the PDD, but the suitability of the input values was not sufficiently demonstrated. CL #5 is raised for requesting the PP to demonstrate the suitability of the input values, especially the plant load factor, annual electricity supply, the total static investment, the electricity tariff, the annual O&M cost, the residual value rate, the interest rate, and the tax rate. In the response to the finding, the PP justified the suitability of the input values in detail. The references and evidences mentioned in the PP response are verified by the assessment team. The input values used in the PDD are derived from PAR (PAR) designed by a qualified third party and approved by Development and Reform Committee of Shandong Province. The PAR was development in May 2008 and the approved on 11/06/2008. The wind turbine purchase agreement of the project was signed in August 2009. The time period between the finalisation of the PAR and the investment decision was sufficiently short and it is unlikely in the context of the underlying project activity that the input values would have materially changed. Requirement of Para. 113 (a) of VVM version 01.2 is met. The values used in the PDD and associated annexes are fully consistent with the	CL #5 OK

		PAR. The requirement of Para. 113 (b) of VVM version 01.2 is met. The assessment team cross checked the input values of other similar wind farm projects in the same region as the project. Based on the local and sectoral expertise of the assessment team, we confirm that that the input values from the PAR are valid and applicable at the time of the investment decision, as follows: Plant load factor and Annual power supply: The plant load factor of the project used in the PDD (0.211) is derived from the PAR, which was designed by a qualified third party contracted by the PP. The requirements from EB48, Annex 11 “Guidelines for the Reporting and Validation of Plant Load Factors” are met. Based on our database of registered CDM projects, the plant load factors of wind from projects in Shandong provinces rang are from 0.188 to 0.258. The PLF of the project falls in the range. Thus, the PLF used in the PDD is suitable. The value of annual power supply used in the PDD is consistent with the estimation using the PLF used in the PDD. Thus, the value of annual power supply used in the PDD is suitable. Total static Investment: Based on our data based of registered CDM projects, the total investment per kW of wind from projects in Shandong provinces range from 7,448 to 12914 CNY/kW. The total investment per kW of the proposed project falls in the range and is close to the average value in the database. Thus, the total investment of the project used in the PDD is suitable. Tariff: On 23rd July 2008, the Approval of the Tariff for the Proposed Project issued by the Shandong Provincial Price Bureau, the tariff of the proposed project was 0.6100 RMB/kWh (including VAT). On 20th July 2009, a notification on the tariff policy of wind farms was issued by NDRC, in which the on-grid tariff of wind farm in	
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			Shandong Province is confirmed as 0.61 RMB Yuan/kWh (including VAT). 0.61 RMB/kWh is the most possible tariff that the PP can expect at the time of investment decision. According to the “Information note on the highest tariffs applied by the EB in its decisions on registration of projects in the People's Republic of China” version 02 (http://cdm.unfccc.int/Reference/Notes/reg_note07.pdf), the highest tariff of wind power projects in Shandong province should be 0.61 RMB Yuan/kWh (including VAT) for the first 30,000 hrs, after that tariff for thermal power plants will be applicable.. The tariff applied by the project in the PDD is the highest tariff. Thus, the electricity tariff applied in the PDD is considered suitable. O&M cost: According to our database of registered CDM projects, the ratio of O&M cost/total investment of the wind power projects in Shandong province ranges from 0.74% to 4.81% and the average value is 2.28%. The ratio of O&M cost/total investment for the project is 1.95%, which fall in the range and is close to the average value. Thus, the O&M cost applied in the PDD for the project is suitable. Residue value, depreciation rate, interest rate and tax rates: Based on our local and sectoral expertise, we confirm the residue value, depreciation rate, interest rate and tax rate applied in the PDD comply with applicable Chinese laws and regulations. The justification for the suitability of the residue value, depreciation rate, interest rates and tax rates in the PP response to the finding, including the references and evidences describe in the PP response, have been checked by the assessment team, and it is confirmed by the assessment team that the values for residue value, depreciation rate, interest rate and tax rate applied in the PDD are suitable. The suitability of the input values have been sufficiently justified by the PP and verified by the assessment team based on our local and sectoral expertise. CL #5 is closed.	
B.5.9. Is the investment analysis carried out in	VVM Para. 110	DR	~~Pending CL #5.~~ Yes. The investment analysis has been carried out as per the “Guideline on	~~Pending~~ OK

accordance with specific guidance from EB?	EB 51 Annex 58 EB 48 Annex 11		Investment Analysis".	
B.5.10. Is the investment analysis complete and accurate? (Important)	VVM Para. 111 PDD Section B.5 EB 51 Annex 58 EB 54 Para 53 EB 53 Annex 32	DR	~~Pending CL #5.~~ Yes. The investment analysis is complete and accurate.	Pending OK
B.5.11. Does the investment analysis rely on the values from Feasibility Study Reports (FSR) that approved by national authorities for proposed CDM project activity?	VVM Para. 113 PDD Section B.5	DR	Yes. According to the PDD, the investment analysis reply on the values from PAR (equivalent to Feasibility Study Report) that approved by the Development and Reform Committee of Shandong Province.	OK
B.5.12. If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project developer).	VVM Para. 112 PDD Section B.5 EB 51 Annex 58 EB 51 Annex 59	DR	The benchmark of 8% was adopted according to <i>Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects</i> released by the State Power Corporation of China. In this document, the financial benchmark rate of return of Chinese power industry is 8% of the total investment, which has been used widely for Feasibility Studies of power project investments in China, including wind power projects <i>Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects</i> released by the State Power Corporation of China, the former state authority to manage relevant power issues including new constructions of power plants, states that the benchmark is based on <i>The Methodology and Parameters for Financial Evaluation of Construction projects</i> (Chapter 1 General, Section 1.1) which is the national criteria in evaluating new construction projects including fossil-fuel-fired plants. The 8% benchmark is applicable to new built as well as retrofit projects. This benchmark IRR has been widely accepted in newly constructed power plants in China, and has also been accepted as the benchmark for registered CDM projects in power sector. The benchmark IRR of 8% is validated to be suitable for the project activity by SGS Assessors in compliance with paragraph 12 of the Annex 58 to the EB 51 report.	OK
B.5.13. If a barrier analysis has been used, has it been	VVM Para.	DR	Not applicable. Barrier analysis was not applied in the PDD.	OK

shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	115/118 PDD Section B.5			
B.5.14. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVM Para. 105 PDD Section B.5	DR	Yes. The choice of the alternatives is consistent with the scenarios selected in the discussion on the most likely baseline.	OK
B.5.15. Has the barriers correctly identified and they prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives.	VVM Para. 116-118	DR	Not applicable. Barrier analysis was not applied in the PDD.	OK
B.5.16. If a barrier analysis has been used have the 'guidelines for objective demonstration and assessment of barriers' been followed? Have all applicable steps been considered and substantiated with objective evidence?	VVM Para 116-117 EB 50 Annex 13	DR	Not applicable. Barrier analysis was not applied in the PDD.	OK
B.5.17. Do the identified baseline scenarios include technologies and practices that include outputs or	VVM Para. 105 PDD Section A.4.3/B.5	DR	Yes, the identified baseline scenario (Supply of equivalent annual electricity output by NCPG) includes technologies and practices that include outputs or services comparable with the proposed CDM project activity and the identified baseline scenario abide by the same applicable laws and legislations.	OK

services comparable with the proposed CDM project activity? Do they also abide by the same applicable laws and legislations?				
B.5.18. Is the proposed project type be justified as first-of-its kind?	VVM Para. 119 PDD Section B.5	DR	No. The project is not first -of-its kind.	OK
B.5.19. Is the project activity not common practice?	VVM Para. 120-121 PDD Section B.5	DR	Step 4 Common Practice Analysis was carried on the proposed project. But it was found that the requirement of the Additionality Tool was not sufficiently followed by the proposed project. CL #6 is raised for requesting the PP to further clarify how similar projects are identified as per the requirement of "Tool for the demonstration and assessment of additionality" In the revised PDD, the PP justified by common practice analysis sufficiently. The geographical scope for the common practice analysis was set as Shandong Province in which the comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing are comparable to the propose project, which was also widely used by other registered projects in Shandong Province. Wind power projects with the capacity over 15 MW in this region are included in the comparison, which was deemed reasonable as the project lower than 15 MW was defined as small scale project. It is the opinion of the assessment team that the selection of geographical scope, scale of project, and time of starting operation are appropriate for the assessment of common practice related to the project activity's technology or industry type. In April 2002, China implemented the policy of "Separate power plants from network and compete in price to enter network". The objective of this power sector reform is to establish a more commercialized power market in China. The regulatory and market conditions for wind power projects have been changed since 2002. So the selection of wind power projects starting operation after 2002 for common practice is appropriate. Except for the projects registered as CDM projects, Shandong Changdao Wind	CL #6 OK

			Farm Project (project ID: 517) applied for Voluntary Emission Reduction under Verified Carbon Standard (VCS) to obtain the support from VCS VER funding to solve the financial barriers, and Shandong Jimo Qingdao Huawei Wind Power Project received ODA support from DEG (part of KfW Bankengruppe) and was commission in 2003 with the tariff 0.76RMB/kWh approved in 2001. Considering the tariff of 0.76RMB/kWh in 2001 is not comparable to the later tariff of 0.61RMB/kWh in 2009, so it has essential distinctions from the proposed project. Therefore, the proposed project activity is not common practice. The essential distinctions with the proposed project activity were reasonably explained in the revised PDD. CL #6 is closed.	
B.5.20. What are the key distinctions between the project activity and any similar projects that are widely used as common practice?	VVM Para. 118, 119c/d PDD Section B.5	DR	~~Pending CL #6~~ Except for the projects registered as CDM projects, Shandong Changdao Wind Farm Project (project ID: 517) applied for Voluntary Emission Reduction under Verified Carbon Standard (VCS) to obtain the support from VCS VER funding to solve the financial barriers, and Shandong Jimo Qingdao Huawei Wind Power Project received ODA support from DEG (part of KfW Bankengruppe) and was commission in 2003 with the tariff 0.76RMB/kWh approved in 2001. Considering the tariff of 0.76RMB/kWh in 2001 is not comparable to the later tariff of 0.61RMB/kWh in 2009, so it has essential distinctions from the proposed project. Therefore, the proposed project activity is not common practice. The essential distinctions with the proposed project activity were reasonably explained in the revised PDD	~~Pending~~ OK
B.5.21. Is the proposed project activity additional?	PDD Section B.5	DR	~~Pending CL #5 and CL #6.~~ As analysed above, the proposed project is not financially attractive and is not a common practice. The proposed project is additional.	~~Pending~~ OK
B.6. Algorithms and/or formulae used to determine emission reductions				
B.6.1. Are the steps and equations applied to calculate baseline emissions in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para.	DR	Yes. The latest version 02.2.1 of Emission Factor Tool is applied. Following steps are followed accordingly: Step 1. Identify the relevant electricity system Step 2. Choose whether to include off-grid power plants in the project electricity system (optional) Step 3. Select method to determine the operating margin (OM) Step 4. Calculate the operating margin emission factor according to the selected method	OK

	93 PDD Section B.6.1		Step 5. Calculate the build margin emission factor Step 6. Calculate the combined margin emission factor Equation and parameter have been correctly applied during calculation process. After $EG_{grid, CM, y}$ is obtained, baseline emission is calculated following formula $EG_{PJ, y} = EG_{facility, y}$ $BE_y = EG_{PJ, y} \times EF_{grid, CM, y}$	
B.6.2. Are the steps and equations applied to calculate project emissions in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93 PDD Section B.6.1	DR	Not applicable. As per applied methodology ACM0002 version 12.2.0, project emission is zero for this kind of project activity.	OK
B.6.3. Are the steps and equations applied to calculate leakages in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93 PDD Section B.6.1	DR	Not applicable. As per applied methodology ACM0002 version 12.2.0, leakage is zero for this kind of project activity.	OK
B.6.4. Are the steps and equations applied to calculate emission reductions in compliance with the requirements of selected baseline and	VVM Para. 67c VVM Para. 89-90	DR	According to ACM0002 (version 12.2.0), no leakage is considered for the proposed wind farm project, and project emission of the proposed wind farm project is zero. $ER_y = BE_y - PE_y = BE_y$ Baseline emissions calculation in PDD section B.6.1 is correct against the	OK

monitoring methodology?	VVM Para. 93 PDD Section B.6.1		methodology.	
B.6.5. Where there is an option between different equations or parameters, has the methodological choices for the project been explained, have they been properly justified and are they correct?	VVM Para.89/90/91 PDD Section B (B.6.2 -B.7.1)	DR	Not applicable. The equations in the PDD have been applied in compliance with ACM0002 version 12.2.0.	OK
B.6.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD Sections B.5-C	DR	Yes. Uncertainties in the GHG emissions estimates are low, which is addressed in the PDD. Data provided for the ex-ante estimation of CERs in Section B.6.2 and B.6.3 of the PDD is in compliance with ACM0002 version 12.2.0. Data used are from Official sources like China Energy Statistical Yearbook, China Electric Power Yearbook, IPCC and the official website of the Chinese DNA. The data values have been verified. Most recent official data during validation have been used and vintage can be considered to be appropriate. The estimated annual power generation is from the PAR of the project.	OK
B.6.7. Are the ex-ante fixed data provided in compliance with the methodology and/or relevant tools (if applicable)?	VVM Para. 67c VVM Para. 91 VVM Para. 93 PDD Section B.6.3B.6.4	DR	Yes. Ex-ante parameters that are mentioned in the methodology are included. Data provided in Section B.6.2 and B.6.3 of the PDD is in compliance with ACM0002 version 12.2.0 and the Emission factor toll version 02.2.1.	OK
B.6.8. Is all the data derived from official data sources	VVM Para.	DR	Yes. Data used are from Official sources like China Energy Statistical Yearbook, China Electric Power Yearbook and IPCC. The estimated annual power supply is	OK

or replicable records and have these been correctly quoted?	91a/b PDD Section B.6.3/B.6.4		from the PAR of the project	
B.6.9. Is the vintage of the baseline data correct?	PDD Section B.6.3/B.6.4	DR	Yes. Vintage of the baseline data is the most recent data, which is conservative and correct.	OK
B.6.10. Is all the data appropriate and correctly applied to the CDM project activity?	VVM Para. 91c PDD Section B.6.3/B.6.4	DR	Yes. All the data is appropriate and correctly applied to the CDM project activity.	OK
B.6.11. Are data and parameters that are not being monitored and remained fixed throughout the crediting period appropriately assessed, correct, and will they result in conservative estimates?	VVM Para. 90 PDD Section B.6.3/B.6.4	DR	Parameter that is used in the ERs calculation and not monitored is the grid emission factor. It has been validated that the value of grid emission factor is appropriately assessed and correct	OK
B.6.12. Are the ex-post monitored data estimated appropriated for calculation of ex-ante emission reductions?	VVM Para. 67c VVM Para. 91 VVM Para. 93 PDD Section B.6.3B.6.4	DR	Yes, the ex-ante estimation of the parameters to the monitored is based on appropriate documents, such as the PAR.	OK
B.6.13. Is sampling approach used for any parameters?	EB 50 Annex 30 Para. 30	DR	Not applicable.	OK
B.6.14. Are all the steps taken and equations applied to	VVM Para.	DR	(a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;	OK

calculate project emissions, baseline emissions and leakage and emission reductions correct and appropriate?	67c VVM Para. 92		(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD; (c) All values used in the PDD are considered reasonable in the context of the proposed CDM project activity; (d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions; (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.	
B.6.15. Where applicable, the plant load factor shall be defined ex-ante in the CDM-PDD according to one of the following three options: (a) The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval; (b) The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)	EB 48 Annex 11	DR	~~Pending CL #5.~~ The PLF of the proposed project is determined by a third party contracted by the project participant. The suitability of the plant load factor is validated above.	Pending OK
B.7. Monitoring methodology and Monitoring Plan				
B.7.1. Does the monitoring methodology provide a consistent approach in the context of all	VVM Para. 67e PDD Section B.7-	DR	Yes. The monitoring methodology provides a consistent approach in the context of all parameters to be monitored. No additional information is provided in Annex 4 of the PDD.	OK

parameters to be monitored and further information provided by the PDD? Are all parameters and data that are available at validation consistent with the approved methodology. Has this data been interpreted and applied correctly?	B.8 see also Annex 4		$EG_{\text{facility},y}$ is required to be monitored according to monitoring methodology. It is included as a monitored parameter in B.7.1. $EF_{\text{grid,CM},y}$ is ex-ante and will not be monitored throughout the crediting period.	
B.7.2. Is the monitoring plan compliant with the approved monitoring methodology and/or relevant tools (if applicable)?	VVM Para. 123(a) PDD Section B.7	DR	Yes. $EG_{\text{facility},y}$ is required to be monitored according to monitoring methodology. It is included as a monitored parameter in B.7.1. $EG_{\text{facility},y}$ is calculated by total electricity supplied to the grid ($EG_{\text{export},y}$) minus total electricity purchased from the grid ($EG_{\text{import},y}$).	OK
B.7.3. Is the implementation of monitoring plan feasible and verifiable.	VVM Para. 123(b) PDD Section B.7	DR, SV, I	By means of desk review, interviews with relevant personnel, project plans and site visit, it is confirmed that : 1) The monitoring arrangements described in the monitoring plan are feasible within the project design; 2) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by the proposed CDM project activity can be reported ex post and verified. Monitoring parameters are provided with the source of data, measurement methods and procedures, calibration frequency and standard, accuracy, measurement interval, and QA/QC procedures.	OK
B.7.4. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a	VVM Para. 19	DR	Yes. Sales receipts will be used for double check. Sales receipts are considered to be a reliable source	OK

tendency of overestimating emission reductions?				
B.7.5. Is the proposed monitoring plan compliance with the methodology/tools and feasible for implementation?	VVM Para. 124	DR	Yes. Monitoring plan is in compliance with the requirement of the methodology. It is feasible for implementation by means of site visit and interview.	OK
B.7.6. Does the information contained in Annex 4 in consistency with the information in Section B.7 of PDD?	PDD Annex 4	DR	Not applicable. There is no information contained in Annex 4.	OK
B.7.7. Does the monitoring plan in the PDD comply with the approved methodology provided for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	VVM Para. 91a/91d/121/79 PDD Section B.7-B.7.2	DR, SV, I	A two-step process is applied to assessing compliance with this requirement, as follows: a) Compliance of the monitoring plan with the approved methodology. (i) $EG_{facility,y}$ is identified as the parameter required by monitoring methodology by means of document review; (ii) Monitoring plan contains all necessary parameters, i.e. $EG_{facility,y}$, $EG_{export,y}$, and $EG_{import,y}$. It is clearly described and the means of monitoring described in the plan complies with the requirements of the methodology; (b) Implementation of the plan. By means of review of the documented procedures, interviews with relevant personnel, project plans and any physical inspection of the proposed CDM project activity site in accordance with paragraphs 59-62, assess whether: (i) The monitoring arrangements described in the monitoring plan are feasible within the project design; (ii) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified.	~~CAR #7~~ OK

			Project emission and leakage are zero as applied methodology states. Both meters will have accuracy level not lower than 0.5s and subject to annual calibration, which complies with the requirements of Technical Administrative Code of Electric Energy Metering (DL/T448-2000). Sales receipts will be obtained for double check. Relevant data management system is described. All the data will be kept for two years following the end of the first crediting period. During the site visit, it was found that the main meter mentioned in the PDD version 1 is a shared meter which does not measure electricity exchanged with the grid for the proposed project only. Hence, it is unable to be used for monitoring $EG_{output,y}$ and $EG_{import,y}$. CAR #7 is raised for requesting the PP to make relevant correction and submit revised document(s). In the revised PDD, Electricity exported by the project activity to the grid in year y ($EG_{export,y}$) and Electricity imported from the project activity to the grid in year y ($EG_{import,y}$) are directly monitored by meters installed at the project site. Quantity of net electricity generation supplied by the project plant/unit to the Grid in year y ($EG_{facility,y}$) is the difference of $EG_{export,y}$ and $EG_{import,y}$. The monitoring and recording frequencies are continuous measurement and monthly recording. The meters will be calibrated once a year. Sales receipts will be used for double check for $EG_{export,y}$ and $EG_{import,y}$. Monitoring parameters are provided with the source of data, measurement methods and procedures, calibration frequency and standard, accuracy, measurement interval, and QA/QC procedures. The monitoring plan is in accordance with the applied monitoring methodology. Through document review of the PAR and the installation plan of the project activity, and interview with relevant personnel from the project developer, it is confirmed that monitoring arrangements described in the monitoring plan are feasible within the project design and that the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified. The staffs will be trained properly. Through onsite visit and interview with the project participant, it is considered that the project participants have the ability	
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			to implement the monitoring plan. CAR #7 is closed.	
B.7.8. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	PDD Section B.7-B.7.2/B.6.2	DR	Yes, the choices of project GHG indicators are reasonable and in conformance with the methodology applied.	OK
B.7.9. Will it be possible to determine the specified project GHG indicators?	PDD Section B.6.2-B.8	DR	Yes, it is possible to determine the specified indicators.	OK
B.7.10. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	PDD Section B.6.2-B.7.1	DR	~~Pending CAR #7~~ Yes. The information given for each monitoring variable by the presented table is sufficient to ensure the verification of a proper implementation of the monitoring plan.	~~Pending~~ OK
B.7.11. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	PDD Section B.5-B.7.2	DR	Yes. The monitoring approach ensures data is delivered in a reliable and reasonable acceptable accuracy. Accuracy level of the meters used to measure electricity supplied to the grid and electricity purchased from the grid are not lower than 0.5s. Before the project is in operation, both the project owner and the grid company will check the equipments to ensure their work properly. Sales receipts are used for double check purpose. The operational and management structure for monitoring and data monitoring procedures are stated in Section B.7.2 of the PDD.	OK
B.7.12. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	PDD Section B.6.2-B.7.1	DR	Not applicable. As per monitoring methodology, project emission is zero.	OK

B.8. Operational and Management Structure

B.8.1.	Is the authority and responsibility of project management clearly described?	PDD Section B.7	DR	Yes. The authority and responsibility of project management is clearly described in Section B.7.2 of the PDD.	OK
B.8.2.	Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.8	DR	Yes. The authority and responsibility for registration, monitoring, measurement and reporting is clearly described in the PDD.	OK
B.8.3.	Are procedures identified for training of monitoring personnel?	PDD Section B.7	DR	Yes. Procedures for training of monitoring personnel are not identified in the B.7.2 of the PDD.	OK

B.9. Baseline Information

B.9.1.	Is the information contained in Annex 3 consistent with the Section B.4, B.5 and B.6?	PDD Annex 3	DR	Yes, the information contained in Annex 3 is consistent with the Section B.4, B.5 and B.6	OK
B.9.2.	Is there any indication of a date when determining the baseline?	PDD Section B.8/Annex 3	DR	Yes, there is an indication of the date when determining the baseline.	OK
B.9.3.	Is this consistent with the time line of the PDD history?	PDD Section B.8	DR, SV, I	Yes, this is consistent with the time line of the PDD history.	OK
B.9.4.	Is all data required provided in a complete manner by annex 3 of the PDD?	PDD Annex 3	DR	Yes, all data required are provided in a complete manner by annex 3 of the PDD.	OK
B.9.5.	What is the documented crediting period of the		DR	It is renewable crediting period. The first crediting period includes seven years and has possibility of 3 renewals.	OK

project? Is this inline with available data?				
B.9.6. In cases where the methodology specifies, has the ' <i>Tool to determine the remaining lifetime of equipment</i> ' been correctly applied?	EB 50 Annex 15	DR	Not applicable	OK
B.9.7. In cases where the ' <i>Tool to determine the remaining lifetime of equipment</i> ' has been used the project participants may use one of the following options to determine the remaining lifetime of the equipment: i. Use manufacturer's information on the technical lifetime of equipment and compare to the date of first commissioning; ii. Obtain an expert evaluation; iii. Use default values.	EB 50 Annex 15	DR	Not applicable	OK
C. Duration of the Project / Crediting Period				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	VVM Para. 99 PDD Section	DR, SV	Yes, the starting date of the project is 08/08/2009 (turbine purchase agreement signed date, which is considered as the earliest date of the proposed project). The operational lifetime is 20 years. Both are clearly defined in the PDD.	OK

	C.1.1/C.1.2			
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	VVM Para. 102a PDD Section C.2/C.2.1/C.2.2	DR	Yes. A renewable crediting period of 7 year is chosen. The starting date of the crediting period starts on 01/03/2012 or the date of registration, whichever is later.	OK
C.1.3. Does the project's operational lifetime exceed the crediting period	VVM Para. 102a PDD Section C.1.2/C.2.1.1/C.2.1.2	DR, I	Yes. The project's operation lifetime is expected to be 20 years, which exceeds the first crediting period.	OK
C.1.4. Does the start date indicate whether this is a new project activity or a pre-existing project activity?	VVM Para. 102a/ 98 PDD Section C.1.1/C.2.1.1	DR, I	The project is a new project activity. Its starting date is 08/08/2009, which is after 02/08/2008.	OK
D. Environmental Impacts				
D.1.1. Does the project comply with environmental legislation in the host country?	VVM Para. 131-133 PDD section D	DR	Yes. By means of review Environmental Impacts Assessment (EIA) and EIA approval, it is found the project complies with environmental legislation of China.	OK
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVM Para. 131-133 PDD section D	DR	Yes. The analysis of the environmental impacts of the project activity has been sufficiently described in Section D.1 of the PDD.	OK
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if	VVM Para. 131-133	DR	Yes. EIA is required for this kind of project activity. EIA Report of the project was completed by Shandong Academy of Environmental Science in December 2007 and approved by Shandong Provincial Environmental Protection Bureau on	OK

yes, is an EIA approved?	PDD section D		11/01/2008	
D.1.4. Will the project create any adverse environmental effects?	VVM Para. 131-133 PDD section D	DR	Yes, but very small and can be relieved if properly measures are taken.	OK
D.1.5. Are trans-boundary environmental impacts considered in the analysis?	VVM Para. 131-133 PDD section D	DR	No trans-boundary environmental impacts are considered in the analysis.	OK
D.1.6. Have identified environmental impacts been addressed in the project design?	VVM Para. 131-133 PDD section D	DR, I	Yes. The impacts to the environment are very small and are properly address in the project design.	OK
E. Stakeholder Comments				
E.1.1. Have local stakeholders been invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC web	VVM Para. 128-129 PDD Section E.1	DR	Yes. Local stakeholders were consulted on 16/06/2009 by means of consultation meeting and distributing questionnaires. 16/06/2009 is prior to the publication of the PDD on the UNFCCC web. Meeting minutes of the local stakeholder consultation meeting has been provided by the PP and verified by the assessment team.	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	VVM Para. 128-129 PDD Section E.1	DR	Yes. The PP published a notice for the local stakeholder consultation meeting on 06/06/2009 and distributed 50 copies of questionnaires.	OK
E.1.3. Is the undertaken stakeholder process described in a complete and transparent manner?	VVM Para. 128-129 PDD Section E.1	DR	Yes. The stakeholder process was described in a complete and transparent manner, as E.1.2 above illustrates.	OK
E.1.4. Is a summary of the	VVM Para.	DR	Yes, the summary of the stakeholder comments received is provided in Section E.2	OK

stakeholder comments received provided?	128-129 PDD Section E.2		of the PDD.	
E.1.5. Has due account been taken of any stakeholder comments received?	VVM Para. 128-129 PDD Section E.3	DR	According to comments analysis in Section E.3, it is not necessary to adjust the design, construction or operation of the proposed project	OK
E.1.6. How the team validate the adequacy of stakeholder consultation?	VVM Para. 130	DR	The assessment team checked the meeting minutes and the questionnaires. The information described in Section E of the PDD is consistent with the evidences verified. It is the opinion of the assessment team that the stakeholder consultation is adequate.	OK

A.3 Annex 3: Overview of Findings

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	5	2	0

Date:	30/05/2011	Raised by:	Yuan Xue & Simon Zhao		
Type:	CAR	Number:	CAR #1	Reference:	1.2 under table 1
Lead Assessor Comment:				Date: 30/05/2011	
China is indicated in the PDD as a Party involved in the project activity, but the LoA from the DNA of China is absent. Please provide the LoA from the DNA of China.					
Project Participant Response:				Date: 13/09/2011	
The Chinese LoA has been provided to DOE. Please check it.					
Documentation Provided as Evidence by Project Participant:					
China LoA of Taipingshan					
Information Verified by Lead Assessor:					
LoA of the project issued by the DNA of China					
Reasoning for not Acceptance or Acceptance and Close Out:					
The host Party P.R.China has ratified the Kyoto Protocol on 30/08/2002 and has appointed a DNA. http://maindb.unfccc.int/public/country.pl?country=CN Information relevant with LoA issuance is available on DNA's official webpage http://cdm.ccchina.gov.cn/website/CDM/pdf/Item_new/Item_new6388.pdf Content of LoA is checked and items (a) – (d) are confirmed. a) The country is a Party to the Kyoto Protocol b) Participation is Voluntary c) P.R. China confirming that the proposed CDM project activity contributes to sustainable development of the country Non-Annex 1 Party United Kingdom and submit a letter of approval d) It refers to the precise proposed CDM project activity title in the PDD, Shandong Taipingshan Wind Farm Project, being submitted for registration. LoA is unconditional with above (a)-(d). LoA has been issued by the DNA which is listed on the UNFCCC CDM website. Assessment team considers the LoA is in accordance with paragraphs 45-48 of VVM version 01.2. CAR #1 was closed.					
Acceptance and Close out by Lead Assessor:				Date: 18/10/2011	

Date:	30/05/2011		Raised by:	Yuan Xue & Simon Zhao		
Type:	CAR	Number:	CAR #2		Reference:	1.2 under table 1
Lead Assessor Comment:				Date: 30/05/2011		
The United Kingdom of Great Britain and Northern Ireland is indicated in the PDD as a Party involved in the project activity, but the LoA from the DNA of the UK is absent. Please provide the LoA from the DNA of the UK.						
Project Participant Response:				Date: 13/10/2011		
The French LoA has been provided to DOE. Please check it.						
Documentation Provided as Evidence by Project Participant:						
French LoA of Taipingshan PDD version 03						
Information Verified by Lead Assessor:						
The LoA of the project from DNA of France						

PDD version 03	
Reasoning for not Acceptance or Acceptance and Close Out:	
The LoA from the DNA of the United Kingdom is not provided. CAR #2 is raised for requesting the PP to provide the LoA from the DNA of the United Kingdom. In response to the finding, the PP did not provide the LoA from the DNA of the United Kingdom, but provided the LoA from the DNA of France. France ratified the KP on 31/05/2002 has appointed a DNA http://maindb.unfccc.int/public/country.pl?country=FR France LoA is obtained from the PP. The assessment team compared the format and signature of the French LoA with other French LoAs on the UNFCCC website and confirmed its authenticity. Content of LoA is checked and items (a) – (d) are confirmed. a) The country is a Party to the Kyoto Protocol b) Participation is Voluntary c) Not applicable of annex 1 country d) It refers to the precise proposed CDM project activity title in the PDD, Shandong Taipingshan Wind Farm Project, being submitted for registration. LoA is unconditional with above (a)-(d). LoA has been issued by the DNA which is listed on the UNFCCC CDM website. Assessment team considers the LoA is in accordance with paragraphs 45-48 of VVM version 01.2. CAR #2 was closed.	
Acceptance and Close out by Lead Assessor:	Date: 18/10/2011

Date:	30/05/2011		Raised by:	Yuan Xue & Simon Zhao	
Type:	CAR	Number:	CAR #3	Reference:	section A.3
Lead Assessor Comment:				Date: 30/05/2011	
Please provide the MoC completed in accordance with the Procedures for Modalities of Communication between Project Participants and the Executive Board.					
Project Participant Response:				Date: 13/09/2011	
The renewal MoC, which was signed on 09/08/2011, has been provided to DOE. Please check it. The contact details of project owner in the MoC are different from those in the PDD (version 02). Therefore, the contact details of project owner in the PDD (version 02) have been revised based on the MoC. Please check the Annex 1 in the revised PDD version 2.					
Documentation Provided as Evidence by Project Participant:					
MoC of Taipingshan					
Information Verified by Lead Assessor:					
MoC of Taipingshan					
Reasoning for not Acceptance or Acceptance and Close Out:					
The MoC is provided by the PP. CAR #3 is closed.					
Acceptance and Close out by Lead Assessor:				Date: 18/10/2011	

Date:	30/05/2011		Raised by:	Yuan Xue & Simon Zhao	
Type:	CAR	Number:	CAR #4	Reference:	B.5.4
Lead Assessor Comment:				Date: 30/05/2011	
The wind turbine contract signing date and CDM consultancy agreement signing date in the PDD are not consistent with the evidences verified. Please take relevant action and submit the revised document(s).					
Project Participant Response:				Date: 01/06/2011	
The wind turbine contract was signed on 8 th August 2009, and the CDM consultancy agreement was signed on 17 th October 2009. Relevant documents have been provided to DOE and the signing dates in the PDD Version 2 have been revised.					
Documentation Provided as Evidence by Project Participant:					
Wind Turbine Contract CDM Consultancy Agreement PDD Version 2.					

Information Verified by Lead Assessor:	
Wind Turbine Contract PDD Version 2.	
Lead Assessor Comment:	Date: 09/09/2011
The wind turbine purchase contract and the CDM consultancy agreement were checked during onsite visit. But the copy of the CDM consultancy agreement was not provided along with the PP response. Please provide a copy of the CDM consultancy agreement. CAR #4 is still open.	
Project Participant Response:	Date: 15/09/2011
The CDM consultancy agreement was signed on 17/10/2009 by and between EDF Trading Ltd and Easy Carbon Consultancy Co. Ltd.. Relevant documents have been provided to DOE.	
Documentation Provided as Evidence by Project Participant:	
CDM Consultancy Agreement	
Information Verified by Lead Assessor:	
CDM Consultancy Agreement	
Reasoning for not Acceptance or Acceptance and Close Out:	
The information of the wind turbine contract signing date and CDM consultancy agreement signing date in the revised PDD is not consistent with the evidences verified. CAR #4 is closed.	
Acceptance and Close out by Lead Assessor:	Date: 18/10/2011

Date:	30/05/2011	Raised by:	Yuan Xue & Simon Zhao		
Type:	CL	Number:	CL #5	Reference:	Section B.5
Lead Assessor Comment:				Date: 30/05/2011	
Please demonstrate the suitability of the input values used for investment analysis, especially the plant load factor, annual electricity supply, the total static investment, the electricity tariff, the annual O&M cost, the residual value rate, the interest rate, and the tax rate.					
Project Participant Response:				Date: 01/06/2011	
Plant load factor					
The plant load factor of the proposed project is 21.1% according to the Project Application Report (PAR), which is determined by the accredited designing institute Shandong Industrial Design Institute Co., Ltd., who is the conductor of PAR, and is the third party contracted by the project participants. It is consistent with the requirement of EB48, Annex 11 “Guidelines for the Reporting and Validation of Plant Load Factors”.					
Annual power supply					
The expected annual power supply of the proposed project is calculated by an independent qualified design institute with high grade in the PAR, based on wind assessment records for 1977 to 2006 and detailed information on the equipment. Therefore, the power supply and plant load factor determination are in line with both options of the EB Guidelines for the reporting and validation of plant load factors (EB48 Annex 11): (a) provided to the government while applying the project activity for implementation approval, and (b) determined by a third party contracted by the project participants. The PLF of the proposed project is 0.211, which is in the range from 0.188 to 0.258 of the similar projects in Shandong Province. Therefore, it can be concluded that the estimated annual power supply in the PAR is reasonable.					
Total static investment					
The total static investment was estimated by an experienced design institute Shandong Industrial Design Institute Co., Ltd., which has been awarded the certificate. The estimated total static investment for the proposed project activity is 522.325 million RMB, and the unit cost is 10,595 RMB/kW, which is in the range of the similar projects in Shandong, which is 7,448 RMB/kW (Ref No. 1019) – 12,914 RMB/kW (Ref No. 2584). Therefore, it can be concluded that the estimated investment costs in the PAR are reasonable.					
Tariff (Incl VAT)					
In China, the regulatory framework and investment climate for wind farm projects are similar and comparable only in the same Province/Autonomous Region.					
On 23 rd July 2008, the Approval of the Tariff for the Proposed Project issued by the Shandong Provincial Price Bureau, the tariff of the proposed project was 0.6100 RMB/kWh (including VAT).On 20th July 2009, a notification on the tariff policy of wind farms was issued by NDRC, in which the on-grid tariff of wind farm in Shandong Province is confirmed as 0.61 RMB Yuan/kWh (including VAT). According to “Information note on the highest tariff applied by the EB in its decision on registration of projects in the People’s Republic of China”, 0.76 RMB/kWh is the highest tariff in Shandong Province. However, this tariff is impossible to get for the proposed project because of the present policy. The Project IRR is 7.46% with application of the highest					

reported tariff of 0.76 RMB Yuan/kWh (including VAT) in Shandong Province, which is still below the benchmark. Therefore, the tariff of 0.61 RMB Yuan/kWh (including VAT) used in the PDD is appropriate.

Annual O&M cost

The O&M cost consists of five basic parameters including raw material cost, insurance, employee payroll and welfare fund, maintenance expense and miscellanea, and was estimated by an experienced design institute which has been awarded the certificate. The estimated average annual O&M cost is 10.18 million RMB, which relative to investment costs of the proposed are 1.95%, which is comparable to the cost of previous wind projects in Shandong, which ranges from 0.75% to 4.81%. Therefore, it can be concluded that the estimated average annual O&M cost is reasonable.

Residual value rate

The residual value rate of 4% was in compliance with relevant regulation in China, Notice of Clarifying Enforcement Time of Adjustment of Residual Value Ratio of Enterprise Fixed Assets issued by State Administration of Taxation of China.

Interest rate

The interest rate of the proposed project used in the investment analysis is 7.83%, which is taken from the approved PAR and used in the investment analysis. Besides, it is the same one as prevailing commercial interest rate in China obtained from People's Bank of China.

(http://www.boc.cn/finadata/lilv/fd32/200809/t20080918_2398.html)

Tax rate

The tax rate of city construction of 7% comes from the approved PAR, which is also in compliance with an official document *The provisional regulation of city construction tax of PRC* (<http://www.gxxhcupa.com/Article.asp?id=762>)

The education surtax rate of 3% comes from the approved PAR, and which is also in compliance with *the Decree No. 395 of the State Council of the People's Republic* (http://www.gov.cn/zwqk/2005-09/27/content_70440.htm)

The income tax of 25% complies with *Enforcement Regulation of Business Income Tax Law of PRC*, State Council Decree No.521 (http://www.gov.cn/zwqk/2007-12/11/content_830645.htm)

The VAT of electricity sales of 8.5% comes from the approved PAR finished in May 2008. Which is in compliance with *The Provisional Regulation of VAT of PRC* validated from 1st Jan. 1994 Issued by State Council, (<http://www.taxchina.com/ssfg/1993-12/03/cms72624article.shtml>); and the *Council and Financial Tax [2001] No. 198 Notification* issued by China Tax Bureau. (<http://www.dxtax.com/tax/cs01-198.htm>)

Documentation Provided as Evidence by Project Participant:

Approved PAR
PDD Version 2
IRR Spreadsheet.

Information Verified by Lead Assessor:

Approved PAR
PDD Version 2
IRR Spreadsheet.

The input values used in the PDD are derived from Project Application Report (PAR) designed by a qualified third party and approved by Development and Reform Committee of Shandong Province. The PAR was development in May 2008 and the approved in June 2008. The wind turbine purchase agreement of the project was signed in August 2009. The time period between the finalisation of the PAR and the investment decision was sufficiently short and it is unlikely in the context of the underlying project activity that the input values would have materially changed. Requirement of Para. 113 (a) of VVM version 01.2 is met.

The values used in the PDD and associated annexes are fully consistent with the PAR. The requirement of Para. 113 (b) of VVM version 01.2 is met.

The assessment team cross checked the input values of other similar wind farm projects in the same region as the project. Based on the local and sectoral expertise of the assessment team, we confirm that that the input values from the PAR are valid and applicable at the time of the investment decision, as follows:

Plant load factor and Annual power supply:

The plant load factor of the project used in the PDD is derived from the PAR, which was designed by a qualified third party contracted by the PP. The requirements from EB48, Annex 11 "Guidelines for the

Reporting and Validation of Plant Load Factors" are met. Based on our database of registered CDM projects, the plant load factors of wind from projects in Shandong provinces range from 0.188 to 0.258. The plant load factor of the project falls in the range. Thus, the PLF used in the PDD is suitable.

The value of annual power supply used in the PDD is consistent with the PLF used in the PDD. Thus, the value of annual power supply used in the PDD is suitable.

Total Investment:

Based on our data based of registered CDM projects, the total investment per kW of wind from projects in Shandong provinces range from 7,448 to 12914 CNY/kW. The total investment per kW of the proposed project falls in the range and is close to the average value in the database. Thus, the total investment of the project used in the PDD is suitable.

Tariff:

On 23rd July 2008, the Approval of the Tariff for the Proposed Project issued by the Shandong Provincial Price Bureau, the tariff of the proposed project was 0.6100 RMB/kWh (including VAT). On 20th July 2009, a notification on the tariff policy of wind farms was issued by NDRC, in which the on-grid tariff of wind farm in Shandong Province is confirmed as 0.61 RMB Yuan/kWh (including VAT). 0.61 RMB/kWh is the most possible tariff that the PP can expect at the time of investment decision. According to the "Information note on the highest tariffs applied by the EB in its decisions on registration of projects in the People's Republic of China", version 02, (http://cdm.unfccc.int/Reference/Notes/reg_note07.pdf), the highest tariff of wind power projects in Shandong province should be 0.61 RMB Yuan/kWh (including VAT) for the first 30,000 hrs, after that tariff for thermal power plants will be applicable. The tariff applied by the project in the PDD is the highest tariff. Thus, the electricity tariff applied in the PDD is considered suitable.

O&M cost:

According to our database of registered CDM projects, the ratio of O&M cost/total investment of the wind power projects in Shandong province ranges from 0.75% to 4.81% and the average value is about 2%. The ratio of O&M cost/total investment for the project is 1.95%, which fall in the range and is close to the average value. Thus, the O&M cost applied in the PDD for the project is suitable.

Residue value, depreciation rate, interest rate and tax rate:

Based on our local and sectoral expertise, we confirm the residue value, depreciation rate, interest rate and tax rate applied in the PDD comply with applicable Chinese laws and regulations. Thus, the values for residue value, depreciation rate, interest rate and tax rate applied in the PDD are suitable.

Reasoning for not Acceptance or Acceptance and Close Out:

The source of the input values used in the PDD is the PAR and the suitability of the input values has been sufficiently demonstrated. CL #5 is closed.

Acceptance and Close out by Lead Assessor:

Date: 09/09/2011

Date:	30/05/2011		Raised by:	Yuan Xue & Simon Zhao		
Type:	CL	Number:	CL #6	Reference:	Section B.5	
Lead Assessor Comment:				Date: 30/05/2011		
Please clarify how similar projects are identified as per the requirement of “Tool for the demonstration and assessment of additionality”.						
Project Participant Response:				Date: 01/06/2011		
The data source adopted for common practice is Statistic of installed capacity of China’s Wind Farms in 2007, 2008 and 2009, compiled by Chinese Wind Energy Association. Related information please kindly refers to the updated PDD.						
Documentation Provided as Evidence by Project Participant:						
<i>With reference to Statistic of installed capacity of China’s Wind Farms in recent years¹ and the website of Verified Carbon Standard², there are 23 similar wind farms (capacity over 15 MW) as proposed project put into commission in Shandong Province. However, Shandong Jimo Qingdao Huawei Wind Power Project commissioned in 2003 and enjoyed a higher tariff of 0.76RMB/kWh, which is much higher than the proposed project. The tariff of Shandong Jimo Qingdao Huawei Wind Power Project was approved in 2001. This project was an early demonstration project and received ODA support from DEG (part of KfW Bankengruppe). Shandong Changdao Wind Farm Project (project ID: 517)³ applied for Voluntary Emission Reduction under</i>						

Verified Carbon Standard (VCS) to obtain the support from VCS VER funding to solve the financial barriers. Besides, the rest 21 projects have been successfully registered as CDM project. Hence, the proposed project is not common practice within the region. The relevant description has been included in the B.5 of the PDD (version 2). Please check it.

¹ Reference: 2007: <http://www.cwea.org.cn/upload/20080324.pdf>

2008: <http://www.cwea.org.cn/upload/20090305.pdf>

2009: <http://www.cwea.org.cn/upload/201006102.pdf> and <http://www.windpower-china.com/node/1446>

Statistic of installed capacity of China's Wind Farms is compiled by Professor Shi Pengfei.

² Source: <http://www.vcsprojectdatabase.org/>

³ The tariff of Shandong Jimo Qingdao Huawei Wind Power Project is approved in 2001, which is prior to the power policy reform - "Separate power plants from network and compete in price to enter network". Reference: Notice of Electricity Tariff of Qingdao Huawei Wind Power Company by Shandong Provincial Price Bureau and Shandong Power Grid. Source: http://www.34law.com/lawfg/law/1797/3388/law_252417438946.shtml

Information Verified by Lead Assessor:

Statistic of installed capacity of China's Wind Farms by Professor Shi Pengfei;
PDD (version 2).

Reasoning for not Acceptance or Acceptance and Close Out:

The geographical scope for the common practice analysis was set as Shandong Province in which the comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing are comparable to the proposed project, which was also widely used by other registered projects in Shandong Province. Wind power projects with the capacity over 15 MW in this region are included in the comparison, which was deemed reasonable as the project lower than 15 MW was defined as small scale project. It is the opinion of the assessment team that the selection of geographical scope, scale of project, and time of starting operation are appropriate for the assessment of common practice related to the project activity's technology or industry type.

In April 2002, China implemented the policy of "Separate power plants from network and compete in price to enter network". The objective of this power sector reform is to establish a more commercialized power market in China. The regulatory and market conditions for wind power projects have been changed since 2002. So the selection of wind power projects starting operation after 2002 for common practice is appropriate.

Except for the projects registered as CDM projects, Shandong Changdao Wind Farm Project (project ID: 517) applied for Voluntary Emission Reduction under Verified Carbon Standard (VCS) to obtain the support from VCS VER funding to solve the financial barriers, and Shandong Jimo Qingdao Huawei Wind Power Project received ODA support from DEG (part of KfW Bankengruppe) and was commission in 2003 with the tariff 0.76RMB/kWh approved in 2001. Considering the tariff of 0.76RMB/kWh in 2001 is not comparable to the later tariff of 0.61RMB/kWh in 2009, so it has essential distinctions from the proposed project. Therefore, the proposed project activity is not common practice. The essential distinctions with the proposed project activity were reasonably explained in the revised PDD. CL #6 is closed.

Acceptance and Close out by Lead Assessor:

Date: 09/09/2011

Date:	30/05/2011		Raised by:	Yuan Xue & Simon Zhao		
Type:	CAR	Number:	CAR #7		Reference:	Section B.7
Lead Assessor Comment:				Date: 30/05/2011		
During the site visit, it was found that the main meter mentioned in the PDD version 1 is a shared meter which does not measure electricity exchanged with the grid for the proposed project only. Please clarify how the Parameters $EG_{output,y}$ and $EG_{import,y}$ will be monitored and take relevant actions.						
Project Participant Response:				Date: 02/12/2011		
The proposed project shares the 35 kV/110 kV transformer and gateway meters with Shandong Tangwangshan Wind Farm Project (hereafter as project B). However, two meters installed on the 35kV transmission lines at the project site could directly monitor the electricity supplied to and purchased from the grid by the proposed project. And also, the separated sales receipts for the proposed project and project B can/will be issued to the grid according to the PPA signed between the grid company and the project owner. Hence, the $EG_{export,y}$ and $EG_{import,y}$ will be measured by the meter readings of the meters installed on the 35kV						

transmission lines at the project site. The sales receipts will be used to cross check against the meter readings. Also, readings from meters M1 and M5 will be used for cross checking only. Therefore, the net electricity supplied to the Grid by the proposed project will be calculated through $EG_{export,y}$ and $EG_{import,y}$. The relevant description has been included in the B.7 of the PDD.	
Documentation Provided as Evidence by Project Participant:	
Power connection diagram of Taipingshan; PDD (version 4).	
Information Verified by Lead Assessor:	
Power connection diagram of Taipingshan; PDD (version 4).	
Reasoning for not Acceptance or Acceptance and Close Out:	
In the PDD version 4, the details of how the Parameters $EG_{output,y}$ and $EG_{import,y}$ will be monitored are clearly described. CAR #7 is closed.	
Acceptance and Close out by Lead Assessor:	Date: 07/12/2011

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Simon Zhao

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)

x

Technical Area(s): TA 1.2 Energy generation from renewable energy sources.

2. Energy Distribution

Technical Area(s):

3. Energy Demand

Technical Area(s):

4. Manufacturing

Technical Area(s):

5. Chemical Industry

Technical Area(s):

6. Construction

Technical Area(s):

7. Transport

Technical Area(s):

8. Mining/Mineral Production

Technical Area(s):

9. Metal Production

Technical Area(s):

10. Fugitive Emissions from Fuels (solid, oil and gas)

Technical Area(s):

11. Fugitive Emissions from Production and

Consumption of Halocarbons and Sulphur Hexafluoride

Technical Area(s):

12. Solvent Use

Technical Area(s):

13. Waste Handling and Disposal

Technical Area(s):

14. Afforestation and Reforestation

Technical Area(s):

15. Agriculture

Technical Area(s):

Approved Member of Staff by:

Siddharth Yadav

Date:

06/02/2012

Statement of Competence

Name: **Xue Yuan**

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by:

Siddharth Yadav

Date:

06/02/2012

Statement of Competence

Name: **Joe Sun**

Status

- Lead Assessor	☐	- Expert	☐
- Assessor	☐	- Financial Expert	☐
- Local Assessor	☐	- Technical Reviewer	☒

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	☐
Technical Area(s):	
2. Energy Distribution	☐
Technical Area(s):	
3. Energy Demand	☐
Technical Area(s):	
4. Manufacturing	☐
Technical Area(s):	
5. Chemical Industry	☐
Technical Area(s):	
6. Construction	☐
Technical Area(s):	
7. Transport	☐
Technical Area(s):	
8. Mining/Mineral Production	☐
Technical Area(s):	
9. Metal Production	☐
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	☐
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
Technical Area(s):	
12. Solvent Use	☐
Technical Area(s):	
13. Waste Handling and Disposal	☐
Technical Area(s):	
14. Afforestation and Reforestation	☐
Technical Area(s):	
15. Agriculture	☐
Technical Area(s):	

Approved Member of Staff by: **Siddharth Yadav** Date: **15/02/2012**

Statement of Competence

Name: Lenore Yin

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 06/02/2012