# VALIDATION REPORT

## Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd.

## Guohua Rongcheng Phase II Wind Farm Project

**SGS Climate Change Programme**
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| **Date of Issue:** | **Project Number:** |
|---|---|
| 30-12-2010 | CDM.VAL2865 |
| **Project Title:** | |
| Guohua Rongcheng Phase II Wind Farm Project | |
| **Organisation:** | **Client:** |
| SGS United Kingdom Limited | Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. |
| **Publication of PDD for Stakeholders Consultation** | |
| **Commenting Period:** | 04/06/2010-03/07/2010 |
| First PDD Version and Date: | Version 01, dated 02/06/2010, |
| Final PDD Version and Date: | Version 02.1, dated 02/12/2010 |

**Summary:**

Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. has commissioned SGS to perform the validation of the project: Guohua Rongcheng Phase II Wind Farm Project.

Methodology Used: ACM0002

Version and Date: Version 12.1.0 dated 26/11/2010

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 applicable CDM requirements.

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:

- 6 Corrective Action Requests (CARs);
- 1 Clarification Requests (CLs);
- 0 Forward Action Requests (FARs); and

All findings have been closed satisfactorily and the project will be recommended to the CDM Executive Board with a request for registration.

| **Subject:** | | **Document Distribution** |
|---|---|---|
| CDM Validation | | |
| **Validation Team:** | | |
| Ginger Jiang Yuan – Lead Assessor/Team Leader<br>Xue Yuan–Assessor/Local Assessor/Sectoral Expert<br>Richard Huang Lijia– Financial Expert | | ☒ No Distribution (without permission from the Client or responsible organisational unit) |
| **Technical Review:** | | |
| Date: 12-02-2011<br>Name: Elton Chen Wu | | ☐ Limited Distribution |
| **Authorised Signatory:** | | |
| Name: Siddharth Yadav<br>Date: 9th June 2011 | | ☐ Unrestricted Distribution |

| **Revision Number:** | **Date:** | **Number of Pages:** |
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| 0 | 30-12-2010 | 100 |
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## Abbreviations

| | |
|---|---|
| CAR | Corrective Action Request |
| CDM | Clean Development Mechanism |
| CEF | Combined Emission Factor |
| CERs | Certified Emission Reductions |
| CL | Clarification Request |
| CO2 | Carbon Dioxide |
| CO2e | Carbon Dioxide Equivalent |
| DNA | Designated National Authority |
| DOE | Designated Operational Entity |
| EIA | Environmental Impact Assessment |
| ERs | Emission Reductions |
| FAR | Forwarded Action Request |
| FSR | Feasibility Study Report |
| GHG | Greenhouse 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 |
| ODA | Official Development Assistance |
| PDD | Project Design Document |
| PP | Project Participant |
| PPA | Power Purchase Agreement |
| 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 Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. to perform a validation of the project: Guohua Rongcheng Phase II Wind Farm Project in P.R.China.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), Validation and Verification Manual version 01.2 and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

By supplying electricity to the North China Power Grid (NCPG), 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.

In our opinion, the project meets all relevant UNFCCC, CDM criteria and all relevant host country criteria. The project correctly applies methodology ACM0002 version 12.1.0 dated 26/11/2010. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 680,680 t of CO2e over a 7 year crediting period during 01/09/2011 to 31/08/2018, averaging 97,240t of CO2e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved 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: 9th June 2011



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# 2. Introduction

## 2.1 Objective

Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. has commissioned SGS to perform the validation of the project: Guohua Rongcheng Phase II 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

Guohua Rongcheng Phase II Wind Farm Project involves the installation of 33 sets of wind turbines with unit capacity of 1.5MW, reaching a total installed capacity of 49.5 MW. The annual amount of electricity generated from the project activity is estimated to be 102,337MWh. The electricity generated from the project activity will be fed into the North China Power Grid (NCPG).

NCPG is dominated by fossil fuel fired power plants. The combined emission factor of the NCPG is 0.9502tCO2e/MWh. Emission reductions will be achieved by the implementation of the project activity, displacing an equivalent amount of electricity that would have been supplied by the NCPG in the absence of the project activity. The annual emission reductions from the project activity are estimated to be 97,240tCO2e over the first crediting period.

The implementation of the project will contribute to the sustainable development of the local community and the host country.

## 2.4 The Names and Roles of the Validation Team Members

| Assessment team | Role |
|---|---|
| Ginger Jiang Yuan | Lead Assessor/Team Leader |
| Xue Yuan | Assessor/Local Assessor/Sectoral Expert |
| Richard Huang | Financial Expert |

| Technical Review Team | Role |
|---|---|
| Elton Chen Wu | Technical Reviewer |
| Jack Xing Jiang | Sectoral Expert |



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# 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 02/06/2010 and the subsequent version 02 dated 02/11/2010 and version 02.1 dated 02/12/2010 (final version). The assessment is performed by trained assessors using a validation protocol attached as Annex 2, table 2.

The site visit was performed on 27/07/2010 and 28/07/2010 by the Lead Assessor and Local Assessor/ Sectoral Expert/ Assessor. The results are summarized in Annex 1.

Statements in the PDD have been confirmed through review of documents, site view, direct contacts with key stakeholders (including the project developers and resident and government representatives in the host country), etc.

## *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 30/07/2010. 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 Validation (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 means 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 (OK), 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.2 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:

I. The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
II. The CDM requirements have not been met;



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III. 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.



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# 4. Validation Findings

## 4.1 Approval

Two Parties, People's Republic of China and United Kingdom of Great Britain and Northern Ireland are involved in the project.

The LoA from China (/25/) dated 30/01/2010 has been provided by the project participant thereafter, wherein, it states that the project assists P.R.China in achieving sustainable development and is entered into voluntarily. The LoA also refers to the precise proposed CDM project activity title in the PDD being submitted for registration. The LoA from China is unconditional with respect to the aspects mentioned above. The written approval of voluntary participation from the designated national authority (DNA) of P.R.China is in compliance with Marrakech Accords, CDM Modalities §29 and §30, Kyoto Protocol Art. 12.2, Marrakech Accords and CDM Modalities §40a. The LoA from China has been validated to be in compliance with the requirements set out in paragraphs 45-48 of the VVM version 01.2 (/54/). The LoA was received from the PP and the assessment team has confirmed the authenticity of the LOA by checking the website of China DNA, http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2410.pdf (/31/).

Noble Carbon Credits Limited from Annex I country is identified as the PP of Annex I Party. Initially, no LoA from annex I country was provided and **CAR #1 was raised**. In response to this finding, the LoA from United Kingdom of Great Britain and Northern Ireland (/26/) dated 17/01/2011 has been provided by the project participant. The Annex I country was presented to be Ireland in the PDD version 01 for GSP (/1/), it was clarified by the PP that Noble Carbon Credits Limited is registered in Ireland, however the LoA from the UK is applied for this project. It has been accepted by the assessment team as the LoA provided confirms that United Kingdom of Great Britain and Northern Ireland ratified the Kyoto Protocol on 31/05/2002 and has appointed a DNA. The LoA shows that the UK has ratified the KP and the project is entered into voluntarily. The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration. The LoA from UK is unconditional with respect to the aspects mentioned above. The LoA from UK has been validated to be in compliance with the requirements set out in paragraphs 45-48 of the VVM version 01.2. The validation team has confirmed that the letter of approval was issued by the DNA of UK 'Department of Energy and Climate Change' and is valid for the project. By email (/32/) confirmation with the officer (Alan Wyper) of the UK DNA Team, SGS has confirmed the authenticity of the LoA from UK for the project activity. Hence **CAR #1 is closed.**

## 4.2 Participation Requirements

Two Parties, P.R.China and United Kingdom of Great Britain and Northern Ireland are involved in the project. By checking against the UN website (http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php(/30/), it is confirmed that the host Party P.R.China ratified the Kyoto Protocol on 30/08/2002 and has appointed a DNA, United Kingdom of Great Britain and Northern Ireland ratified the KP on 31/05/2002 and has appointed a DNA respectively. In line with paragraph 37 of the CDM modalities and procedures (/65/) and paragraph 7 of EB50 annex 48 (/64/), SGS has contractual relationship (/11/) with Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd., which is listed in the PDD as one of the project participants. The information in section A.3 of the PDD is consistent with the contact details provided in Annex 1 of the PDD. No entities other than those approved as PPs are included in the PDD.

Parties, stakeholders and UNFCCC accredited NGOs have been invited to comment on the validation requirements from 04/06/2010 to 03/07/2010. The PDD and comments have been made publicly available. Please refer to Section 5 for details.

**CAR #2 was raised** by requesting the PPs to provide the MoC (/27/) for this project. The MoC for the project dated 21/12/2010 which has applied the MOC template issued as Annex 60 to EB 45 meeting has been provided in response to this finding, the following information has been provided in the MoC and confirmed by the assessment team against the requirement from Annex 59 of EB 45 (/34/), hence **CAR #2 is closed out**.

(a) Title of the CDM project activity (Guohua Rongcheng Phase II Wind Farm Project);

(b) Date of submission (21/12/2010);



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(c) List of all project participants (Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. and Noble Carbon Credits Limited);

(d) Clear designation of focal point for each scope of authority;

(e) Contact details and specimen signature of each focal point and signing authority (contact details and specimen signature for primary and alternative authorized signatory for the focal point are provided);

(f) Signatures of all project participants confirming their agreement to the terms of the statement of modalities of communication.

### *4.3 Project Design Document including Project Description*

The project design document of the project is in conformance with latest version of the UNFCCC CDM-PDD format and Guidelines for completing the Project Design Document (CDM-PDD) (/35/).

The purpose of the project activity, type of technology used and the contribution of the project to sustainable development is described in the PDD. The information provides the reader with a clear understanding of the proposed CDM project activity. The Project involves the installation and operation of 33 sets of turbines with a unit capacity of 1.5MW. The Project will generate greenhouse gases (GHG) emission reductions by avoiding $CO_2$ emissions from electricity generation by fossil fuel power plants and will contribute to sustainable development of the local community and the host country by reducing greenhouse gases (GHG) emissions.

Through reviewing the FSR of the project (/2/), the Implementation Schedule of the project (/17/), site view and interview with the PP, it is validated that the information provided in the PDD is consistent and in compliance with the actual situation/planning.

Through desk review of the documents provided by the project participants and interview with the project participants, it has been validated that the project description in the PDD is accurate and complete.

The location of the project activity is provided in Section A.4.1 of the PDD. The Project is located in Chengshan Town, Rongcheng City of P. R. China. The coordinates of the proposed project location area are 122.433333-122.516667 east longitude and 32.333333-32.383333 north latitude and the geographical coordinates of the substation centre of the Project is east longitude 122.515133 and north latitude 37.358828. The validation team checked Google earth and confirmed the location information about the project in the PDD is correct. The information provided on the location of the project activity allows for a clear identification of the project site.

Project participant, Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. possesses ownership and license (/14/) which allows the implementation of the project at the project site.

The category of the project activity is correctly identified in Section A.4.2 of the PDD, which is renewable electricity in grid connected applications. The sectoral scope is energy industries. The project activity involves the installation of 33 wind turbines with unit capacity of 1.5MW. The project design engineering reflects current good practices in China.

The table used for the indication of projected emission reductions is correctly applied. Annual emission reductions are provided in PDD section A.4.4, the expected annual emission reduction is 97,240t CO2e.

The information on public funding of the project activity provided in Section A.4.5 of the PDD conforms to the actual situation and planning as presented by the project participants. The project receives no public funding from Annex I Parties.

| **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 A.4.3 | The justification on the applied PLF. |
| Section B | ACM0002 version 12.1.0 is applied. |
| Section B.5 | The detailed timeline and justification of CDM early consideration provided. |
| Step 2 of Section B.5 | Further justification on the sensitivity analysis.<br>Presentation of each element of the O&M cost; |



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| Main changes and reason for revision between the final PDD against the first version published for the international stakeholder consultation | |
|---|---|
| Step 4 of Section B.5 | The identification of similar projects in the common practice analysis. |
| Section B.7.2 | Parameter Electricity consumed by the proposed project which is imported from the NCPG at the backup line in the year y added. |

### 4.4 Applicability of selected methodology to the project activity

In version 02.1 of the PDD (/1/), the project uses the approved consolidated methodology ACM0002 version 12.1.0 (/33/) which is the methodology most applicable for this project.

The choice of ACM0002 version 12.1.0 is correctly justified in section B.2 of the PDD. ACM0002 Version 12.1.0 refers to the *Tool for the demonstration and assessment of additionality*, Version 05.2 (hereinafter referred to as the Additional Tool) and the *Tool to calculate the emission factor for an electricity system*, Version 02 (hereinafter referred to as the Emission Factor Tool) (/38//39/).

The project is the installation of a wind power plant. The proposed project is not related to capacity addition, retrofit or replacement of a power plant/unit. The project does not involve switching from fossil fuels to renewable energy at the site of the project activity. The proposed project does not involve biomass fired power generation. The project is in conformance with all applicability criteria of ACM0002 version 12.1.0.

### 4.5 Project Boundary

The spatial extent of the proposed project boundary includes the proposed project power plant and all power plants connected physically to the electricity system that the proposed project power plant is connected to. North China Power Grid is correctly identified as the grid to which the project is connected in accordance with EB guidance, ACM0002 version 12.1.0 and guidance from the DNA of China. According to the *China's Regional Grid Baseline Emission Factors 2009* issued by the DNA of China dated 02/07/2009 (/37/), NCPG is composed of Beijing City, Tianjin City, Hebei Province, Shanxi Province, Shandong Province and Inner Mongolia autonomous region. 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 $N_2O$ are not included in the baseline emission. $CO_2$, $CH_4$ and $N_2O$ 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 12.1.0.

Through document review of the PDD, Feasibility Study Report of the project and other documents provided, site visit and interview with the project participants, it has been validated that the identified project boundary and the selected sources and gases is justified.

### 4.6 Baseline Selection and Additionality

The baseline scenario is identified in Section B.4 of the PDD transparently, which is the equivalent annual electricity supplied by NCPG. As per ACM0002 version 12.1.0, if the project activity is the 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*". ACM0002 version 12.1.0 is correctly applied in the identification of the baseline scenario.

The choice of data used in estimating the baseline is compatible with publicly available data. All data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions. Electricity supply from the operation of grid-connected power plant and by the addition of new generation sources is the status quo without the proposed project activity, and has been identified as the baseline for all similar CDM projects applying ACM0002 in the host country.

#### 4.6.1 Additionality

The latest version (05.2) of the Additionality Tool during validation is used in the discussion on additionality in Section B.5 of the PDD. All steps needed by the Additionality Tool are followed in a transparent manner. The discussion on additionality and the evidences provided are consistent with relevant descriptions in PDD.



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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 proposed project activity consistent with current laws and regulations;

Step 2. Investment Analysis;

Step 3. Barrier Analysis; (Not applied);

Step 4. Common Practice Analysis

As per ACM0002 version 12.1.0, the project activity itself is not the baseline scenario. It has been validated that the project activity is additional based on the investment analysis and the common practice analysis for the project. Detailed discussion is in Sections 4.6.3, 4.6.4, 4.6.5 and 4.6.6.

### *4.6.2 Prior Consideration of the Clean Development Mechanism*

The start date of the project in Section C.1.1 of the PDD is prior to the validation and after 02/08/2008. **CAR #3 was raised** requesting the PP to provide the implementation timeline of the project and relevant evidences to demonstrate that CDM was taken into account in the decision to go ahead with the project activity and the PPs had informed the Host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status. After relevant information has been provided, **CAR #3 is closed.**

The wind turbine purchase contract (/21/) was signed on 16/11/2009 between the project owner and the wind turbine supplier. This date is determined as per the definition in the Glossary of CDM terms (/55/) "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins." The PP clarified in section C1.1 of the PDD that the date of wind turbine purchase contract was signed on 16/11/2009 which was prior to the tower tube purchase contract signed on 07/12/2009, construction contracts signed on 18/12/2009, and transformer purchase contract signed on 16/01/2010 (/22/). Therefore, the starting date of the proposed project is chosen as the date of signing the wind turbine purchase contract. After reviewing the evidences of above mentioned activities, it has been confirmed that the date of wind turbine purchase contract was the earliest date at which the implementation of the project activity began.

Before the project start date, the FSR in which CDM application is strongly suggested to alleviate the financial risk was finalized on 09/10/2008; The approval for the project (/7/) was issued by the Development and Reform Committee of Shandong Province on 03/12/2008;

Board meeting minute (/23/) dated 06/01/2009 showed that decision was made to make the project a CDM project activity;

On 15/10/2009, the ERPA (/15/) was signed between the project owner and the CERs buyer;

The notification informing the DNA of China of the PP's intension to seek CDM status is dated 16/02/2009 and accepted by DNA of China on 20/02/2009 and through checking the UNFCCC website (http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html), it is also confirmed by the assessment team that the notification of the project developed as a CDM project was confirmed by EB on 25/11/2009 (/29/) which is within six months of the project activity start date (16/11/2009).

In compliance with paragraph 100 of the VVM, the project is determined to be a new project activity with a start date after 02/08/2008. It is of SGS opinion that incentive of income from CDM has been seriously considered before the project started and continuing and real actions have been taken to secure CDM status for the project in parallel with its implementation. This is in compliance with paragraphs 99, 100 and 101 of the VVM.

### *4.6.3 Identification of alternatives*

Following the additionality tool, alternatives to the proposed project activity were identified.

In Sub-step 1a of the section B.5 of the PDD version 02.1, four plausible and credible alternatives available to the proposed project that provide outputs or services comparable to the proposed CDM project activity were identified:



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a. The proposed project itself, but not undertaken as a CDM project activity;

b. Construction of a fossil-fired power plant with equivalent installed capacity or annual electricity generation;

c. Construction of a power plant using other sources of renewable energy, such as hydro and biomass power plant with equivalent installed capacity or annual electricity generation;

d. Equivalent electricity service provided by the North China Power Grid.

Alternative c) was excluded because of the technology development status and high cost of utilization of other renewable energy such as solar PV, geothermal, biomass (/44//45//46/) and the lack of hydro resource in the place where the proposed project is located. Through document review of the evidences provided and interview with officials from the local Development and Reform Commission (DRC) during site visit, it is validated that alternative c) to generate same electricity with other renewable energy is not a realistic and credible alternative. This has been also been confirmed in other registered wind power projects in the same region. Besides, the project developer is a company devoted to the development of wind power project. It is not realistic to construct a power plant with other renewable sources.

In Sub-step1b, alternative b) was eliminated from further consideration because it does not comply with the national regulation for controlling small scale thermal power plant. As per the *Notice of the General Office of the State Council concerning the Strict Prohibition for Construction of Thermal Power Plants with the Capacity of Less Than 135 MW* (/47//48/), thermal power plants with the installed capacity less than 135 MW are prohibited for construction within the grid connected area. A fossil fuel power plant with the same output as the proposed project is not possible as its capacity is below the 135 MW requirements. Through document review of the Notice and interview with local officials during site visit, it has been validated that alternative b) is not in compliance with Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135MW or below issued by the General Office of the State Council and it is not a realistic and credible alternative.

Alternative a), the proposed project not undertaken as a CDM project and Alternative d) the same electricity output by NCPG which is the continuation of the current practice are validated to be in compliance with all applicable and enforced legislation.

### *4.6.4 Investment analysis*

In step 2 of section B.5 of the PDD version 02.1, investment analysis was used to demonstrate that alternative a) 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 other 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 5.2.

The following steps are used to assess the investment analysis as per the Guidelines on the Assessment of Investment Analysis version 03.1 dated 15/01/2010 (/52/).

#### *4.6.4.1 Benchmark determination*

It has been validated that the *Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects* (/43/) is 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.

The "*Interim Rules on Economic Assessment of Electrical 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 plants. The 8% benchmark is applicable to new built as well as retrofit projects. This benchmark IRR has been widely accepted in newly constructed



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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 EB51 report Guidelines on the assessment of investment analysis.

#### *4.6.4.2 IRR calculation process*

The period of assessment is defined to be 21.25 years considering the lifetime of the project (20 years) and construction period of the project (1.25 year). Through document review of the approved FSR, the period of assessment is validated to be acceptable as it reflects the period of expected operational lifetime of the proposed project activity.

The IRR calculation spreadsheet was provided for validation. All formulas used in the analysis are readable and all cells are viewable and unprotected. The investment analysis is performed in a transparent manner and the reader can reproduce the results.

The cost of financing expenditures is not included in the calculation of project IRR as a direct cash outflow in the IRR calculation spreadsheet and PDD version 02.1 which in line with the paragraph 9 of EB51, Annex 58.

In sub-step 2c of the PDD version 02.1, the project IRR (/3/) without and with CDM income is determined to be 6.20% and 8.15% respectively.

#### *4.6.4.3 Input Values*

Compliance with paragraph 54 of EB38:

Following paragraph 54 of EB38 (/51/), SGS assessors performed the following to make sure relevant requirements are fulfilled.

Paragraph 54(a) of EB38:

The parameters and inputs used for IRR calculation are from the Feasibility Study Report of the project which is valid and applicable at the time the decision to go ahead with the project was made. In China, FSR is required to be prepared by accredited third party. Assumptions and data sources for the economic evaluation of a project in the approved FSR are required to be based on relevant national standards and criteria.

The FSR dated October 2008 for the proposed CDM project was prepared by Shanghai Electric Power Design Institute Co.,Ltd., which is an independent third party entity accredited by the relevant national authority to carry out feasibility studies for new projects, including wind farm project, relevant accreditation certificate (Accreditation certificate for Shanghai Electric Power Design Institute Co.,Ltd.. issued by Construction Department of China dated 19/08/2004 with Certificate No.: 090028-sj) has been verified. The permission for the FSR of the project was issued by the Development and Reform Committee of Shandong Province on 03/12/2008 which has also been provided and verified. The FSR can be considered as an independent and realistic assessment of the proposed CDM project activity, including the parameters listed therein which are used as input values in the investment analysis of the project.

Paragraph 54(a) of EB38: *The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed*.

The period of time between the finalization of the FSR (October 2008) and the investment decision (06/01/2009 and 16/11/2009, which is date of the board meeting for investment decision and the start date of the project on which the wind turbine purchase agreement was signed respectively) is sufficiently short for the assessors to confirm that it is not likely in the context of the underlying project activity that the input values would have materially changed. Therefore, SGS can confirm that the results of the FSR were the basis of the decision to proceed with the investment in the project and that the requirements of Paragraph 54(a), EB38 and paragraph 113 of VVM version 01.2 are fulfilled.



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Paragraph 54(b) of EB38: *The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE should validate the appropriateness of the values.*

The input values of parameters used for IRR calculation in version 02.1 of the PDD and IRR spreadsheet are checked against the approved FSR. It has been validated that all the listed input values are from the FSR for the project dated October 2008 and have been consistently applied in all calculation as per the guidance from paragraph 54(b) of EB38 and paragraph 6 of Guidelines on the Assessment of Investment Analysis version 03.1 ( Annex 58 to the EB51 report).

Paragraph 54(c) of EB38: *On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision.*

The following has been performed to confirm that the input values from the FSR are valid and applicable at the time of the investment decision:

**1. For fixed values in the IRR calculation:**

As discussed above, the input values used for the investment analysis of the project were valid and applicable at the time of the investment decision. In addition, as per further explanation in paragraph 6 of the Annex 58 to EB51 report, no information from a later point should be the basis for the investment decision. The application of fixed values is in line with this guidance.

In summary, given the information available at the time of the investment decision and also considering the latest information on these parameters as well as the applied standard and guideline, it is of SGS opinion that the assumption of fixed input values throughout the 20 year operation period is plausible and appropriate.

**2. For Power tariff:**

The applied tariff is 0.5622RMB/kWh excluding VAT (0.61RMB/kWh including VAT) in version 02.1 of the PDD which is taken from the approved FSR. Considering the FSR has been approved by the Development and Reform Committee of Shandong Province, the bus-bar tariff used in the PDD version 02.1 has been accepted by the NDRC and the bus-bar tariff is valid and applicable at the time of the investment decision.

The validation team checked the PDDs of the registered CDM wind power projects in Shandong Province of P.R.China and found the tariff used in the investment analysis in version 02.1 of the PDD is within the range of the tariffs for the registered CDM projects in Shandong Province. Table 1 illustrates the comparison of approved tariff between the proposed CDM project activity and registered CDM projects in Shandong Province.

**Table 1: Comparison of tariff between wind farm projects**

| Time (wind turbine installed) | Projects | UNFCCC Ref. No. | Registration date | Approved tariff RMB/kWh(including tax) |
|---|---|---|---|---|
| 2000 | Jimo Qingdao Huawei Wind Farm | Non-CDM ODA-funded project | N/A | **0.76** Lu Jia Ge Fa [2001] No.12 |
| | **The Electric Power Sector Reform Programme** | | | |
| 2006 | Rongcheng Dongchudao Wind Farm | 1008 | 2007-05-17 | **0.61** Fa Gai Jia Ge [2008]1876 issued on July 23 2008 by NDRC |
| 2006 | Qixia Tangshanpeng Windfarm Project | 1019 | 2007-06-09 | |
| 2008 | Laizhou Diaolongzui Wind Farm | 1010 | 2007-07-27 | |
| 2006 | Shandong Changdao 27.2 MW Wind Power Project | 1090 | 2008-01-21 | |
| 2008 | Shandong Haiyang Qiuershan Wind Power Project | 2021 | 2008-02-08 | |
| 2007 | Shandong Weihai 69 MW Wind Power Project | 1128 | 2008-02-27 | |
| 2006 | Shandong Tuoji Island Windfarm Project | 1789 | 2008-11-20 | |
| 2007 | Roncheng Wind Power Project, 48.75MW | 1755 | 2009-02-23 | |



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| | | | | |
|---|---|---|---|---|
| 2008 | Shandong Laizhou phase I Wind Power Project | 2530 | 2009-10-16 | |
| 2008 | Huadian Laizhou Wind Farm Project | 2831 | 2010-08-30 | |
| After 2008 | Shandong Luneng Dongying 48MW Wind Power Project | 2019 | 2008-12-16 | **0.61** Lu Jia Ge Fa [2009]250 issued on December 30 2009 by Shandong Pricing Bureau |
| | Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1) | 2438 | 2009-06-04 | |
| | Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1) | 2442 | 2009-06-13 | |
| | Shandong Laizhou Phase 2 | 2730 | Rejected | |
| | Datang Wendeng | N/A | Under validation | |
| | Shandong Penglai Wind Farm Phase II Project | N/A | Under validation | |
| | Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1) | 2436 | 2009-07-03 | **0.61** Lu Jia Ge Fa [2009]238 issued On December 11 2009 by Shandong Pricing Bureau |
| | Huaneng Changyi Phase I Wind Farm Project | 3353 | 2010-09-17 | |
| | Yantai Dongyuan 25.5 MW Wind Farm Project Phase I | 3616 | 2010-09-11 | |
| | Shandong Penglai Pingdingshan Wind Farm Project | 2397 | 2009-07-21 | **0.61** Lu Jia Ge Fa[2009]50 issued on March 13 2009 by Shandong Pricing Bureau |
| | Shandong Dongying 1st phase Wind Power Project | 2584 | 2010-03-12 | |
| | Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I | 2764 | 2010-03-21 | |
| | Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 3391 | 2010-07-19 | |
| | Shandong Huaneng Hekou Phase I Wind Farm Project | 3718 | 2010-10-07 | **0.61** Lu Jia Ge Fa [2010]32 issued on Februay 8 2010 by Shandong Pricing Bureau |
| | Malanshan 1.65MW Wind Farm project | N/A | Not CDM | |
| | Huaneng Shandong Binhai Wind Farm | N/A | Under validation | **0.61** Lu Jia Ge Fa [2010]90 issued on April 26 2010 by Shandong Pricing Bureau |
| | The proposed project | N/A | Under validation | **0.61** Lu Jia Ge Fa [2010]168 issued on August 23 2010 by Shandong Pricing Bureau |

Compliance with Annex32 of EB53:

Following EB53 Annex 32, SGS assessors performed the following to make sure relevant requirements are fulfilled.

Paragraph 4(c) of EB53 Annex 32: *In addition if the lower tariff cannot be fully attributed to policy changes in*



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*(b) above, the DOE is expected to explain the differences in tariffs in a quantitative manner with reference to other factors.*

According to the "*Information note on the highest tariffs applied by the EB in its decision on registration of projects in the P.R.China*" version 01 (/66/) dated June 2010 issued at EB54, the highest applicable wind tariff in Shandong province under review and published by EB is 0.76RMB/kWh (incl. VAT).

**CAR #4 was raised** by requesting the PP to make clarification on how the proposed tariff for the project activity has been considered suitable as with the application of the highest tariff issued for projects in the province, the IRR crosses the benchmark. And also further description is required on the value of IRR with CERs income in the PDD.

In response to this finding, the PP has justified that as shown in Table 1 above, all wind farm projects in Shandong Province applied the same electricity tariff which is 0.61RMB/kWh (incl. VAT) after Power Sector Reform. The highest applicable wind tariff published by EB in "information note on the highest tariffs applied by the EB in its decisions on registration of projects in P.R.China" refers to the project "Jimo Qingdao Huawei Wind Farm". Besides Jimo project which had been approved in January 2001 by Shandong Pricing Bureau, there is another project "Shandong Huaneng Shouguang 49.5MW Wind Farm Project" which adopted the highest applicable tariff on the analysis of project IRR.

Based on studies, the Jimo project was an early demonstration project, which was implemented at an early stage of the industry development in China and was funded by ODA. Also this project was implemented prior to the power sector reform, when the market was vertically integrated, and is therefore not comparable with the proposed project. In comparison with different policy and economic environment, the tariff of the Jimo Wind Farm approved before 2002 is not applicable to the proposed project. With regard to the Shandong Huaneng Shouguang 49.5MW Wind Farm Project, although the highest tariff was only sourced in FSR, the actual approved and applied tariff is still 0.61RMB/kWh. Despite the above facts, quantitative analysis is still made by the assessment team to ensure the applied tariff is appropriate.

If considering the proposed project faces the same financial environment with the target project Shandong Huaneng Shouguang 49.5MW Wind Farm Project, parameters that may have significant impact on the calculated IRR are listed below

| Project | Installed Capacity (MW) | Annual power output(MWh) | Average annual operation hours ( h ) | Static total invest-ment(million) | Average unit investment (RMB/kW) | Average annual O&M cost(million) | Tariff(RMB/kWh, incl. VAT) |
|---|---|---|---|---|---|---|---|
| Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 49.5 | 96,478.8 | 1949.07 | 541.76 | 10945 | 12.33 | 0.76 |
| The proposed project | 49.5 | 102,337 | 2067.41 | 535.954 | 10827 | 8.0152 | 0.61 |

From the above table it can be seen that these two projects are with the same installed capacity, and Shandong Huaneng Shouguang 49.5MW Wind Farm Project is with higher tariff of 0.76RMB/kWh (Incl. VAT). However, this project is also with higher investment and lower annual operation hours compared with the proposed project. If the proposed project is with the same level of investment, annual operation hours and tariff, the calculated project hypothetical IRR is 7.28% (/5/), which is also below the benchmark and it can still get to the conclusion that the project is additional. Please refer to the hypothetic IRR of the proposed project which is calculate with the same level of investment, annual operation hours and tariff of Shandong Huaneng Shouguang 49.5MW Wind Farm Project.

The tariff applied for the proposed project is appropriate as it is approved by the Shandong Pricing Bureau. Therefore, the validation team considers that the application of the tariff for the IRR calculation as has been done in the PDD version 02.1 is appropriate.

Moreover, the validation team checked the website of the National Development and Reform Commission (NDRC), which is the authority responsible for setting the tariff policy in China. Information from the NDRC,



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Notice on the tariff policy for wind power project (NDRC price [2009] No. 1906) (http://www.ndrc.gov.cn/jggl/jgqk/t20090724_292635.htm) confirms that the tariff applied in the PDD of the project is appropriate. **Thus CAR #4 is closed out.**

Besides, from our local and sectoral expertise, it is of SGS' opinion that the application of increase of the input values for the tariff would also require the consideration of the effects of inflation during the given period. Since the power tariff is regulated by the government (/49/), it is not expected to increase at the same rate as that of the inflation (please see Table 2 below). So, the isolated consideration of tariff fluctuation may only have limited representativeness for corresponding changes of financial attractiveness of power generation projects considering the current price structure in China.

**Table 2: Annual fluctuation rates for various price indices in 2002-2006(previous year value is 100)**

**(Information available from the official website of the National Bureau of Statistics of China: http://www.stats.gov.cn/tjsj/)**

| | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| **Electricity tariff** | 100.8 | 100.9 | 102.4 | 104.2 | 102.8 |
| **Raw materials** | 97.7 | 104.8 | 111.4 | 108.3 | 106.0 |
| **Wage** | 112.2 | 109.5 | 110.4 | 114.6 | 114.0 |

The discussion about the variation of tariff in the PDD is reasonable. It is validated that because of the tariff policies above, the tariff is not likely to increase to a degree (increase by 13.35%) where the IRR can reach the benchmark 8%.

In summary, it is of SGS opinion that the applied tariff is valid and applicable at the time of investment decision.

**3. For Total Static Investment:**

In China, the investment cost per kW for wind power projects is approximately 9,266RMB/kW (http://chinaneast.xinhuanet.com/jszb/2007-09/28/content_11276436.htm), and the investment cost per kilowatt of the proposed project is 10,827.356RMB/kW.

Also, comparison of investment cost per kW is done between the proposed CDM project activity and the 21 registered CDM wind power projects in Shandong Province of P.R.China and the comparison results confirm that the investment per kW used in the PDD version 02.1 is within the reasonable range of the investment per kW for the listed registered CDM projects. Table 3 illustrates the comparison of investment per kW between the proposed CDM project activity and the registered CDM projects in Shandong Province. The investment cost per kW for the proposed project activity is within the range of those for the registered projects.

**Table 3: Comparison of investment per MW between wind farm projects**

| Project name | Registration Date | UNFCCC Reference No | Investment Per kW (RMB/kW) |
|---|---|---|---|
| Rongcheng Dongchudao Wind Farm | 2007-5-17 | 1008 | 11,427.893 |
| Qixia Tangshanpeng Windfarm Project | 2007-6-9 | 1019 | 7,448.276 |
| Laizhou Diaolongzui Wind Farm | 2007-7-27 | 1010 | 8,977.504 |
| Shandong Changdao 27.2 MW Wind Power Project | 2008-1-21 | 1090 | 9,677.574 |
| Shandong Haiyang Qiuershan Wind Power Project | 2008-2-8 | 2021 | 10,022.667 |
| Shandong Weihai 69 MW Wind Power Project | 2008-2-27 | 1128 | 10,668.030 |
| Shandong Tuoji Island Windfarm Project | 2008-11-20 | 1789 | 8,320.833 |
| Shandong Luneng Dongying 48MW Wind Power Project | 2008-12-16 | 2019 | 10,845.417 |
| Roncheng Wind Power Project, 48.75MW | 2009-2-23 | 1755 | 10,297.436 |



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| | | | |
|---|---|---|---|
| Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1) | 2009-6-4 | 2438 | 9,692.323 |
| Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1) | 2009-6-13 | 2442 | 10,309.455 |
| Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1) | 2009-7-3 | 2436 | 10,254.141 |
| Shandong Penglai Pingdingshan Wind Farm Project | 2009-7-21 | 2397 | 12,139.583 |
| Shandong Laizhou phase I Wind Power Project | 2009-10-16 | 2530 | 10,430.303 |
| Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I | 2010-3-21 | 2764 | 9,262.680 |
| Shandong Dongying 1st phase Wind Power Project | 2010-3-12 | 2584 | 12,913.940 |
| Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 2010-7-19 | 3391 | 11,274.141 |
| Huadian Laizhou Wind Farm Project | 2010-8-30 | 2831 | 10,832.593 |
| Yantai Dongyuan 25.5 MW Wind Farm Project Phase I | 2010-9-11 | 3616 | 9,880.392 |
| Huaneng Changyi Phase I Wind Farm Project | 2010-9-17 | 3353 | 12,615.758 |
| Shandong Huaneng Hekou Phase I Wind Farm Project | 2010-10-07 | 3718 | 11,016.3636 |
| The proposed CDM project activity | | | 10,827.356 |

The sensitivity analysis was also performed within a variation of ±10% of the total investment. Further, the critical point for IRR crossing benchmark is analyzed as well, the result showed that if the total investment decreases 12.8%, the IRR will reach the benchmark 8%. The discussion about the variation of total static investment in the PDD is reasonable. It is validated that because of the price increase of equipments, raw materials and wage standard in China (please refer to table 2 above), the total static investment is not likely to decrease to a degree (decrease by 12.8%) where the IRR can reach the benchmark 8%.

Furthermore, the actual investment that has happened so far was provided to SGS by the PP for cross check. The actual contracts which have been signed by the project owner and equipment/service providers were provided by the PP including the turbine and affiliated equipments supply contract (Contract No.: GOLDWIND-1500-2009041 dated 16/11/2009), Construction Contract (Contract No.: RC02-7216-0536 dated 18/12/2009), Construction Contract for Transformer Substation (Contract No.: RC02-7216-1336 dated 18/12/2009), etc. By document review the actual contracts provided by the PP, It is found that most of the investment which is used for purchase of wind turbines, installation and grid connection which constitute more than 90% of the total static investment cost have already happened. With prices for the required equipment and commodities having been increasing in recent years based on the above information, it is of SGS opinion that it is unlikely that the total investment will decrease by 12.8% and the total static investment used in the PDD is valid and applicable at the time of investment decision.

**4. For O & M Cost:**

The annual O & M costs mainly include maintenance costs, salary and welfare, material cost and miscellaneous costs. The annual O & M costs/total static investment of the proposed project activity (1.50%) is compared with that of 21 registered CDM wind power projects in Shandong Province, China (between 1% to 5%) and found to be appropriate. Table 4 illustrates the comparison of Annual O & M cost/Total Static Investment between the proposed CDM project activity and the registered CDM projects in Shandong Province.

**Table 4: Comparison of Annual O & M cost/Total Static Investment between wind farm projects**

| UNFCCC Ref. No | Project name | Static Total Investment(million RMB) | Annual O&M Cost(million RMB) | Annual O&M cost/total static investment |
|---|---|---|---|---|



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| | | | | |
|---|---|---|---|---|
| 1008 | Rongcheng Dongchudao Wind Farm | 171.4184 | 1.9904 | 1.16% |
| 1019 | Qixia Tangshanpeng Windfarm Project | 162 | 7.8 | 4.81% |
| 1010 | Laizhou Diaolongzui Wind Farm | 437.6533 | 8.1408 | 1.86% |
| 1090 | Shandong Changdao 27.2 MW Wind Power Project | 263.23 | 6.17 | 2.34% |
| 2021 | Shandong Haiyang Qiuershan Wind Power Project | 150.34 | 3.68 | 2.45% |
| 1755 | Roncheng Wind Power Project, 48.75MW | 502 | N/A | N/A |
| 1128 | Shandong Weihai 69 MW Wind Power Project | 736.0941 | 17 | 2.31% |
| 1789 | Shandong Tuoji Island Windfarm Project | 99.85 | 3.08 | 3.08% |
| 2019 | Shandong Luneng Dongying 48MW Wind Power Project | 520.58 | 15.3 | 2.94% |
| 2438 | Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1) | 479.77 | 14.6141 | 3.05% |
| 2442 | Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1) | 510.318 | 14.349 | 2.81% |
| 2436 | Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1) | 507.58 | 14.28 | 2.81% |
| 2397 | Shandong Penglai Pingdingshan Wind Farm Project | 582.7 | 11.62 | 1.99% |
| 2530 | Shandong Laizhou phase I Wind Power Project | 516.3 | 10.18 | 1.97% |
| 2584 | Shandong Dongying 1st phase Wind Power Project | 639.24 | 7.69 | 1.20% |
| 2764 | Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I | 449.24 | 14.04 | 3.13% |
| 3391 | Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 558.07 | 12.33 | 2.21% |
| 2831 | Huadian Laizhou Wind Farm Project | 438.72 | 4.59 | 1.05% |
| 3616 | Yantai Dongyuan 25.5 MW Wind Farm Project Phase I | 251.95 | 6.55 | 2.60% |
| 3353 | Huaneng Changyi Phase I Wind Farm Project | 624.48 | 8.93 | 1.43% |
| 3718 | Shandong Huaneng Hekou Phase I Wind Farm Project | 545.31 | 11.75 | 2.15% |
| | The proposed CDM project activity | 535.9541 | 8.0152 | 1.50% |

The annual O&M costs mainly include maintenance costs, salary and welfare, material cost and miscellaneous costs.

### 4.1 Personal pay and Welfare

The salary was estimated based on 21 staff members and 48,000 RMB per staff annually and the welfare was set as 43% of the salary, which was validated to be consistent with the data in the page 143 of the FSR and also in compliance with local situation.

### 4.2 Maintenance cost and Insurance rate

The maintenance cost was set as 0.5% of fixed assets value for first warranty period (5 years of warranty period); 1.2% of fixed assets value for the rest forthcoming year. The percentage of the maintenance conforms to the information on page 143 of the FSR. It is the assessment team's opinion that more maintenance cost applied after the warranty period (5 years) is deemed to be reasonable and appropriate considering the operation of the wind turbines. The insurance rate was set as 0.10% of the fixed assets which is based on information on page 143 of the FSR.

### 4.3 Material Fee and Miscellaneous fee

The material fee and miscellaneous fee is expected to be 3 RMB/kW and 5 RMB/kW which is in line with page 143 of the FSR, which is deemed to be reasonable based on SGS's local expertise.

The sensitivity analysis was also performed within a variation of ±10% of the O&M costs. The result showed that the IRR was below the 8% benchmark within the variation of ±10% for the O&M costs. The IRR will reach the benchmark only if the O&M costs decrease 96% (significantly lower than the average value in Shandong Province), which would be impossible for the smooth operation of the proposed project.

The discussion about the variation of O&M cost in the PDD is reasonable. It is validated that because of the price increase of equipments, raw materials and wage standard in China, the O&M cost is not likely to decrease to a degree (decrease by 96%) where the IRR can reach the benchmark 8%.



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Based on the above information, it is of SGS opinion that the Annual O & M cost used in the PDD is valid and applicable at the time of investment decision.

**5. For Annual Power Generation:**

Observation and measurements of wind resource had been carrying out from April 2007 to May 2008 by professional organization as per the National Standards of GB/T 18710-2002 (http://www.cechina.cn/eletter/standard/wind/GBT18710-2002.pdf). The data from above wind resource measurement were corrected based on the historical meteorological data of more than 30 years (from 1973 to 2007), provided by Chengshantou metrological station. (Page 17 of the FSR)

The adjusted data was put in the professional WAPS software to calculate the annual theoretical power generation.

Factors impacting the annual power supply, such like air density, wind speed, trailing stream, wind turbine efficiency on the annual theoretical power generation, etc. have been taken into consideration by the professional organization when doing feasibility study and conclusion has been drawn in the approved FSR, the value of the annual power generation in PDD is derived from the same FSR.

SGS confirms that the above procedure for annual power supply estimation is common practice in China.

Comparison in annual running hour (which is a proxy of annual power supply) is done between the proposed CDM project activity and the 21 registered CDM wind power projects in Shandong Province of P.R.China by the validation team, the comparison results confirm that the annual running hour of the proposed CDM project activity used in the PDD version 02.1 is within the range of the annual running hour for the selected registered CDM projects. Table 5 illustrates the comparison of annual running hour between the proposed CDM project activity and the registered CDM projects in Shandong Province.

**Table 5: Comparison of annual output between wind farm projects**

| UNFCCC Ref. No | Project name | Annual operation hours(hr) |
|---|---|---|
| 1789 | Shandong Tuoji Island Windfarm Project | 1,969 |
| 2021 | Shandong Haiyang Qiuershan Wind Power Project | 1,926 |
| 1128 | Shandong Weihai 69 MW Wind Power Project | 2,029 |
| 1755 | Roncheng Wind Power Project, 48.75MW | 1,812 |
| 1090 | Shandong Changdao 27.2 MW Wind Power Project | 2,074 |
| 1008 | Rongcheng Dongchudao Wind Farm | 1,902 |
| 1010 | Laizhou Diaolongzui Wind Farm | 1,984 |
| 1019 | Qixia Tangshanpeng Windfarm Project | 1,682 |
| 2831 | Huadian Laizhou Wind Farm Project | 1,909 |
| 2530 | Shandong Laizhou phase I Wind Power Project | 1,941 |
| 2397 | Shandong Penglai Pingdingshan Wind Farm Project | 2,065 |
| 2764 | Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I | 1,818 |
| 3391 | Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 1,949 |
| 2584 | Shandong Dongying 1st phase Wind Power Project | 1,939 |
| 3616 | Yantai Dongyuan 25.5 MW Wind Farm Project Phase I | 2,027 |
| 2436 | Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1) | 2,069 |
| 3353 | Huaneng Changyi Phase I Wind Farm Project | 2,260 |
| 2438 | Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1) | 2,007 |
| 2442 | Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1) | 2,084 |
| 2019 | Shandong Luneng Dongying 48MW Wind Power Project | 1,982 |
| 3718 | Shandong Huaneng Hekou Phase I Wind Farm Project | 2,022 |
| | The proposed CDM project activity | 2,067 |

Annual output of the proposed project is 102,337MWh (=49.5MW*2,067.4Hr), based on above information, it is of SGS opinion that the annual power supply used in the PDD is valid and applicable at the time of investment decision.



Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

According to EB 48, PLF needs to be clarified how it is determined while there was no such information in version 01 of the PDD. Following the requirements prescribed in Annex 11 to EB 48 (/57/) meeting, it is verified that the plant load factor (23.6%=2067.4hour/8760 hour) in the version 02.1 of the PDD has been determined by a third party contracted by the project participant, Shanghai Electric Power Design Institute Co.,Ltd. and the plant load factor was provided to the government while applying the project activity for implementation approval.

The discussion about the variation of annual power generation in the PDD is reasonable. This parameter is subject to the plant load factor (PLF) which is validated as above, so the annual power generation is not likely to increase to a degree (increase by 13.35%) where the IRR can reach the benchmark 8%.

The input values of the parameters for IRR calculation, the calculation formulae used in the IRR calculation and the calculation results have been validated to be correct.

Following Annex 58 of EB51 Guidance on the Assessment of Investment Analysis version 03.1, it has been validated that the project IRR calculation of the project reflects the period of expected operation of the underlying project activity (technical lifetime which is 20 years), the fair value of the project activity assets at the end of the assessment period has been included as a cash inflow in the final year, the capital cost of the assets and their depreciation as an expense to the project were not treated both to constitute a double counting of this cost, and the cost of financing expenditures (i.e. loan repayments and interest) was not included as a direct cash outflow item in the IRR calculation spreadsheet. The project is applying a post-tax benchmark and in accordance with Guidance 11 of Annex 58 to EB 51 meeting report, the actual interest payable has been taken into account in the calculation of income tax. SGS assessors have checked that the interest has been calculated according to the prevailing commercial interest rates in the region by checking the official website of the People's Bank of China, http://www.pbc.gov.cn/detail.asp?col=460&ID=2483.

The investment analysis in Sub-step 2c under Section B.5 of the PDD shows that the project IRR of the project is 6.20% without CDM income and 8.15% with CDM income. The IRR calculation spreadsheet has been walked through by the validation team and it is confirmed that the IRR calculation in the IRR spreadsheet and PDD is the same as that in the FSR.

**6. Tax rate**

The taxes related to the proposed project were value added tax, income tax, education addition tax and city maintenance and construction tax.

**6.1 Value added tax**

The value added tax used in the IRR calculation sheet is 8.5%. It is confirmed by the assessment team this input value conforms to the national policy "Notice of the Ministry of Finance and the State Administration of Taxation about Policies regarding the Value Added Tax on Comprehensive Utilization of Resources and Other Products" (/58/) which is valid at the time finalizing the FSR. Following VVM version 01.2 paragraph 113, it is confirmed by the assessment team the input value of VAT used in the PDD is fully consistent with FSR which is the basis of the investment decision. And it is also confirmed by the assessment team that the time for board decision to invest in the project is sufficiently short for the input value of VAT to have materially changed. It is noted by the assessment team, after the FSR was finalized and approved by the Development and Reform Committee of Shandong Province, there were two new national policies (/59//60/) regarding VAT released. For cross checking purpose, the project IRR calculation was done applying the new VAT policies reaching a recalculated IRR of 6.75 % (the calculation was also provided in IRR spreadsheet). It is confirmed by the assessment team that the new tax policies have no impact on the additionality of the project.

**6.2 Income tax**

The income tax used in the IRR calculation sheet is 25% which complies with the national policy "Enterprise Income Tax Law of the People's Republic of China" and "Notice of the Ministry of Finance and State Administration of Taxation on Issues Relevant to Implementation of the List of Public Infrastructure Projects Enjoying Enterprise Income Tax Preferences" (/61//62/) which regulated that enterprise engaging in environmental protection business is exempted from income tax from the first to third year, and half income tax from the fourth to sixth year. There also exists loss offsetting under the calculation of income tax in FSR which causes a decrease of the income tax paid calculation, it is deemed to be conservative. It is also confirmed that the calculation of Income tax is fully consistent with the FSR which is the basis of the



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investment decision, thus it is accepted by the assessment team. It is confirmed that the income tax used in the investment analysis is valid and applicable at the time of the investment decision.

**6.3 Educational addition tax**

The educational addition tax used in the IRR calculation sheet is 3% which is in accordance with the national policy "Decision of the State Council on Amending the Interim Provisions on the Collection of Educational Surcharges" (/67/).

**6.4 City maintenance and construction tax**

The city maintenance and construction tax used in the IRR calculation sheet is 5% which is determined as per the national policy "Interim regulations on the city maintenance construction tax of the People's Republic of China" (/68/).

**7. Fair value**

The fair value of the proposed project activity assets at the end of the assessment has been included as a cash inflow in the final year, and the fair value of the project is verified to be 5% of the fixed asset, which is consistent with the value in the approved FSR and also confirmed to be determined as per the national policy "Notice Regarding The Executive Time of The Adjustment of The Fair Value of The Fixed Asset" issued by State Administration of Taxation on 14/09/2005.

**8. Depreciation rate**

Depreciation rate is set as 6.33% annually with a depreciation period of 15 year, which is consistent with the data in the FSR and also the determination of fair value as validated above. 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.

**9. Interest rate of long term loan**

The interest rate of long term loan used in the FSR is 7.47%, which is confirmed to be sourced from "Interest rate of long term loan Policy published by Monetary Policy Department, The People's bank of China" at the time finalizing the FSR in Oct 2008 (/63/). It is validated the value applied is valid and appropriate at the time of finalizing the FSR which is the basis for investment decision. Furthermore, it is also confirmed that the applied value is conservative as 7.47% is the highest value published by the people's bank of China after Oct 2008 until the time when this validation report is finalized.

#### *4.6.4.4 Sensitivity analysis*

Electricity sales revenue, Recovery of residue values of the fixed assets, Recovery of current capital, fixed assets investment, current capital and O&M costs are involved in the IRR calculation. Recovery of residue values of the fixed assets and Recovery of current capital does not constitute more than 20% of either total project costs or total project revenues and they do not have significant impact on the sensitivity analysis. It is the validation team's opinion that the parameters used in sensitivity analysis in the PDD version 02.1 (Investment, Tariff, Electricity Generation and O&M costs) constitute more than 20% of either total project costs or total project revenues and there are no other parameters having significant impact on the sensitivity analysis that are not included in the sensitivity analysis. The sensitivity analysis in Sub-step 2d shows that within a variation of ±10% of the critical parameters (Investment, Tariff, Electricity Generation and O&M costs), the IRR of the project does not exceed the benchmark IRR, and the variation of a critical parameter is not likely to reach a degree where the benchmark IRR can be exceeded. It shows that the conclusion regarding the economic unattractiveness of the project is robust to reasonable variations in the critical assumptions.

#### *4.6.4.5 Conclusion*

The input values of the parameters for IRR calculation, the calculation formulae used in the IRR calculation and the calculation results have been verified by the SGS financial expert. It is validated that the investment analysis is preformed in accordance with the Guidelines on the Assessment of Investment Analysis. The investment analysis in Sub-step 2c under Section B.5 of the PDD shows that the project IRR of the project is 6.20% without CDM income and 8.15% with CDM income. Therefore, in accordance with VVM paragraph 108-109, it was confirmed that the proposed project was not financially attractive without CDM support.



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### 4.6.5 Barrier analysis

Barrier analysis is optional as per the Additionality Tool and it was not applied in the PDD.

### 4.6.6 Common practice analysis

In step 4 of the PDD, common practice analysis was performed for the proposed CDM project activity.

In version 01 of the PDD, not enough information was given on the common practice analysis. **CL #5 was raised** requesting the PP to provide more information to further clarify the project is not common practice. After relevant information has been added in the revised PDD, **CL #5 is closed.**

According to the definitions of other activities similar to the proposed project activity in "Tool for the Demonstration and Assessment of Additionality (version 5.2)", projects are considered similar if they are in the same country/region and/or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc.

The project is connected to the North China Power Grid, which is composed of Beijing City, Tianjin City, Hebei Province, Shanxi Province, Shandong Province and Inner Mongolia autonomous region. Due to the differences in the aspects including the tariff, construction conditions, geographical environments and financing conditions in the several grids, projects in the Shandong Province are discussed in the common practice analysis. Through SGS assessors' local and sectoral expertise, SGS confirms that the geographical scope selected is appropriate.

The discussion in the PDD about common practice analysis has been validated by checking against the UN website of the registered projects, the Chinese DNA website and the "Statistics of domestic wind farm installation capacity in 2007" (/50/) (Shi Pengfei, available from http://www.cwea.org.cn/download/display_info.asp?id=25) which is commonly used in the PDDs for Chinese wind farm projects.

According to the analyses in the PDD and the definitions of other activities similar to the proposed project activity in the "Tool for the Demonstration and Assessment of Additionality (version 05.2)", there are no similar projects in Shandong province. The project is not common practice.

## 4.7 Application of Baseline Methodology and Calculation of Emission Factors

It is validated that ACM0002 version 12.1.0 has been correctly applied for determining the project emissions, leakage and the direct calculation of emission reductions in the PDD. All the methodological choices have been explained and correctly justified in Section B.6 of the PDD. Uncertainties in the GHG emissions estimates are properly addressed in the PDD.

***Baseline emissions (BEy)***

Baseline emissions are calculated using the below formula:

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

Where,

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

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (version 2).

As the project activity is the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity.

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



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

The following steps are taken as per the Tool to calculate the emission factor for an electricity system to determine the baseline emission factor.

The following steps are taken as per the Emission Factor Tool to determine the baseline emission factor.

**STEP1. Identify the relevant electric power system**

As per the Emission Factor Tool version 02, a project electricity system and a connected electricity system shall be defined. In version 02.1 of the PDD, the connected electricity system is defined as North China Power Grid. This has been confirmed to be in compliance with the delineation of electricity system defined by DNA of China.

**STEP2. Choose whether to include off-grid power plants in the project electricity system (optional)**

Option I: only grid power plants are included in the calculation was chosen.

**STEP3. Select a method to determine the operating margin (OM)**

It is validated that the option of simple OM and the ex-ante option with a 3-year generation-weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation, without requirement to monitor and recalculate the emissions factor (/40//41//42/) during the crediting period were selected for the project in version 02.1 of the PDD.

**STEP4. Calculate the operating margin emission factor according to the selected method**

It is validated that Simple OM is calculated using option B, based on data on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system. EFgrid,om,y is calculated as 1.0069 $tCO_2e/MWh$ in version 02.1 of the PDD. This has been verified to be in compliance with the methodology, the Emission Factor Tool and relevant EB guidance. Data from the China DNA were also checked to confirm that the calculated value of EFgrid,om,y is correct.

**STEP5. Identify the cohort of power units to be included in the build margin (BM)**

It is validated that Option (b), the set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently, is chosen for BM calculation. The build margin emission factor is *ex-ante* determined based on the most recent information available at validation in version 02.1 of the PDD.

**STEP6. Calculate the build margin emission factor ( $EF_{grid,BM,y}$ )**

$EF_{grid,BM,y}$ is calculated as 0.7802 $tCO_2e/MWh$ in the PDD version 02.1. This has been verified to be in compliance with the Emission Factor Tool and relevant EB guidance. Data from the China DNA were also checked to confirm that the calculated value of EFgrid,bm,y is correct.

**STEP7: Calculate the combined margin emissions factor ( $EF_{grid,CM,y}$ )**

This project is a wind farm project. It is validated that $w_{OM}$= 0.75 and $w_{BM}$= 0.25 in the PDD version 02.1 were used, which is in line with the requirement of the tool to calculate the emission factor for an electricity system. It is validated that the baseline emission factor, i.e., the combined margin emissions factor is calculated as 0.9502 $tCO_2e/MWh$ in version 02.1 of the PDD, which is ex-ante determined and fixed during the first crediting period of the project. It is consistent with the publication of 2009 Baseline Emission Factors for Regional Power Grids in China dated 02/07/2009. $EF_{grid,CM,y}$ is determined ex-ante and does not have to be updated during the first crediting period of the project.

***Project emissions (PEy)***

The proposed project is a wind power plant. Project emissions do not have to be taken into account according to ACM0002 (version 12.1.0). $PE_y$ =0$tCO_2e$.



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***Leakage(Ly)***

According to ACM0002 (version 12.1.0), the leakage for the proposed project is zero. $L_y$ =0t$CO_2$e.

***Emission Reductions (ERy)***

Emission reductions are calculated using the below formula:

$$ER_y = BE_y - PE_y - L_y$$

It is validated that data provided for the ex-ante estimation of CERs in Sections B.6.2 and B.6.3 of the PDD version 02.1 are in compliance with ACM0002 version 12.1.0. The original data used for the calculation of the grid emission factor used for the ex-ante estimation of CERs are from Official sources like China Energy Statistical Yearbook, China Electric Power Yearbook, IPCC. The calculation of grid emission factor is in compliance with the Emission Factor Tool and relevant EB guidance and the estimated annual power generation is from the FSR of the project.

It is validated that ACM0002 version 12.1.0 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 12.1.0. 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 electricity generation in the Feasibility Study Report (FSR) 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 12.1.0.

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*

The proposed project applies the approved consolidated monitoring methodology ACM0002 version 12.1.0 Consolidated methodology for grid-connected electricity generation from renewable sources. The following steps were taken to assess the monitoring plan of the proposed project.

### *4.8.1 Application of Monitoring Methodology and Monitoring Plan*

ACM0002 version 12.1.0 provides a consistent approach in the context of all parameters to be monitored and further information provided by the PDD.

Parameters that need to be monitored ($EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$) are listed in the PDD version 02.1 as per ACM0002 version 12.1.0. All parameters and data that are available at validation as listed in Section B.6.2 are consistent with ACM0002 version 12.1.0. It is validated that ACM0002 version 12.1.0 applies consistently for the choice of the option selected for monitoring baseline emissions in the PDD.

Grid emission factor is determined ex-ante as per ACM0002 version 12.1.0 and will be fixed during the first crediting period. The value of grid emission factor in the PDD version 02.1 is appropriately assessed and correct.

The monitoring plan provides for the collection and archiving of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$. It is possible to determine $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ with accuracy. As a wind farm project, the project emission is zero. The information given for the monitoring of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ is sufficient to ensure the verification of a proper implementation of the monitoring plan.

**CAR #6 was raised** requesting PP to provide a clear schematic diagram of the position of the meters of the project in the monitoring plan of the PDD. After relevant schematic diagram has been made in the revised PDD, **CAR #6 is closed out.**



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In the monitoring plan, $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ will be measured by designated meters installed in the project site. $EG_{facility,y}$ will be calculated based on the monitored data by formula $EG_{facility,y}=EG_{export,y} - EG_{import,y} - EG_{importbackup,y}$.

The readings of electricity meters will be continuously measured and monthly recorded. Data will be archived for 2 years following the end of the crediting period by means of electronic and paper backup. The accuracy level of electricity meters to measure parameter $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$is 0.5 and 1.0 respectively. Calibration of the meters will be carried out in accordance with relevant regulations.

### *4.8.2 Implementation of the monitoring plan*

It is validated that the monitoring approach is in line with current good practice and the monitoring plan ensures the verifiability of data quality and correctness and the delivery of high quality data. The formulae used to determine project's emission reductions (PEy=0) is clearly indicated and in compliance with ACM0002 version 12.1.0.

Through document review of the monitoring plan in the PDD and interview with the PPs, it has been validated that the PPs are capable of implementing the monitoring plan and the monitoring arrangements described in the monitoring plan are feasible within the project design (/18//19//20/).

QA/QC procedures for the monitoring of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ are described in Section B.7.1 of the PDD. The uncertainty level of monitored data is low as clearly stated in the PDD. The monitoring plan safeguards the proper operations of all data capture, data analysis and data compilation systems to be employed by the project participants. Monitored data will be clearly reproducible and comparable and will not be dependent on site-specific adjustments.

The authority and responsibility of project management is clearly described in the monitoring plan in Section B.7.2 of the PDD.

The authority and responsibility for registration, monitoring, measurement and reporting is clearly described in the PDD. Procedures for training of monitoring staff are identified in the monitoring plan and the training plan of the project.

The monitoring plan addresses the unique feature of the proposed CDM project activity and it describes all measures to be implemented for monitoring $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$. QA/QC procedures are described in the PDD. The monitoring plan provides information on the measuring equipment used to measure $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ and its positioning.

Procedures for maintenance of monitoring equipment and installations are identified in the maintenance plan of the project. Day-to-day records handling procedures, internal audit procedures and project performance review procedures are identified in Section B.7.2 of the PDD. **CAR #7 was raised** by requesting the PP to provide emergency plan in the PDD. The revised PDD was received and verified such information was provided. **Thus CAR #7 is closed out.**

Based on the information we gathered through document review of the monitoring plan in the PDD and interview with the project participants, the validation team has the opinion that the monitoring plan of the project is in compliance with the methodology applied and the project participants are capable of implementing the monitoring plan.

It is validated that the completion of the baseline methodology was completed on 02/06/2010 as provided in Section B.8 of the PDD version 02.1 and it is in consistency with the time line of the PDD history. All data required for the baseline determination are provided in a complete manner by Annex 3 of the PDD.

## *4.9 Environmental Impacts*

There are regulations in China that require an EIA for the project activity to be performed. It is validated that an EIA of the project activity has been carried out by Environmental Science Institute of Shandong Normal University, which is accredited by the State Environmental Protection Administration of the People's Republic of China (now known as the ministry of Environmental Protection of the People's Republic of China) (/8//9/). The EIA has been approved (/10/) by Shandong Province Environmental Protection Administration. The EIA shows that the project complies with environmental legislations in the People's Republic of China.



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Major content of the EIA has been presented in the PDD which include dust and air quality, noise, wastewater and sewage and solid wastes. Trans-boundary environmental impacts have been considered in the analysis in the EIA. As stated in the EIA, the project creates no adverse environmental effects and there are no identified environmental impacts from the project.

### *4.10 Local Stakeholder Comments*

Stakeholder consultation process is not required by regulations and laws in China. A stakeholder consultation process for the project activity has been performed as per CDM rules.

In February 2009, a public survey was conducted targeted at local residents living around the project site, the representatives from government and relevant organizations. The local stakeholders were invited to comment on the proposed project prior to the publication of the PDD on the UNFCCC website on 04/06/2010, this is in line with paragraph 128 of VVM version 01.2. A total of 50 questionnaires (/12//13/) were distributed based on the principle of representation and randomness in order that the public opinions and concerns are reflected. All the questionnaires were returned. It is validated that the project has performed the stakeholder consultation in accordance with CDM requirements.

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 think the proposed project will benefit the local environment and economy and they all support the project. According to comments from the stakeholders, it is not necessary to adjust the design, construction or operation of the proposed project.



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# 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 the UNFCCC website http://cdm.unfccc.int/Projects/Validation/DB/LUK30L2HNDIHJSTK3G2RP1S6959QG0/view.html and was open for comments from 04/06/2010 until 03/07/2010. Comments were invited through the UNFCCC CDM homepage.

## *5.2 Compilation of all comments received*

| Comment Number | Date Received | Submitter | Comment |
|---|---|---|---|
| 0 | N/A | N/A | N/A |

## *5.3 Explanation of how comments have been taken into account*

No comments were received during above mentioned commenting period.



Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

## 6. List of Persons Interviewed

| Date | Name | Position | Short Description of Subject Discussed |
|---|---|---|---|
| 27/07/2010 | Yao Zhongling | Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Wang Yanying | Guohua Resourceful (Rongcheng) Wind Power Generation Co. , Ltd. | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Yang Jing | Guohua Resourceful (Rongcheng) Wind Power Generation Co. , Ltd. | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Li Bing | Guohua Resourceful (Rongcheng) Wind Power Generation Co. , Ltd. | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Liu Xingguang | Guohua Resourceful (Rongcheng) Wind Power Generation Co. , Ltd. | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Zhang Libing | Rongcheng Development and Reform Commission | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Yao Yihong | EPA of Rongcheng | Legality of the project, Status of the project, Materials need to be provided for validation, etc. |
| 27/07/2010 | Chen Guilin | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010 | Hu Zongli | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010 | Zheng Puzheng | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010 | Yu Guang | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010 | Wang Maotong | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010 | Qu Guangming | Local resident | Stakeholder consultation, the local residents' attitude toward the project, etc. |
| 27/07/2010-28/07/2010 | Wang Wei | Guohua Energy Investment Co., Ltd. | PDD, Materials need to be provided for validation, etc. |
| 27/07/2010-28/07/2010 | Zhang Guangwei | Beijing Keji Consulting Ltd. | PDD, Materials need to be provided for validation, etc. |



Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

## 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):

| | |
|---|---|
| /1/ | PDD version 01 dated 02/06/2010 which is published for international stakeholder consultation, version 02.1 dated 02/12/2010 which is published for registration request. |
| /2/ | Feasibility Study Report of the project dated October 2008 for the proposed CDM project was prepared by Shanghai Electric Power Design Institute Co.,Ltd. |
| /3/ | IRR calculation spreadsheet for the project "Guohua Rongcheng Phase II Wind Farm Project" |
| /4/ | Baseline Emission Factor and ex-ante ER calculation spreadsheet |
| /5/ | Hypothetic IRR Spreadsheet of the Project "Guohua Rongcheng Phase II Wind Farm Project" |
| /6/ | Accreditation certificate for Shanghai Electric Power Design Institute Co.,Ltd.. issued by Construction Department of China dated 19/08/2004 with Certificate No.: 090028-sj) |
| /7/ | The approval for the project FSR issued by the Shandong Province Development and Reform Commission dated 03/12/2008 Document No.: [2008]No. 1401 |
| /8/ | Construction Project EIA Report of the project prepared by Environmental Science Institute of Shandong Normal University dated 03/07/2008 |
| /9/ | The accreditation certificate for Environmental Science Institute of Shandong Normal University to perform EIA issued by the State Environmental Protection Administration of the People's Republic of China dated 28/02/2008 (Certificate No.: SEIA Certificate Yi Zi No. 2403) |
| /10/ | The approval of Construction Project EIA Report of the project issued by Shandong Province Environmental Protection Administration dated 30/06/2008 |
| /11/ | The service agreement signed between the project owner and SGS dated May 2010 |
| /12/ | The survey questionnaires filled by the stakeholder representatives during the local stakeholder consultation process |
| /13/ | The attendance list of the stakeholder representatives |
| /14/ | The business license of the project owner Issued by the Industry and Commerce Administration Management Bureau of Shandong Province |
| /15/ | The ERPA signed with the CERs buyer dated 15/10/2009 |
| /16/ | Confirmation from the Chinese DNA regarding the project's application of CDM project dated 20/02/2009 |
| /17/ | The Implementation Schedule of the project |
| /18/ | The training plan of the project |
| /19/ | The maintenance plan of the project |
| /20/ | CDM monitoring plan and Emergency/Quality control plan of the project |
| /21/ | The wind turbine and affiliated equipments supply contract (Contract No.: GOLDWIND-1500-2009041dated 16/11/2009) |
| /22/ | Construction Contract (Contract No.: RC02-7216-0536 dated 18/12/2009), Construction Contract for Transformer Substation (Contract No.: RC02-7216-1336 dated 18/12/2009) |
| /23/ | Board meeting minute dated 06/01/2009 |
| /24/ | Installation schematic of the project |
| /25/ | The LoA from the People's Republic of China dated 30/01/2010 |
| /26/ | The LoA from Annex I country dated 17/01/2011 |
| /27/ | MoC for the project dated 21/12/2010 |
| /28/ | Notification to the DNA of China about the commencement of the project and its confirmation from the DNA dated 16/02/2009 approved on 20/02/2009 |
| /29/ | Notification to the UNFCCC secretariat dated 25/11/2009 |

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):

| | |
|---|---|
| /30/ | Information of DNA of China and UK<br>http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf |



Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

/31/ Confirming Authenticity of LoA from China http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2410.pdf
/32/ Email from the official of the DNA confirming Authenticity of LoA from UK
/33/ ACM0002 version 12.1.0 dated 26/11/2010
/34/ Procedures For Modalities Of Communication Between PPs And The Executive Board version 01 dated 13/02/2009 (EB45 annex 59)
/35/ Guidelines For Completing The Project Design Document (CDM-PDD) And The Proposed New Baseline And Monitoring Methodologies (CDM-NM) Version 07
/36/ http://cdm.unfccc.int/Projects/Validation/DB/LUK30L2HNDIHJSTK3G2RP1S6959QG0/view.html
/37/ The official website of the DNA of China. http://cdm.ccchina.gov.cn
/38/ Tool for the demonstration and assessment of additionality, version 05.2
/39/ Tool to calculate the emission factor for an electricity system, version 02
/40/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories
/41/ China Energy Statistical Yearbook
/42/ China Electric Power Yearbook
/43/ Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects (Ref no.: GuoDian Fa [2002](263))
/44/ Page 54, China Solar PV Report 2007, China Environment Science Press
/45/ Page 6 of Overview of Chinese Renewable Energy Development, NDRC/GEF/Word Bank China Renewable Energy Development Project, May 2004.
/46/ http://finance.21cn.com/news/cydt/2007/06/28/3319602.shtml
/47/ Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135MW or below issued by the General Office of the State Council, Decree No. 2002-6
/48/ http://www.zjjmw.gov.cn/zcfg/gjfg/2002/10/10/9318.shtml
/49/ http://politics.people.com.cn/GB/5752740.html
/50/ “Statistics of domestic wind farm installation capacity in 2007”, Shi Pengfei, available from http://www.cwea.org.cn/download/display_info.asp?id=25
/51/ EB 38 report dated 14/03/2008
/52/ Annex 58 to EB 51 report version 03.1 dated 15/01/2010
/53/ EB 41 report dated 02/08/2008
/54/ Validation and Verification Manual Version 01.2 dated 30/07/2010
/55/ Glossary of CDM terms, version 05
/56/ http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ (Request for clarification on use of approved methodology AM0005 for several projects in China)
/57/ EB 48 meeting dated 17/07/2009
/58/ Provisional Regulations of the People's Republic of China on Value-added Tax http://202.108.90.178/guoshui/action/GetArticleView1.do?id=544&flag=1
/59/ Notice of the Ministry of Finance and the State Administration of Taxation on Several Issues concerning the National Implementation of Value-added Tax Reform (FinTax[2008]No.170) http://www.chinatax.gov.cn/n8136506/n8136593/n8137537/n8138502/8745403.html
/60/ Notice of the Ministry of Finance and the State Administration of Taxation about Policies regarding the Value Added Tax on Comprehensive Utilization of Resources and Other Products (FinTax[2008]No. 156) http://www.chinatax.gov.cn/n8136506/n8136593/n8137537/n8138502/8714515.html
/61/ Enterprise Income Tax Law of the People's Republic of China is Officially Promulgated http://www.legalinfo.gov.cn/zhuanti/content/2010-09/28/content_2298906.htm?node=25857
/62/ Notice of the Ministry of Finance and State Administration of Taxation on Issues Relevant to Implementation of the List of Public Infrastructure Projects Enjoying Enterprise Income Tax Preferences http://czzz.mof.gov.cn/zhongguocaizhengzazhishe_daohanglanmu/zhongguocaizhengzazhishe_zhengcefagui/200811/t20081107_88549.html
/63/ Interest rate of long term loan Policy published by Monetary Policy Department, The People’s bank of China http://www.pbc.gov.cn/publish/zhengcehuobisi/631/2011/20110406165308868396674/20110406165308868396674_.html



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/64/ EB 50 annex 48
/65/ CDM modalities and procedures
/66/ Information note on the highest tariffs applied by the executive board in its decisions on registration of projects in the People's Republic of China
http://cdm.unfccc.int/Reference/Notes/reg_note07.pdf
/67/ Decision of the State Council on Amending the Interim Provisions on the Collection of Educational Surcharges
http://www.gov.cn/zwgk/2005-09/27/content_70440.htm
/68/ Interim regulations on the city maintenance construction tax of the People's Republic of China
http://www.gov.cn/banshi/2005-08/19/content_24817.htm



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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 Guohua Rongcheng Phase II 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/Means 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.<br>No findings were raised in this regard. | Plant design, implementation plan, feasibility study report (FSR), 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.<br>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.<br>No findings were raised in this regard. | Minutes, questionnaires and other documentation available for the process.<br>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 |
| 5. Additionality of the project | The FSR and approval for the FSR have been provided to and verified by SGS assessors. | Supporting document used in the investment analysis as well | No |



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| Issue | Findings | Source/Means of Verification | Further Action / Clarification / Information Required? |
|---|---|---|---|
| | The Spreadsheet for IRR calculation has been provided.<br>Evidence that the incentive from the carbon credits income was seriously considered in the decision to proceed with the project activity was provided, such as the FSR of the project, email communications between the project owner and the carbon credits buyer,etc.<br>The common practice analysis for the project has been performed to the satisfaction of the lead assessor.<br>No findings were raised in this regard. | as all data sources of parameters or assumptions used in PDD.<br>A spreadsheet for IRR calculation for the project.<br>Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity<br>Clarify how other activities similar to the proposed project activity are identified. | |
| 6. Application of methodology | Required parameters that will be monitored as per the applied methodology have been added in the PDD version 02.1.<br>Training plan, maintenance plan, operational manual and etc have been provided.<br>No findings were raised in this regard. | Evidence that required parameters will be monitored as per the applied methodology, QA/QC procedures will be in place, Training plan, maintenance plan, Spreadsheet for CERs calculation. | No |



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## 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 | Comments | Conclusion/CARs/ CLs |
|---|---|---|---|
| 1. All Parties involved have approved the project activity<br>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<br>1.1.1. The country is a Party to the Kyoto Protocol<br>1.1.2. Participation is Voluntary<br>1.1.3. 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<br>1.1.4. It refers to the precise proposed CDM project activity title in the PDD being submitted for registration | Annex 3, Clean Development Mechanism, Validation and Verification Manual, Version 01.1 (from this point forwarded referenced as VVM) - 49a-d /54a-b/125<br><br>Paragraph 37 CDM Modalities and procedures | Yes<br>The host Party P.R.China has ratified the Kyoto Protocol on 30/08/2002 and has appointed a DNA.<br>United Kingdom of Great Britain and Northern Ireland, has ratified the KP on 31/05/2002 and has appointed a DNA.<br>Refer to<br>http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf<br>LoA from China has been provided by the project participant. The LoA shows that China has ratified the KP, the project assists China in achieving sustainable development and is entered into voluntarily. The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration. The LoA from China is unconditional with respect to the aspects mentioned above. The LoA from China has been issued by the DNA of China, National Development and Reform Commission of the People's Republic of China.<br>The LoA from China is unconditional with respect to the aspects mentioned above. | ~~CAR #1~~<br>OK |



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| Requirement | Reference | Comments | Conclusion/CARs/ CLs |
|---|---|---|---|
| 2. | | In response to this finding, The LoA from United Kingdom of Great Britain and Northern Ireland dated 17/01/2011 has been provided by the project participant. United Kingdom of Great Britain and Northern Ireland ratified the Kyoto Protocol on 31/05/2002 and has appointed a DNA. The LoA shows that UK has ratified the KP and the project is entered into voluntarily. The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration. The LoA from UK is unconditional with respect to the aspects mentioned above. The LoA from UK has been validated to be in compliance with the requirements set out in paragraphs 45-48 of the VVM. The validation team has confirmed that the letter of approval was issued by the DNA of UK 'Department of Energy and Climate Change' and is valid for the project. By email confirmation with the officer (Alan Wyper) of the UK DNA Team, SGS has confirmed the authenticity of the LoA from UK for the project activity. Hence **CAR #1 is closed.** | |



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| Requirement | Reference | Comments | Conclusion/CARs/ CLs |
|---|---|---|---|
| 3. 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<br>Para 7 EB 50 Annex 48 | In PDD version 01 dated 02/06/2010, the project partcipants listed in the section A.3. are Guohua Resourceful (Rongcheng) Wind Power Generation Co.,Ltd. and Noble Carbon Credits Limited. SGS is contracted with Guohua Resourceful (Rongcheng) Wind Power Generation which is one of the PPs. This is in line with requirement from Annex 48 EB50. | OK |
| 3.1. 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 activity. | EB 30 Para. 41.<br>EB50 Annex 48 Para. 8 | The PPs listed in the PDD published at international stakeholder consultation are still listed in the PDD submitted with request for registration. | OK |
| 3.2. 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, the project owner, Guohua Resourceful (Rongcheng) Wind Power Generation Co.,Ltd., which has a contractual relationship with SGS is still listed in the PDD | 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



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| Requirement | Reference | Comments | Conclusion/CARs/ CLs |
|---|---|---|---|
| 3.3. 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 | N/A. The PPs listed in the PDD published at international stakeholder consultation are still listed in the PDD submitted with request for registration. | OK |
| 3.4. SGS may restart the validation activity through the new or revised contract with a different set of project participants by;<br>a. Indicating that the first validation contract has been terminated and;<br>b. Republishing the PDD or revised PDD for global stakeholder consultation. | EB50 Annex 48 Para.7-9<br>(If applicable) | N/A. SGS is contracted with Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. which is one of the PPs. This is in line with requirement from Annex 48 EB50. | OK |
| 3.5. The letter/s of approval are unconditional with respect to 1.1.1 to 1.1.4 above | VVM Para. 49/54 | The LoA from China was received from the PP and the assessment team has confirmed the authenticity of the LOA by checking the website of China DNA, http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2410.pdf.<br>The LoA from United Kingdom of Great Britain and Northern Ireland has been received from PP. By email confirmation with the officer (Alan Wyper) of the UK DNA Team, SGS has confirmed the authenticity of the LoA from UK for the project activity. Hence **CAR #1 is closed.** | ~~Pending~~<br>OK |



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| Requirement | Reference | Comments | Conclusion/CARs/ CLs |
|---|---|---|---|
| 4. 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<br><br>Marrakech Accords, CDM Modalities §29 and §30<br>Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a | LoA from China has been provided by the project participant. The LoA shows that China has ratified the KP, the project assists China in achieving sustainable development and is entered into voluntarily. The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration.The LoA from China is unconditional with respect to the aspects mentioned above. The LoA from China has been issued by the DNA of China, National Development and Reform Commission of the People's Republic of China.<br>The LoA from China is unconditional with respect to the aspects mentioned above.<br>CAR #1 was raised requesting the PP to provide the LoA from Annex I country. The LoA from United Kingdom of Great Britain and Northern Ireland has been received from PP. By email confirmation with the officer (Alan Wyper) of the UK DNA Team, SGS has confirmed the authenticity of the LoA from UK for the project activity. Hence **CAR #1 is closed.** | ~~CAR #1~~<br>OK |
| 5. 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. 128<br><br>Marrakech Accords, CDM Modalities, §40 | The final PDD has adopted the latest version (03.2) of PDD template available on the UNFCCC website. | OK |
| 6. The project design document is in accordance with the applicable CDM requirements for completing PDDs. | VVM Para. 57<br><br>Marrakech Accords, CDM Modalities, Appendix B, EB Decisions | CAR #2 was raised requesting the PPs to provide a MoC for the project. MoC dated 21/12/2010 has been submitted. CAR #2 is closed. | ~~CAR #2~~<br>OK |



Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.

**Table 2 - PDD**

| Checklist Question | Ref. ID | MoV* | Comments | 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<br>Guidelines for completing a CDM-PDD (PDD) section A.1 | | The project tile used in the PDD, "Guohua Rongcheng Phase II 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<br>PDD section A.1 | | Yes. The current version number (02.1) of the document is in the PDD section A.1. and this version is dated 02/12/2010 | OK |
| **A.2. Description of the Project Activity** | | | | |
| A.2.1. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately? | VVM Para.59<br>PDD section A.2 see also A.4, A.4.3 and B.3 | | Yes, the purpose of the project activity, type of technology used and the contribution of the project to sustainable development is described in Section A.2 of the PDD. | OK |
| A.2.2. Does the information provide the reader with a clear understanding of the proposed CDM activity? | VVM Para.60<br>PDD section A.2 see also A.4, A.4.3 and B.3 | | Yes, the information provides the reader with a clear understanding of the proposed CDM project activity. The proposed project is planned to utilize local renewable wind resources for power generation, which involves the installation of 33 sets of wind turbines with the nominal capacity of 1.5MW each, providing the total installed capacity of 49.5MW. It's estimated that the annual power output is 102,337MWh and annual runtime of the power plant is 2067.4 hours once the proposed project is put into operation. The power output will be delivered to the North China Power Grid (NCPG) via Shandong Power Grid. | OK |

| | | | | |
|---|---|---|---|---|
| A.2.3. Is all information provided consistent and in compliance with the actual situation or planning? | VVM Para.64<br>PDD section A.2 see also A.4, A.4.3 and B.3 | | Yes, through reviewing the FSR of the project, the Implementation Schedule of the project, site view and interview with PP, it is validated that the information provided in the PDD is consistent and in compliance with the actual situation/planning. | OK |
| A.2.4. Is all information provided consistent with details provided in further chapters of the PDD? | VVM Para.64<br>PDD section A.2 | | Yes, it is verified that the description in the PDD is accurate and complete. All information provided is consistent with details provided in further chapters of the PDD. | OK |
| **A.3. Project Participants** | | | | |
| A.3.1. Is the table required for the indication of project participants correctly applied? | VVM Para. 51<br>PDD section A.3 | | Yes. The table in A.3 of the PDD is correctly applied. Through document review of the LoAs and interview with the project participants, it has been validated that the two project participants have been approved by China and UK respectively. The LoAs from the two Parties have been provided and validated. | OK |
| A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular Annex 1)? | VVM Para. 51<br>PDD section A.3 | | All information provided is in consistency with details provided by further chapters of the PDD. Through document review and interview with the project owner, it has been confirmed that there are no entities other than those approved as project participants included in Section A.3 and annex 1 of the PDD. | 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)?<br>Are the latitude and longitude of the site indicated (decimal points) | VVM Para.64<br>PDD section A.4 | | The information provided in the PDD section A.4.1.4 on the location of the project activity allows for a clear identification of the site. The proposed project is located in Chengshan Town, Rongcheng City, Shandong Province, People's Republic of China. The coordinates of the proposed project location area are 122º26′-122º31′east longitude and 37º20′-37º23′ north latitude, and the coordinates of the substation centre is 122.515133º east longitude and 37.358828º north latitude. | OK |
| A.4.2. Does the proposed CDM project activity involve the alteration of existing installations or process? | VVM Para.64<br>PDD section A.4 | | No, the project activity is a new project and does not involve in the alteration of existing installations or processes. | OK |

| | | | | | |
|---|---|---|---|---|---|
| A.4.3. | Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites? | VVM Para.64<br>PDD section A.4 | | Yes. Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd. possesses ownership and license which will allow the implementation of the project at the project site. The business license of the project owner has been verified. | OK |
| A.4.4. | Is the category(ies) of the project activity correctly identified? | VVM Para.64<br>PDD section A.4 | | Yes. The category of the project activity is correctly identified.<br>Category: Renewable electricity in grid connected applications<br>Sectoral Scope: 1 Energy industries | OK |
| A.4.5. | Is all information provided in compliance with actual situation or planning as available by the project participants? | VVM Para.64<br>PDD section A.4<br>EB 52 Para. 13 | | Yes, all information provided is in compliance with actual situation and planning as available by the project participants. | OK |
| A.4.6. | Is the table required for the indication of projected emission reductions correctly applied? | VVM Para.64<br>PDD section A.4 | | The table used for the indication of projected emission reductions is correctly applied. Annual emission reductions are provided in PDD section A.4.4, the expected annual emission reduction is 97,240 tCO2e. | 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 | | Yes, the information on public funding provided conforms to the actual situation or planning as presented by the project participants. No indication that any public funding is involved. | 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 | | 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 | | The project receives no public funding from Annex I Parties. | OK |
| **B. Baseline and Monitoring Methodology** | | | | | |
| **B.1. Choice and Applicability** | | | | | |
| B.1.1. | Is the baseline methodology previously approved by the CDM Methodology Panel? | VVM Para.68<br>PDD section B.1 | | Yes. The project uses the approved consolidated methodology ACM0002 version 12.1.0. | OK |
| B.1.2. | Has the methodology (incl. the tools) been altered from the original version as referenced in the PDD? | VVM Para.69<br>PDD section B (B.1-B.2) | | Yes. ACM0002 version 12.1.0 is used in final version of the PDD. | OK |
| B.1.3. | Is the selected approved methodology applicable to the project activity in the PDD? | VVM Para.75/66a/68/73<br>PDD section B (B.1-B.2) | | Yes. ACM0002 is the methodology most applicable for this project.<br>The choice of ACM0002 version 12.1.0 is correctly justified in section B.2 of the PDD. ACM0002 version 12.1.0 refers to the *Tool for the demonstration and assessment of additionality*, Version 05.2 (hereinafter referred to as the Additional Tool) and the *Tool to calculate the emission factor for an electricity system*, Version 02 (hereinafter referred to as the Emission Factor Tool). | OK |
| B.1.4. | Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology? | VVM Para.75/66b/68<br>PDD section B (B.1-B.2) | | The project is the installation of a wind power plant. The geographic and system boundaries for the relevant electricity grid, the NCPG, can be clearly identified and information on the characteristics of the grid is available; the proposed project does not involve any onsite switching from fossil fuels to renewable energy source; the proposed project does not involve biomass fired power generation. The project is in conformance with all applicability criteria of ACM0002 version 12.1.0. | OK |

| | | | | | |
|---|---|---|---|---|---|
| **B.2. Project Boundary** | | | | | |
| B.2.1. | 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? Is there information on GHG emissions in proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology. | VVM Para.79/76 /67a<br>PDD section B.3 | | Yes. In the PDD, $CO_2$ is included in the baseline emission, $CH_4$ and $N_2O$ are not included in the baseline emission. $CO_2$, $CH_4$ and $N_2O$ 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 12.1.0. | OK |
| B.2.2. | In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system version 2 (wherever applicable) and the underlying methodology? | VVM Para.79<br>PDD section B.3<br>EB 50 Annex 14 | | Yes. North China Power Grid is correctly identified in accordance with EB guidance, ACM0002 version 12.1.0 and guidance from DNA of China. | OK |

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|---|---|---|---|---|
| B.2.3. Does the project boundary include the physical delineation of the proposed CDM project activity? | VVM Para.78/79<br>PDD section B.3 also see section A.4.3 | | 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. CO2 is included in the baseline emission, CH4 and N2O are not included in the baseline emission. CO2, CH4 and N2O 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 12.1.0. | OK |
| B.2.4. Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined? | VVM Para.76/79<br>PDD section B.3 also see section A.4.3 | | Yes. The project's spatial boundaries are clearly defined in Section B.3 of the PDD.<br>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. Therefore, the boundary of proposed project is within of NCPG. According to information from the Chinese DNA official website, NCPG is composed of Shandong Power Grid, Beijing Power Grid, Hebei Power Grid, Tianjin Power Grid, Shanxi Power Grid and Inner Mongolia Power Grid.<br>Through document review, site visit and interview with the project participants, it has been validated that the identified project boundary and the selected sources and gases is justified. | OK |
| **B.3. Identification of the Baseline Scenario** | | | | |
| B.3.1. 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 and is the application of the methodology and the discussion and determination of the chosen baseline transparent? | VVM Para.67b.80/82/86<br>PDD Section B.4/B.5 | | Yes. The baseline scenario is identified in the PDD transparently as per ACM0002 version 12.1.0. As per ACM0002 version 12.1.0, 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"*. Electricity supply from grid has been identified as the baseline scenario as per ACM0002 version 12.1.0. | OK |

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| B.3.2. | Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline scenario? This includes all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? | VVM Para.81/82/86a-d/83/84<br>PDD Section B.4/B.5 | | Yes. The baseline scenario is identified in the PDD transparently as per ACM0002 version 12.1.0.<br>As per ACM0002 version 12.1.0, 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"*. Electricity supply from grid has been identified as the baseline scenario as per ACM0002 version 12.1.0. | OK |
| B.3.3. | Is the choice of the baseline compatible with the available data? | VVM Para.86b-c/95<br>PDD Section B.4/B.5 | | Yes. The choice of the baseline is compatible with available data. Electricity supply from Grid (the baseline) is widely applied in the host country. | OK |
| B.3.4. | Is conservativeness addressed in the way of identifying the baseline? | VVM Para.90<br>PDD Section B.4/B.5 | | Yes. Conservativeness is addressed in the way of identifying the baseline. Electricity supply from Grid (the baseline) is in compliance with the methodology and it is widely applied in the host country. | OK |
| B.3.5. | Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios? | VVM Para.90/91<br>PDD Section B.4/B.5 | | Yes. Electricity supply from Grid (the baseline) is widely applied for wind farm projects in the host country. | OK |
| B.3.6. | 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.86e/85<br>PDD Section B.4/B.5 | | Yes. The baseline scenario is identified in the PDD transparently as per ACM0002 version 12.1.0 and it is verifiable. As per ACM0002 version 12.1.0, 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"*. Electricity supply from grid has been identified as the baseline scenario as per ACM0002 version 12.1.0. | OK |

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| **B.4. Additionality** | | | | |
| B.4.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps? | VVM Para.67d/95<br>PDD Section B.1/B.4/B.5 | | Please refer to B.4.2 | OK |
| B.4.2. In case of using the additionality tool:<br>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?<br>Are all steps followed in a transparent manner? | PDD Section B.1/B.4/B.5 | | Yes. The latest version (05.2) of the Additionality Tool during validation is used. All steps are followed in a transparent manner.<br>As per the Tool for the demonstration and assessment of additionality, the following steps are taken for the demonstration of the additionality of the project in section B.5 of the PDD.<br>Step 1. Identification of alternatives to the proposed project activity consistent with current laws and regulations;<br>Step 2. Investment Analysis;<br>Step 3. Barrier Analysis;(Not used);<br>Step 4. Common Practice Analysis. | OK |

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| B.4.3. 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<br>PDD Section B | | Yes. the sources and references(2006 IPCC guidelines for National Greenhouse Gas Inventories, China Energy Statistical Yearbook, China Energy Statistical Yearbook, China DNA website, etc) used in the project emission, baseline emission, leakage are listed in Section B.6.1 of the PDD.<br><br>All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;<br><br>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 12.1.0;<br><br>Relevant national and/or sectoral policies and circumstances (the website of China DNA) are considered and listed in the PDD;<br><br>The approved baseline methodology (ACM0002 version 12.1.0) 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 |

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| B.4.4. Is the discussion on additionality and the evidence provided consistent with the starting date of the project?<br>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 | VVM Para.102b<br>PDD Section B.5 | | The wind turbine purchase contract was signed on 16/11/2009 between the project owner and the wind turbine supplier. This date is taken as the project start date.<br>Before the project start date, the FSR in which CDM application is strongly suggested to alleviate the financial risk was finalized on 09/10/2008; The approval for the project was issued by the Development and Reform Committee of Shandong Province on 03/12/2008;<br>Board meeting minute dated 06/01/2009 showed that decision was made to make the project a CDM project activity;<br>On 15/10/2009, the ERPA was signed between the project owner and the CERs buyer;<br>The notification informing the DNA of China of the PP's intension to seek CDM status is dated 16/02/2009 and accepted by DNA on 20/02/2009 which is within six months of the project activity start date (16/11/2009).<br>In compliance with paragraph 98 of the VVM, the project is determined to be a new project activity with a start date after 02/08/2008. It is of SGS opinion that incentive of income from CDM has been seriously considered before the project started and continuing and real actions have been taken to secure CDM status for the project in parallel with its implementation. This is in compliance with paragraphs 96, 98 and 99 of the VVM.<br>Based on the above information, it is of the validation team's opinion that CDM was seriously considered before the project start date. | OK |

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| B.4.5. 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 and continuing actions available for validation and is this evidence authentic? | EB 49, annex.22 | | The period of time between the finalization of the FSR (October 2008) and the investment decision (06/01/2009 and 16/11/2009, which is date of the board meeting for investment decision and the start date of the project on which the wind turbine purchase agreement was signed respectively) is sufficiently short for the assessors to confirm that it is not likely in the context of the underlying project activity that the input values would have materially changed. Therefore, SGS can confirm that the results of the FSR were the basis of the decision to proceed with the investment in the project and that the requirements of Paragraph 54(a), EB38 are fulfilled. | OK |

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| B.4.6. If an investment analysis has been used, has it been demonstrated that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs? | VVM Para. 106, 107, 108 109 112a-c<br>PDD Section B.5 | | It has been validated that the *Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects* is 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.<br><br>The "*Interim Rules on Economic Assessment of Electrical 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 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 EB51 report Guidance on the assessment of investment analysis.<br><br>In sub-step 2c of the PDD version 02.1, the project IRR without and with CDM income is determined to be 6.20% and 8.15% respectively.<br><br><u>Compliance with paragraph 54 of EB38:</u><br><br>Following paragraph 54 of EB38, SGS assessors performed the following to make sure relevant requirements are fulfilled.<br><br><u>Paragraph 54(a) of EB38:</u><br><br>The parameters and inputs used for IRR calculation are from the Feasibility Study Report of the project which is valid and applicable at the time the decision to go ahead with the project was made. In China, FSR is required to be prepared by accredited third party. Assumptions and data sources for the economic evaluation of a project in the approved FSR are required to be based on relevant national standards and criteria. | ~~CAR #4~~<br>OK |

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| | | | The FSR dated October 2008 for the proposed CDM project was prepared by Shanghai Electric Power Design Institute Co.,Ltd., which is an independent third party entity accredited by the relevant national authority to carry out feasibility studies for new projects, including wind farm project, relevant accreditation certificate (Accreditation certificate for Shanghai Electric Power Design Institute Co.,Ltd.. issued by Construction Department of China dated 19/08/2004 with Certificate No.: 090028-sj) has been verified. The permission for the FSR of the project was issued by the Development and Reform Committee of Shandong Province on 03/12/2008 which has also been provided and verified. The FSR can be considered as an independent and realistic assessment of the proposed CDM project activity, including the parameters listed therein which are used as input values in the investment analysis of the project.<br><br>Paragraph 54(a) of EB38: *The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed*.<br><br>The period of time between the finalization of the FSR (October 2008) and the investment decision (06/01/2009 and 16/11/2009, which is the board meeting for investment decision and the start date of the project on which the equipment purchase agreement was signed respectively) is sufficiently short for the assessors to confirm that it is not likely in the context of the underlying project activity that the input values would have materially changed. Therefore, SGS can confirm that the results of the FSR were the basis of the decision to proceed with the investment in the project and that the requirements of Paragraph 54(a), EB38 are fulfilled.<br><br>Paragraph 54(b) of EB38: *The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE should validate the appropriateness of the values.*<br><br>The input values of parameters used for IRR calculation in version 02.1 of the PDD and IRR spreadsheet are checked against the approved FSR. It has been validated that all the listed input values are from the FSR for the project dated October 2008 and have been consistently applied in all calculation as per the guidance from paragraph 54(b) of EB38 and paragraph 6 of | OK |

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| | | | Guidelines on Investment Analysis (Annex 58 of EB51 meeting report).<br><br>Paragraph 54(c) of EB38: *On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision.*<br><br>The following has been performed to confirm that the input values from the FSR are valid and applicable at the time of the investment decision:<br><br>1. For fixed values in the IRR calculation:<br><br>As discussed above, the input values used for the investment analysis of the project were valid and applicable at the time of the investment decision. In addition, as per further explanation in paragraph 6 of the Annex 58 to EB51 report, no information from a later point should be the basis for the investment decision. The application of fixed values is in line with this guidance.<br><br>In summary, given the information available at the time of the investment decision and also considering the latest information on these parameters as well as the applied standard and guideline, it is of SGS opinion that the assumption of fixed input values throughout the 21.25 year period is plausible and appropriate.<br><br>2. For Power tariff:<br><br>The applied tariff (0.61RMB/kWh including VAT) in version 02.1 of the PDD is taken from the FSR. Considering the FSR has been approved by the Development and Reform Committee of Shandong Province, the bus-bar tariff used in the PDD version 02.1 has been accepted by the NDRC and the bus-bar tariff is valid and applicable at the time of the investment decision.<br><br>The validation team checked the PDDs of the registered CDM wind power projects in Shandong Province, China and found the tariff used in the investment analysis in version 02.1 of the PDD is within the range of the tariffs for the registered CDM projects in Shandong Province. Table 1 above under section 4.6.4 illustrates the comparison of approved tariff between the proposed CDM project activity and registered CDM projects in Shandong Province. | |

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| | | | Compliance with Annex32 of EB53:<br>Following EB53 Annex 32, SGS assessors performed the following to make sure relevant requirements are fulfilled.<br><br>Paragraph 4(c) of EB53 Annex 32: *In addition if the lower tariff cannot be fully attributed to policy changes in (b) above, the DOE is expected to explain the differences in tariffs in a quantitative manner with reference to other factors.*<br><br>According to the "*Information note on the highest tariffs applied by the EB in its decision on registration of projects in the P.R.China*" version 01 dated June 2010 issued at EB54, the highest applicable wind tariff in Shandong province under review and published by EB is 0.76RMB/kWh (incl. VAT).<br><br>**CAR #4 was raised** by requesting PP to make clarification on how the proposed tariff for the project activity has been considered suitable as with the application of the highest tariff issued for similar projects in the province, the IRR crosses the benchmark. And also further description is required on the value of IRR with CERs income in the registered PDD.<br><br>In response to this finding, PP has justified that as shown in Table 1 above, all wind farm project in Shandong Province applied the same electricity tariff which is 0.61RMB/kWh (incl. VAT) after Power Sector Reform. The highest applicable wind tariff refers to the project "Jimo Qingdao Huawei Wind Farm", besides Jimo project which had been approved in January 2001 by Shandong Pricing Bureau. There is another project "Shandong Huaneng Shouguang 49.5MW Wind Farm Project" which adopted the highest applicable tariff on the analysis of project IRR. | |

Based on studies, it is confirmed that the Jimo project was an early demonstration project, which was implemented at an early stage of the industry development in China and was funded by ODA. Also this project was implemented prior to the power sector reform, when the market was vertically integrated, and is therefore not comparable with the proposed project. In comparison with different policy and economic environment, the tariff of the Jimo Wind Farm approved before 2002 is not applicable to the proposed project. With regard to the Shandong Huaneng Shouguang 49.5MW Wind Farm Project, although the highest tariff was only sourced in FSR, the actual approved and applied tariff is still 0.61RMB/kWh, quantative analysis still made by the assessment team with reference the factors.

If considering the proposed project faces the same financial environment with the target project Shandong Huaneng Shouguang 49.5MW Wind Farm Project, parameters may have significant impact listed below

| Project | Installed Capacity (MW) | Annual power output(MWh) | Average annual operation hours (h) | Static total invest-ment(million) | Average unit investment (RMB/kW) | Average annual O&M cost(million) | Tariff(RMB/kWh, incl. VAT) |
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| Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 49.5 | 96,478.8 | 1949.07 | 541.76 | 10945 | 12.33 | 0.76 |
| The proposed project | 49.5 | 102,337 | 2067.41 | 535.954 | 10827 | 8.0152 | 0.61 |

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| | | | From the above table it can be seen that these two projects are with the same installed capacity, and Shandong Huaneng Shouguang 49.5MW Wind Farm Project is with higher tariff of 0.76RMB/kWh(Incl. VAT), however, this project is also with higher investment and lower annual operation hours compared with the proposed project. If the proposed project is with the same level of investment, annual operation hours and tariff, the calculated project hypothetical IRR is 7.28%, which is also below the benchmark and it can still get to the conclusion that the project is still additional. Please refers to the hypothetic IRR of the proposed project which is calculate with the same level of investment, annual operation hours and tariff of Shandong Huaneng Shouguang 49.5MW Wind Farm Project.<br><br>The tariff applied for the proposed project is appropriate as it is approved by the Shandong Development and Reform Commission. Therefore, the validation team considers that the application of the tariff for the IRR calculation as has been done in the PDD version 02.1 is appropriate. Hence CAR #4 is closed out.<br><br>Moreover, the validation team checked the website of the National Development and Reform Commission (NDRC), which is the authority responsible for setting the tariff policy in China. Information from the NDRC, Notice on the tariff policy for wind power project (NDRC price[2009] No. 1906) (http://www.ndrc.gov.cn/jggl/jgqk/t20090724_292635.htm) confirms that the tariff applied in the PDD of the project is appropriate.<br><br>Besides, from our local and sectoral expertise, it is of SGS' opinion that the application of increase of the input values for the tariff would also require the consideration of the effects of inflation during the given period. Since the power tariff is regulated by the government, it is not expected to increase at the same rate as that of the inflation (please see Table 2 below). So, the isolated consideration of tariff fluctuation may only have limited representativeness for corresponding changes of financial attractiveness of power generation projects considering the current price structure in China.<br><br>The discussion about the variation of tariff in the PDD is reasonable. It is validated that because of the tariff policies above, the tariff is not likely to increase to a degree (increase by 13.35%) where the IRR can reach the benchmark 8%.<br><br>In summary, it is of SGS opinion that the applied tariff is valid and applicable | |

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| | | | at the time of investment decision.<br><br>**3. For Total Static Investment:**<br><br>In China, the investment cost per kW for wind power projects is approximately 9,266RMB/kW (http://chinaneast.xinhuanet.com/jszb/2007-09/28/content_11276436.htm), and the investment cost per kilowatt of the project is 10,769RMB/kW.<br><br>Also, comparison of investment cost per MW is done between the proposed CDM project activity and the 20 registered CDM wind power projects in Shandong Province, China and the comparison results confirm that the investment per MW used in the PDD version 02.1 is within the range of the investment per MW for the registered CDM projects. Table 3 illustrates the comparison of investment per MW between the proposed CDM project activity and the registered CDM projects in Shandong Province. The investment cost per MW for the proposed project activity is within the range of those for the registered projects.<br><br>Furthermore, the actual investment that has happened so far was provided to SGS by the PP for cross check. The actual contracts which have been signed by the project owner and equipment/service providers provided by the PP including the turbine and affiliated equipments supply contract (Contract No.: GOLDWIND-1500-2009041dated 16/11/2009), Construction Contract (Contract No.: RC02-7216-0536 dated 18/12/2009), Construction Contract for Transformer Substation (Contract No.: RC02-7216-1336 dated 18/12/2009), etc, confirmed that the total static investment value used in the FSR/PDD is appropriate.<br><br>Based on the above information, it is of SGS opinion that the total static investment used in the PDD is valid and applicable at the time of investment decision.<br><br>The discussion about the variation of total static investment in the PDD is reasonable. It is validated that because of the price increase of equipments, raw materials and wage standard in China, the total static investment is not likely to decrease to a degree (decrease by 12.8%) where the IRR can reach the benchmark 8%. | |

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| | | | **4. For O & M Cost:**<br><br>The annual O & M costs mainly include maintenance costs, salary and welfare, material cost and other costs. The annual O & M costs/total static investment of the proposed project activity (1.50%) is compared with that of 21 registered CDM wind power projects in Shandong Province, China (between 1% to 5%) and found to be appropriate. Table 4 illustrates the comparison of Annual O & M cost/Total Static Investment between the proposed CDM project activity and the registered CDM projects in Shandong Province. Based on the above information, it is of SGS opinion that the annual O & M cost used in the PDD is valid and applicable at the time of investment decision.<br><br>The discussion about the variation of O&M cost in the PDD is reasonable. It is validated that because of the price increase of equipments, raw materials and wage standard in China, the O&M cost is not likely to decrease to a degree (decrease by 96%) where the IRR can reach the benchmark 8%.<br><br>**5. For Annual Power Generation:**<br><br>Observation and measurements of wind resource had been carrying out from April 2007 to May 2008 by professional organization as per the National Standards of GB/T 18710-2002 (http://www.cechina.cn/eletter/standard/wind/GBT18710-2002.pdf). The data from above wind resource measurement were corrected based on the historical meteorological data of more than 30 years (from 1973 to 2007), provided by Chengshantou metrological station. (Page 17 of the FSR)<br><br>The adjusted data was put in the professional WAPS software to calculate the annual theoretical power generation.<br><br>Factors impacting the annual power supply, such like air density, wind speed, trailing stream, wind turbine efficiency on the annual theoretical power generation, etc. have been taken into consideration by the professional organization when doing feasibility study and conclusion has been drawn in the approved FSR, the value of the annual power generation in PDD is derived from the same FSR.<br><br>SGS confirms that the above procedure for annual power supply estimation is common practice in China. | |

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| | | | Comparison in annual running hour (which is a proxy of annual power supply) is done between the proposed CDM project activity and the 20 registered CDM wind power projects in Shandong Province, China by the validation team, the comparison results confirm that the annual running hour of the proposed CDM project activity used in the PDD version 02.1 is within the range of the annual running hour for the selected registered CDM projects. Table 5 illustrates the comparison of annual running hour between the proposed CDM project activity and the registered CDM projects in Shandong Province.<br><br>Annual output capacity of the proposed project is 102,337MWh (=49.5MW*2,067.4Hr), based on above information, it is of SGS opinion that the annual power supply used in the PDD is valid and applicable at the time of investment decision.<br><br>According to EB 48, PLF needs to be clarified how it is determined while there was no such information in version 01 of the PDD. Following the requirements prescribed in Annex 11 to EB 48 meeting, it is verified that the plant load factor (23.6%=2067.4hour/8760 hour) in the version 02.1 of the PDD has been determined by a third party contracted by the project participant, Shanghai Electric Power Design Institute Co.,Ltd. and the plant load factor was provided to the government while applying the project activity for implementation approval.<br><br>The discussion about the variation of annual power generation in the PDD is reasonable. This parameter is subject to the plant load factor (PLF) which is validated as above, so the annual power generation is not likely to increase to a degree (increase by 13.35%) where the IRR can reach the benchmark 8%.<br><br>The input values of the parameters for IRR calculation, the calculation formulae used in the IRR calculation and the calculation results have been validated to be correct. | |

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| | | | Following Annex 58 of EB51 Guidance on the Assessment of Investment Analysis version 03, it has been validated that the project IRR calculation of the project reflects the period of expected operation of the underlying project activity (technical lifetime which is 20 years), the fair value of the project activity assets at the end of the assessment period has been included as a cash inflow in the final year, the capital cost of the assets and their depreciation as an expense to the project were not treated both to constitute a double counting of this cost, and the cost of financing expenditures (i.e. loan repayments and interest) was not included as a direct cash outflow item in the IRR calculation spreadsheet. The project is applying a post-tax benchmark and in accordance with Guidance 11 of Annex 58 to EB 51 meeting report, the actual interest payable has been taken into account in the calculation of income tax. SGS assessors have checked that the interest has been calculated according to the prevailing commercial interest rates in the region by checking the official website of the People's Bank of China, http://www.pbc.gov.cn/detail.asp?col=460&ID=2483.<br><br>The investment analysis in Sub-step 2c under Section B.5 of the PDD shows that the project IRR of the project is 6.20% without CDM income and 8.15% with CDM income. The IRR calculation spreadsheet has been walked through by the validation team and it is confirmed that the IRR calculation in the IRR spreadsheet and PDD is the same as that in the FSR.<br><br>Electricity sales revenue, Recovery of residue values of the fixed assets, Recovery of current capital, fixed assets investment, current capital and O&M costs are involved in the IRR calculation. Recovery of residue values of the fixed assets and Recovery of current capital does not constitute more than 20% of either total project costs or total project revenues and they do not have significant impact on the sensitivity analysis. It is the validation team's opinion that the parameters used in sensitivity analysis in the PDD version 02.1 (Investment, Tariff, Electricity Generation and O&M costs) constitute more than 20% of either total project costs or total project revenues and there are no other parameters having significant impact on the sensitivity analysis that are not included in the sensitivity analysis. The sensitivity analysis in Sub-step 2d shows that within a variation of ±10% of the critical parameters (Investment, Tariff, Electricity Generation and O&M costs), the IRR of the project does not exceed the benchmark IRR, and the variation of a critical parameter is not likely to reach a degree where the benchmark IRR can be exceeded. It shows that the conclusion regarding the economic | |

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| | | | unattractiveness of the project is robust to reasonable variations in the critical assumptions. | |
| B.4.7. 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. 110<br>PDD Section B.5 | | The Benchmark IRR of 8% is from the Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects 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.<br>The "Interim Rules on Economic Assessment of Electrical 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 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 EB51 report. | OK |
| B.4.8. If a barrier analysis has been used, has it been 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? | VVM Para.<br>114<br>115a-b/116<br>PDD Section B.5 | | Not applicable. Barrier analysis was not applied in the PDD. | OK |
| B.4.9. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios? | VVM Para.<br>105<br>PDD Section B.5 | | Yes, the discussion on additionality is consistent with the identification of all plausible and credible baseline scenarios. The IRR of the project is below the benchmark IRR of 8% without CERs income and It becomes financially attractive to the investor with CERs income. | OK |

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| B.4.10. 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 113 EB 50 Annex 13 | | Not applicable. Barrier analysis was not applied in the PDD. | OK |
| B.4.11. 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<br>PDD Section A.4.3/B.5 | | 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 |
| B.4.12. Has it been shown that the project is not common practice? | VVM Para. 119a/b<br>PDD Section B.5 | | In version 01 of the PDD, not enough information was given on the common practice analysis. CL #5 was raised requesting the PP to provide more information to further clarify the project is not common practice.<br>After relevant information has been provided in the revised PDD, CL #5 is closed. | ~~CL #5~~<br>OK |
| B.4.13. 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<br>PDD Section B.5 | | There are no project activities identified as projects similar to the project. | OK |

| B.5. Application of the Baseline Methodology | | | | |
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| B.5.1. Has the approved methodology been applied correctly for determining **baseline emissions**? | VVM Para. 91d<br>PDD Section B (B.6.1 -B.71) | | Baseline emissions are determined as per ACM0002 version 12.1.0 and the Tool to calculate the emission factor for an electricity system under Section B.6.1 of the PDD.<br>Baseline emissions are calculated using the below formula:<br>$BEy=EG_{PJ,y}*EF_{grid,CM,y}$<br>The following steps are taken as per the Tool to calculate the emission factor for an electricity system to determine the baseline emission factor.<br>STEP1. Identify the relevant electric power system (North China Power Grid is correctly identified as the grid to which the project is connected and the connected electricity system is identified as the Northeast China Power Grid and Central China Power Grid in accordance with EB guidance, ACM0002 version 12.1.0 and guidance from the DNA of China)<br>STEP2. Choose whether to include off-grid power plants in the project electricity system. It is validated that the PP chose the option that only grid power plants are included in the calculation of emission factor<br>STEP3. Select an operating margin (OM) method (The generation from low cost/must run resources constitute is less than 50% of the total generation, which accords with the defined condition of Option Simple OM. Simple OM is selected to calculate OM)<br>STEP4. Calculate the operating margin emission factor(EFgrid,OM,y)according to the selected method (the OM emission factor is calculated to be 1.0069tCO2/MWh in accordance with the Tool)<br>STEP5. Identify the cohort of power units to be included in the build margin (Option(b) and Option 1 is selected)<br>STEP6. Calculate the build margin emission factor(EFgrid,BM,y ) (the BM emission factor is calculated to be 0.7802tCO2/MWh in accordance with the Tool)<br>STEP7: Calculate the combined margin emissions factor (EFgrid,CM,y)<br>EFgrid,CM,y is calculated as 0.9502tCO2e/MWh | OK |

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| B.5.2. | Has the approved methodology been applied correctly for determining **project emissions**? | VVM Para. 90/91d PDD Section B (B.6.2-B.71) | | Yes. ACM0002 version 12.1.0 has been correctly applied for determining the project emissions. Project emissions should not be taken into account according to ACM0002 (version 12.1.0). $PE_y$ =0tCO2e. | OK |
| B.5.3. | Has the approved methodology been applied correctly for determining **leakage**? | VVM Para. 91d PDD Section B (B.6.2 -B.71) | | Yes. ACM0002 version 12.1.0 has been correctly applied for determining the project leakage. Leakage is 0. | OK |
| B.5.4. | Where applicable, has the approved methodology been applied correctly for the **direct calculation of emission reductions?** | VVM Para 88/91d PDD Section B (B.6.2 -B.71) | | Yes. ACM0002 version 12.1.0 has been correctly applied for the direct calculation of emission reductions.<br>Emission reductions are calculated using the below formula:<br>$ER_y = BE_y - PE_y - L_y$ | OK |
| B.5.5. | 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.71) | | Not applicable. The equations in the PDD have been applied in compliance with ACM0002 version 12.1.0. | OK |
| B.5.6. | Are uncertainties in the GHG emissions estimates properly addressed in the documentation? | PDD Sections B.5-C | | Yes. Uncertainties in the GHG emissions estimates are low, which is addressed in the PDD.<br>Data provided for the ex-ante estimation of CERs in Section B.6.2 and B.6.3 of the PDD are in compliance with ACM0002 version 12.1.0. 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 FSR of the project. | OK |

| B.6. Ex-ante Data and Parameters Used | | | | |
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| B.6.1. Are the data provided in compliance with the methodology? | VVM Para. 91/67c PDD Section B.6.3B.6.4 | | Yes. Data provided in Section B.6.2 and B.6.3 of the PDD is in compliance with ACM0002 version 12.1.0. | OK |
| B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted? | VVM Para. 91a/b PDD Section B.6.3/B.6.4 | | Yes. Data used are from official sources like China Energy Statistical Yearbook, China Electric Power Yearbook and IPCC. The estimated annual power generation is from the FSR of the project. | OK |
| B.6.3. Is the vintage of the baseline data correct? | PDD Section B.6.3/B.6.4 | | Yes. The vintage of the baseline data is correct. | OK |
| B.6.4. Is all the data appropriate and correctly applied to the CDM project activity? | VVM Para. 91c PDD Section B.6.3/B.6.4 | | Yes, it has been validated that the output is a conservative estimate of the emission reductions. | OK |
| B.6.5. 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 | | Parameter that is used in the CERs 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.6.6. Is sampling approach used for any parameters? | EB 50 Annex 30 Para. 30 | | Yes. Parameters have been fully checked. | OK |

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| B.6.7. Where applicable, the plant load factor shall be defined ex-ante in the CDM-PDD according to one of the following three options:<br>(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;<br>(b) The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company) | EB 48 Annex 11 | | According to EB 48, PLF needs to be clarified how it is determined while there was no such information in version 01 of the PDD. Following the requirements prescribed in Annex 11 to EB 48 meeting, it is verified that the plant load factor (23.6%=2067.4hour/8760 hour) in the version 02.1 of the PDD has been determined by a third party contracted by the project participant, Shanghai Electric Power Design Institute Co.,Ltd. and the plant load factor was provided to the government while applying the project activity for implementation approval. | OK |
| **B.7. Calculation of Emissions Reductions** | | | | |
| B.7.1. Has the approved methodology been applied correctly for determining **emission reductions**? | VVM Para. 91d<br>PDD Section A.4.4/B.6 | | Yes. ACM0002 version 12.1.0 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/calculations have been followed | OK |
| B.7.2. Are the emission reduction calculations documented in a complete and transparent manner? | VVM Para. 91e<br>PDD Section B.6 | | Yes. The PDD documented how each equation is applied in a manner that enables readers to reproduce the calculation. | OK |
| B.7.3. Is the projection based on same procedures as used for later monitoring or acceptable alternative models? | PDD Section B.6 | | Yes. 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. | OK |

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| B.7.4. Is the calculation of the emission reduction correct? | VVM Para. 91e PDD Section B.6 | | Yes. The formulae to calculate emissions and emission reductions have been checked and they are correct. All estimates can be replicated using the data and parameter set out in the PDD. | OK |
| **B.8. Emission Reductions** | | | | |
| B.8.1. Is the form/table required for the indication of projected emission reductions correctly applied? | PDD Section A.4.4/ Section B.6 | | Yes. The tables required for the indication of projected emission reductions are correctly applied. | OK |
| B.8.2. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period? | PDD Section A.4.4/ Section B.6 | | Yes. The projection is in line with the envisioned time schedule for the project's implementation and the indicated crediting period. | OK |
| **B.9. Monitoring Methodology** | | | | |
| B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided by the PDD?<br><br>Are all parameters and data that are available at validation consistent with the approved methodology. Has this data been interpreted and applied correctly? | VVM Para. 67e PDD Section B.7-B.8 see also Annex 4 | | ACM0002 version 12.1.0 provides a consistent approach in the context of all parameters to be monitored and further information provided by the PDD.<br>Data that need to be monitored are listed in the PDD as per ACM0002 version 12.1.0.<br>All parameters and data that are available at validation as listed in Section B.6.2 are consistent with ACM0002 version 12.1.0.<br><br>Grid emission factor is determined ex-ante as per ACM0002 version 12.1.0 and will be fixed during the first crediting period. The value of grid emission factor in the PDD version 02.1 is appropriated assessed and correct. | OK |

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| B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions? | PDD Sections B and C | | Yes. ACM0002 version 12.1.0 applies consistently for the choice of the option selected for monitoring baseline emissions. Baseline emission factor is determined ex-ante. Only $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ need to be monitored. | OK |
| **B.10. Data and Parameters Monitored** | | | | |
| B.10.1. 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<br>PDD Section B.7-B.7.2 | | **CAR #6 was raised** requesting PP to provide a clear schematic diagram of the position of the meters of the project in the monitoring plan of the PDD. After relevant correction has been made in the revised PDD, **CAR #6 is closed out.**<br><br>The monitoring plan provides for the collection and archiving of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$. It is possible to determine $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ with accuracy. As a wind farm project, the project emission is zero. The information given for the monitoring of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ is sufficient to ensure the verification of a proper implementation of the monitoring plan.<br><br>In the monitoring plan, $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ will be measured by bidirectional meters installed in the project site. $EG_{facility,y}$ will be calculated based on the monitored data by deducting $EG_{import,y}$ and $EG_{importbackup,y}$ from $EG_{export,y}$.<br><br>The readings of electricity meters will be continuously measured and monthly recorded. Data will be archived for 2 years following the end of the crediting period by means of electronic and paper backup. The accuracy level of electricity meters is 0.5 for meters installed in the main line and 1.0 for the meter installed in the back up line. Calibration of the meters will be carried out in accordance with relevant regulations.<br><br>It is validated that the monitoring approach is in line with current good practice and the monitoring plan ensures the verifiability of data quality and correctness and the delivery of high quality data. The formulae used to determine project's emission reductions (PEy=0) is clearly indicated and in compliance with ACM0002 version 12.1.0. | ~~CAR #6~~<br>~~CAR #7~~<br>OK |

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| | | | QA/QC procedures for the monitoring of $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ are described in Section B.7.1 of the PDD. The uncertainty level of monitored data is low as clearly stated in the PDD. The monitoring plan safeguards the proper operations of all data capture, data analysis and data compilation systems to be employed by the project participants. Monitored data will be clearly reproducible and comparable and will not be dependent on site-specific adjustments.<br><br>The authority and responsibility of project management is clearly described in the monitoring plan in Section B.7.2 of the PDD.<br><br>The authority and responsibility for registration, monitoring, measurement and reporting is clearly described in the PDD. Procedures for training of monitoring staff are identified in the monitoring plan and the training plan of the project.<br><br>The monitoring plan addresses the unique feature of the proposed CDM project activity and it describes all measures to be implemented for monitoring $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$. QA/QC procedures are described in the PDD. The monitoring plan provides information on the measuring equipment used to measure $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ and its positioning.<br><br>Procedures for maintenance of monitoring equipment and installations are identified in the maintenance plan of the project. Day-to-day records handling procedures, internal audit procedures and project performance review procedures are identified in Section B.7.2 of the PDD. **CAR #7 was raised** by requesting PP to provide emergency plan in the PDD. The revised PDD was received and verified such information was provided. **Thus CAR #7 is closed out.** | |
| B.10.2. 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 | | Yes, the choices of project GHG indicators are reasonable and in conformance with the methodology applied. | OK |
| B.10.3. Will it be possible to determine the specified project GHG indicators? | PDD Section B.6.2-B.8 | | Yes, it is possible to determine the specified indicators as discussed in B.10.1 above. | OK |

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| B.10.4. 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 | | Yes. The information given for each monitoring variable ($EG_{facility,y}$, $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$) is sufficient to ensure the verification of a proper implementation of the monitoring plan.<br>The data source, monitoring frequency, QA/QC procedures and uncertainty level, etc are clearly specified in the PDD.<br>Data will be archived for 2 years following the end of the crediting period by means of electronic and paper backup.<br>The accuracy level of electricity meters is 0.5 for meters installed in the main line and 1.0 for the meter installed in the back up line. The meters will be calibrated by qualified third party according to the relevant regulations once per year. Sales receipts are used for double check purpose. | OK |
| B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records? | PDD Section B.6.2-B.7.1 | | Yes. The monitoring plan ensures the verifiability of data quality and correctness.<br>The meters used to measure $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ have accuracy level of 0.5 and 1.0 respectively. The meters will be installed as per Technology and Management Regulations for Power Metering Devices and will be calibrated by authorized third party once per year. Sales receipts are used for double check purpose.<br>The operational and management structure for monitoring is stated in Section B.7.2 of the PDD.<br>Data monitoring process is listed in the monitoring plan of the PDD.<br>QA/QC procedures, data management and training are stated in the monitoring plan. | OK |
| B.10.6. 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 | | Yes. The monitoring approach is in line with current good practice. The monitoring plan ensures the delivery of high quality data with reasonably acceptable accuracy. | |

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| B.10.7. 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 | | Yes. The formulae used to determine project's emission are clearly indicated and in compliance with ACM0002 version 12.1.0. PEy=0 as per ACM0002 version 12.1.0. | |
| **B.11. Quality Control (QC) and Quality Assurance (QA) Procedures** | | | | |
| B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete? | VVM Para. 121<br>Refer to all data within the PDD Inc. B.6.2-B.7.1 | | Yes. The quality assurance and quality control process for recording, maintaining and archiving data will be ensured through the CDM mechanism in terms of the need for verification of emission reductions on an annual basis according to the PDD and monitoring plan. | OK |
| B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner? | Refer to all data within the PDD Inc. B.4/B.7.2/Annex 4 | | Yes. The uncertainty level of monitored $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ is clearly stated in the PDD. The uncertainty level of monitored data is low as clearly stated in the PDD. | OK |
| B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data? | VVM Para 121 | | Yes. The monitoring plan safeguards the proper operations of all data capture, data analysis and data compilation systems to be employed by the project participants. | OK |
| B.11.4. Is it ensured that data will be bound to national or internal reference standards? | VVM Para. 86d | | Yes. Monitored data will be clearly reproducible and comparable and will not be dependent on site-specific adjustments. | OK |
| B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions? | VVM Para. 19 | | Yes. Sales receipts will be used for double check. Sales receipts are considered to be a reliable source. | OK |

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| **B.12.** | **Operational and Management Structure** | | | |
| B.12.1. | Is the authority and responsibility of project management clearly described? | PDD Section B.8/Annex 1 | Yes. The authority and responsibility of project management is clearly described in the monitoring plan.<br>The owner will organize a team in charge of the whole monitoring process. The team will be led by a CDM director, and will also include a CDM manager whose responsibility is to supervise and audit the measurement and recording of the data. Besides, some on-site engineers will be responsible for data collection (such as meters reading, electricity sale invoice keeping, etc.), emission reduction calculation and monitoring report preparation will be appointed. | OK |
| B.12.2. | Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described? | PDD Section B.8/Annex 1 | Yes. The authority and responsibility for registration, monitoring, measurement and reporting is clearly described in the PDD. | OK |
| B.12.3. | Are procedures identified for training of monitoring personnel? | PDD Section B.8/Annex 1 | Yes. Procedures for training of monitoring staff are identified in the monitoring plan of the project. | OK |
| **B.13.** | **Monitoring Plan (Annex 4)** | | | |
| B.13.1. | Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity? | VVM Para. 122a | Yes. The monitoring plan of the project is in compliance with ACM0002 version 12.1.0 and it addresses the unique feature of the CDM project activity. | OK |
| B.13.2. | Does the monitoring plan completely describe all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality? | VVM Para. 122b | Yes. The monitoring plan described all measures to be implemented for monitoring all required parameters ($EG_{facility,y}$, $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$). QA/QC procedures were described in the PDD. | OK |

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| B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation? | VVM Para. 122b | | Yes. The monitoring plan provides information on the meter to measure $EG_{export,y}$, $EG_{import,y}$ and $EG_{importbackup,y}$ and its positioning.<br>Two electricity meters with same accuracy, key meter and crosscheck meter, will be installed respectively at the main line in the Chengshantou Substation and power plant to monitor the net power generation of the proposed project. The emission reductions should be calculated according to the key meter installed in the Chengshantou Substation by the local grid company, and will be cross-checked with readings from the crosscheck meter equipped in the project site.<br>The readings of electricity meters will be continuously measured and monthly recorded. The meters have accuracy level of 0.5 for meters installed in the main line and the meter installed in the backup line has accuracy level of 1.0. The meters will be installed as per Technology and Management Regulations for Power Metering Devices and will be calibrated by authorized third party once per year. | OK |
| B.13.4. Are procedures identified for calibration of monitoring equipment? | VVM Para. 122a-c | | Yes. Calibration procedures are identified in the PDD. The meters will be calibrated by authorized third party once per year | OK |
| B.13.5. Are procedures identified for maintenance of monitoring equipment and installations? | VVM Para. 122a-c | | Yes. Procedures for maintenance of monitoring equipment and installations are identified in the PDD and the maintenance plan of the project. | OK |
| B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation) | VVM Para. 122a-c | | Yes. Day-to-day records handling procedures were identified in the PDD.<br>The shift monitoring staff will be directly responsible for the measurement of electricity generation, who will record the onsite measurement results or collect readings by remote control according to provisions of the Power Purchase Agreement signed by the owner and the grid company. All data collected should be reported to the CDM manager to be checked, copied and documented. | OK |

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| B.13.7. | Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems? | VVM Para. 122a-c | | Yes. Emergency plan has been prepared for the project as presented in section 7.2 of B.7.2 of the PDD. | OK |
| B.13.8. | Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable? | VVM Para.122a-c | | Yes. Internal audit procedures were identified in the PDD.<br>The CDM manager will take the charge of writing the annual monitoring report which includes net on-grid power generation, emissions reduction calculation, function, maintenance and calibration of the metering equipments, and monitoring quality control and assurance as well, and will be finally submitted to the general manager for checking and verifying who has the overall responsibility of checking data for its completeness and correctness. | OK |
| B.13.9. | Are procedures identified for project performance reviews before data is submitted for verification, internally or externally? | VVM Para. 122a-c | | Yes. Project performance review procedures were identified in the PDD.<br>The CDM manager will take the charge of writing the annual monitoring report which includes net on-grid power generation, emissions reduction calculation, function, maintenance and calibration of the metering equipments, and monitoring quality control and assurance as well, and will be finally submitted to the general manager for checking and verifying who has the overall responsibility of checking data for its completeness and correctness. | OK |
| B.13.10. | Describe the ability of the project participants to implement the monitoring plan. | VVM Para. 122c | | Through document review of the monitoring plan in the PDD and interview with the project participants, it is of the validation team' s opinion that the project participants are capable of implementing the monitoring plan. | OK |
| **B.14.** | **Baseline Details** | | | | |
| B.14.1. | Is there any indication of a date when determining the baseline? | PDD Section B.8/Annex 3 | | Yes. The completion of the baseline methodology in version 01 of the PDD was dated 02/06/2010 and in version 02.1 of the PDD dated 02/12/2010. | OK |
| B.14.2. | Is this consistent with the time line of the PDD history? | Also see revision history of the PDD | | Yes. It is in consistency with the time line of the PDD history. The first version of the PDD is dated 02/06/2010 and in version 02.1 of the PDD dated 02/12/2010. | OK |

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| B.14.3. | Is all data required provided in a complete manner by annex 3 of the PDD? | PDD Annex 3 | | Yes, all data required are provided in a complete manner by annex 3 of the PDD. It is validated that the original data used for the calculation of the grid emission factor used for the ex-ante estimation of CERs are from Official sources like China Energy Statistical Yearbook, China Electric Power Yearbook, IPCC. The calculation of grid emission factor is in compliance with the Emission Factor Tool and relevant EB guidance. Data from the DNA of China were used for cross check. | OK |
| B.14.4. | What is the documented crediting period of the project? Is this inline with available data? | | | It is validated that the completion of the baseline methodology was completed on 02/06/2010 as provided in Section B.8 of the PDD version 02.1 and it is in consistency with the time line of the PDD history. All data required for the baseline determination are provided in a complete manner by Annex 3 of the PDD. | OK |
| B.14.5. | In cases where the methodology specifies, has the '*Tool to determine the remaining lifetime of equipment'* been correctly applied? | EB 50 Annex 15 | | This tool is not applied. | OK |
| B.14.6. | In cases where the *'Tool to determine the remaining lifetime of equipment'* has been used the project participants may use one of the following options to determine the remaining lifetime of the equipment:<br>i. Use manufacturer's information on the technical lifetime of equipment and compare to the date of first commissioning;<br>ii. Obtain an expert evaluation;<br>iii. Use default values. | EB 50 Annex 15 | | This tool is not applied. | OK |

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| ***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. 102a-c PDD Section C.1.1/C.1.2 | | Yes. The start date of the project (16/11/2009) which is defined as per the Glossary of CDM terms version 05 and operational lifetime of the project (20 years which is from the FSR of the project and has been cross checked with comparable projects) are clearly defined in the PDD. They are reasonable. | OK |
| 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 | | Yes. The assumed crediting time of the project (renewable crediting period) is clearly defined and reasonable in relation to the additionality analysis and expected legislation. | 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 | | Yes. The operational lifetime of the project is 20 years. The first crediting period of the project is 7 years. The operational lifetime of the project 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 | | The project is determined to be an existing project activity with a start date before 02/08/2008. Through verifying evidences provided by the PP , such as the board meeting minute, FSR, FSR approval, letter of intent signed with the buyer, it is of SGS opinion that incentive of income from CDM has been seriously considered before the project started and continuing and real actions have been taken to secure CDM status for the project in parallel with its implementation, this is in compliance with paragraphs 98, 100 and 102 of the VVM, paragraph 6, Annex 22 of EB49 report | OK |
| **D.** | **Environmental Impacts** | | | | |
| D.1.1. | Does the project comply with environmental legislation in the host country? | VVM Para. 131 PDD section D | | Yes. EIA shows that the project complies with environmental legislation in China. | OK |

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| D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described? | VVM Para. 131 PDD section D | | Yes. Major content of the approved EIA was described in the PDD.<br>Major content of the EIA has been presented in the PDD which include air, noise, solid waste, wastewater, ecology. | OK |
| D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved? | VVM Para. 131 PDD section D | | Yes. China requires for an EIA for the project activity. EIA for the project has been performed and approved. | OK |
| D.1.4. Will the project create any adverse environmental effects? | VVM Para. 131 PDD section D | | No. As stated in the EIA, the project creates no adverse environmental effects. | OK |
| D.1.5. Are trans-boundary environmental impacts considered in the analysis? | VVM Para. 131 PDD section D | | Yes. Trans-boundary environmental impacts were considered in the analysis. | OK |
| D.1.6. Have identified environmental impacts been addressed in the project design? | VVM Para. 131 PDD section D | | There are no identified environmental impacts from the project. | OK |
| **E. Stakeholder Comments** | | | | |
| E.1.1. Have relevant stakeholders been consulted? | VVM Para. 128a PDD Section E.1 | | Yes, relevant stakeholders have been consulted. Farmers, workers and stakeholders of other professions have been consulted. | OK |
| E.1.2. Have appropriate media been used to invite comments by local stakeholders? | VVM Para. 128a PDD Section E.1 | | In Feb 2009, a public survey was conducted targeted at local residents living around the project site, the representatives from government and relevant organizations. A total of 50 questionnaires were distributed based on the principle of representation and randomness in order that the public opinions and concerns are reflected. All the questionnaires were returned. | OK |
| E.1.3. Is the undertaken stakeholder process described in a complete and transparent manner? | VVM Para. 128b PDD Section E.1 | | Yes. The stakeholder process was described in a complete and transparent manner.<br>See E.1.2 above. | OK |

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|---|---|---|---|---|
| E.1.4. Is a summary of the stakeholder comments received provided? | VVM Para. 128b<br>PDD Section E.2 | | Yes, the summary of the stakeholder comments received is provided in Section E.2 of the PDD. | OK |
| E.1.5. Has due account been taken of any stakeholder comments received? | VVM Para. 128b<br>PDD Section E.3 | | According to comments from the stakeholders, it is not necessary to adjust the design, construction or operation of the proposed project | OK |

## References

| Reference ID | Title / Description | Comments |
|---|---|---|
| /1/ | PDD version 01 dated 02/06/2010 which is published for international stakeholder consultation, version 02.1 dated 02/12/2010 which is published for registration request. | The PDD for the project |
| /2/ | Feasibility Study Report of the project dated October 2008 for the proposed CDM project was prepared by Shanghai Electric Power Design Institute Co.,Ltd. | Approved FSR for the project |
| /3/ | IRR calculation spreadsheet for the project | IRR calculation spreadsheet for the project |
| /4/ | Accreditation certificate for Shanghai Electric Power Design Institute Co.,Ltd.. issued by Construction Department of China dated 19/08/2004 with Certificate No.: 090028-sj) | Used to confirm the FSR was drafted by an entity that is an authorized third party |
| /5/ | The approval for the project FSR issued by the Shandong Province Development and Reform Commission dated 03/12/2008 Document No.: [2008]No. 1401 | Used to confirm the FSR has been approved. |
| /6/ | Construction Project EIA Report of the project prepared by Environmental Science Institute of Shandong Normal University dated 03/07/2008 | The EIA for the project |
| /7/ | The accreditation certificate for Environmental Science Institute of Shandong Normal University to perform EIA issued by the State Environmental Protection Administration of the People's Republic of China dated 28/02/2008 (Certificate No.: SEIA Certificate Yi Zi No. 2403) | Used to confirm the EIA was drafted by an entity that is an authorized third party |
| /8/ | The approval of Construction Project EIA Report of the project issued by Shandong Province Environmental Protection Administration dated 30/06/2008 | Used to confirm the EIA has been approved. |
| /9/ | The service agreement signed between the project owner and SGS dated May 2010 | The contract signed between the project owner and the DOE |
| /10/ | The survey questionnaires filled by the stakeholder representatives during the local stakeholder consultation process | Used to confirm that the stakeholder consultation process has been performed. |
| /11/ | The attendance list of the stakeholder representatives | Used to confirm that the stakeholder consultation process has been performed. |
| /12/ | The business license of the project owner Issued by the Industry and Commerce Administration Management Bureau of Shandong Province | Used to confirm that the project owner has legal authority for the project |
| /13/ | The ERPA signed with the CERs buyer dated 15/10/2009 | Used to confirm that CDM was seriously considered before the project started |

| Reference ID | Title / Description | Comments |
|---|---|---|
| /14/ | Confirmation from the Chinese DNA regarding the project's application of CDM project dated 20/02/2009 | Used to confirm relevant requirement for new project has been fulfilled. |
| /15/ | The Implementation Schedule of the project | Used to confirm there is an implementation schedule of the project in place |
| /16/ | The training plan of the project | Used to confirm there is a training plan of the project in place |
| /17/ | The maintenance plan of the project | Used to confirm there is a maintenance plan of the project in place |
| /18/ | CDM monitoring plan and Emergency/Quality control plan of the project | Used to confirm there is an emergency/quality control/monitoring plan of the project in place |
| /19/ | The turbine and affiliated equipments supply contract (Contract No.: GOLDWIND-1500-2009041dated 16/11/2009), | Used to determine the start date of the project |
| /20/ | Construction Contract (Contract No.: RC02-7216-0536 dated 18/12/2009), Construction Contract for Transformer Substation (Contract No.: RC02-7216-1336 dated 18/12/2009) | Used to confirm that real action has been taken after the project started and used for cross check as per paragraph 54(c ) of EB 38 meeting. |
| /21/ | Board meeting minute dated 06/01/2009 | Used to confirm that CDM was seriously considered before the project started |
| /22/ | Installation schematic of the project | Installation schematic of the project |
| /23/ | The LoA from the People's Republic of China dated 30/01/2010 | Used to confirm the LOA from the People's Republic of China has been obtained |
| /24/ | The LoA from United Kingdom of Great Britain and Northern Ireland dated 17/01/2011 | Used to confirm the LOA from the Annex I country has been obtained |
| /25/ | MoC for the project dated 21/12/2010 | Used to confirm the MoC for the project has been provided. |
| /26/ | ACM0002 version 12.1.0 dated 26/11/2010 | The methodology against which the PDD is registering |
| /27/ | Guidelines For Completing The Project Design Document (CDM-PDD) And The Proposed New Baseline And Monitoring Methodologies (CDM-NM) Version 07 | Used to confirm the PDD has been completed as per the guidelines |
| /28/ | http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf | Used to confirm the two Parties have ratified the KP |
| /29/ | http://cdm.unfccc.int/Projects/Validation/DB/LUK30L2HNDIHJSTK3G2RP1S6959QG0/view.html l | The website where the PDD was published for global stakeholder consultation |
| /30/ | The official website of the DNA of China. http://cdm.ccchina.gov.cn | The official website of the DNA of China. Official data source |
| /31/ | Tool for the demonstration and assessment of additionality, version 05.2 | Used to confirm the relevant steps in the tool |

| Reference ID | Title / Description | Comments |
|---|---|---|
| | | has been followed |
| /32/ | Tool to calculate the emission factor for an electricity system, version 02 | Used to confirm the relevant steps in the tool has been followed |
| /33/ | 2006 IPCC Guidelines for National Greenhouse Gas Inventories | Official data source |
| /34/ | China Energy Statistical Yearbook | Official data source |
| /35/ | China Electric Power Yearbook | Official data source |
| /36/ | Interim Rules on Economic Assessment of Electric Engineering Retrofit Projects (Ref no.: GuoDian Fa [2002](263)) | Used to confirm the right benchmark IRR is applied in the PDD |
| /37/ | Page 54, China Solar PV Report 2007, China Environment Science Press | Used to confirm Construction of other energy power plant with equivalent amount of tricity output is not realistic |
| /38/ | Page 6 of Overview of Chinese Renewable Energy Development, NDRC/GEF/Word Bank China Renewable Energy Development Project, May 2004. | Used to confirm Construction of other renewable energy power plant with equivalent amount of annual electricity output is not realistic |
| /39/ | http://finance.21cn.com/news/cydt/2007/06/28/3319602.shtml | Used to confirm Construction of other renewable energy power plant with equivalent amount of annual electricity output is not realistic |
| /40/ | Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135MW or below issued by the General Office of the State Council, Decree No. 2002-6 | Used to confirm Construction of a thermal power plant with equivalent amount of annual electricity output is not realistic |
| /41/ | http://www.zjjmw.gov.cn/zcfg/gjfg/2002/10/10/9318.shtml | Used to confirm Construction of a thermal power plant with equivalent amount of annual electricity output is not realistic |
| /42/ | http://politics.people.com.cn/GB/5752740.html | Used to confirm the tariff of wind power will not increased in the near future |
| /43/ | “Statistics of domestic wind farm installation capacity in 2007”, Shi Pengfei, available from http://www.cwea.org.cn/download/display_info.asp?id=25 | Data source of projects used in the common practice analysis. |
| /44/ | http://cdm.unfccc.int/Projects/registered.html | Project discussed in the common practice analysis |
| /45/ | http://cdm.unfccc.int/Projects/Validation/index.html | Project discussed in the common practice analysis |
| /46/ | EB38 report dated 14/03/2008 | Used to confirm the requirements from EB has been fulfilled |
| /47/ | Annex 58 to EB51 report dated 15/01/2010 | Used to confirm the requirements from EB has |

| Reference ID | Title / Description | Comments |
|---|---|---|
| | | been fulfilled |
| /48/ | EB41 report dated 02/08/2008 | Used to confirm the requirements from EB has been fulfilled |
| /49/ | Validation and Verification Manual Version 01.2 dated 30/07/2010 | Validation and Verification Manual Version 01.2 |
| /50/ | Glossary of CDM terms, version 05 | Glossary of CDM terms, version 4 |
| /51/ | http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ (Request for clarification on use of approved methodology AM0005 for several projects in China) | http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_QEJWJEF3CFBP1OZAK6V5YXPQKK7WYJ (Request for clarification on use of approved methodology AM0005 for several projects in China) |
| /52/ | EB 48 meeting dated 17/07/2009 | Used to confirm the requirements from EB has been fulfilled |
| /53/ | Provisional Regulations of the People's Republic of China on Value-added Tax http://202.108.90.178/guoshui/action/GetArticleView1.do?id=544&flag=1 | Used to cross check the input of VAT |
| /54/ | Notice of the Ministry of Finance and the State Administration of Taxation on Several Issues concerning the National Implementation of Value-added Tax Reform (FinTax[2008]No.170) http://www.chinatax.gov.cn/n8136506/n8136593/n8137537/n8138502/8745403.html | Used to cross check the input of VAT |
| /55/ | Notice of the Ministry of Finance and the State Administration of Taxation about Policies regarding the Value Added Tax on Comprehensive Utilization of Resources and Other Products (FinTax[2008]No. 156) http://www.chinatax.gov.cn/n8136506/n8136593/n8137537/n8138502/8714515.html | Used to cross check the input of VAT |
| /56/ | Enterprise Income Tax Law of the People's Republic of China is Officially Promulgated http://www.legalinfo.gov.cn/zhuanti/content/2010-09/28/content_2298906.htm?node=25857 | Used to cross check the input of Income tax |
| /57/ | Notice of the Ministry of Finance and State Administration of Taxation on Issues Relevant to Implementation of the List of Public Infrastructure Projects Enjoying Enterprise Income Tax Preferences http://czzz.mof.gov.cn/zhongguocaizhengzazhishe_daohanglanmu/zhongguocaizhengzazhishe_zhengcefagui/200811/t20081107_88549.html | Used to cross check the input of Income tax |
| /58/ | EB 50 annex 48 | Confirm that SGS has contractual relationship with PP |
| /59/ | CDM modalities and procedures | CDM modalities and procedures |

| Reference ID | Title / Description | Comments |
|---|---|---|
| /60/ | Information note on the highest tariffs applied by the executive board in its decisions on registration of projects in the People's Republic of China http://cdm.unfccc.int/Reference/Notes/reg_note07.pdf | Highest tariff information note issued by EB |
| /61/ | Decision of the State Council on Amending the Interim Provisions on the Collection of Educational Surcharges http://www.gov.cn/zwgk/2005-09/27/content_70440.htm | Used to cross check of the educational surcharges |
| /62/ | Interim regulations on the city maintenance construction tax of the People's Republic of China http://www.gov.cn/banshi/2005-08/19/content_24817.htm | Used to cross check of the city maintenance construction tax |

## A.3 Annex 3: Overview of Findings

***Findings Overview Summary***

| | CARs | CLs | FARs |
|---|---|---|---|
| **Total Number raised** | 6 | 1 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | | |
| Type: | CAR | Number: | CAR #1 | | Reference: | 1.2 under table 1 |
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | | |
| LOA from Annex I Country shall be provided. | | | | | | |
| **Project Participant Response:** | | | | **Date:** 10/02/2011 | | |
| The LOA from UK has been provided. Though Noble Carbon Credits Limited is a company registered in Ireland, and planed to apply LOA of Ireland at beginning, however, LOA from UK was applied at last. UK has ratified Kyoto Protocol on 31st May of 2002 and participates voluntarily in CDM. | | | | | | |
| **Documentation Provided as Evidence by Project Participant:** | | | | | | |
| LoA from UK dated 17/01/2011 | | | | | | |
| **Information Verified by Lead Assessor:** | | | | | | |
| LoA from UK dated 17/01/2011<br>Email evidence from UK DNA team | | | | | | |
| **Reasoning for not Acceptance or Acceptance and Close Out:** | | | | | | |
| The LoA from United Kingdom of Great Britain and Northern Ireland dated 17/01/2011 has been provided by the project participant. It was accepted by the assessment team through confirming that United Kingdom of Great Britain and Northern Ireland ratified the Kyoto Protocol on 31/05/2002 and has appointed a DNA; It is also confirmed that the LoA shows that UK has ratified the KP and the project is entered into voluntarily; The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration. The LoA from UK is unconditional with respect to the aspects mentioned above. Hence The LoA from UK has been validated to be in compliance with the requirements set out in paragraphs 45-48 of the VVM. The validation team has confirmed that the letter of approval was issued by the DNA of UK 'Department of Energy and Climate Change' and is valid for the project. By email confirmation with the officer (Alan Wyper) of the UK DNA Team, SGS has confirmed the authenticity of the LoA from UK for the project activity. Hence **CAR #1 is closed.** | | | | | | | |
| **Acceptance and Close out by Lead Assessor: Ginger Jiang** | | | | **Date:** 10/02/2011 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | | |
| Type: | CAR | Number: | CAR #2 | | Reference: | section 1 |
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | | |
| MOC for the project shall be provided. | | | | | | |
| **Project Participant Response:** | | | | **Date:** 21/12/2010 | | |
| MoC dated 21/12/2010 is provided. | | | | | | |
| **Documentation Provided as Evidence by Project Participant:** | | | | | | |
| MoC dated 21/12/2010 | | | | | | |
| **Information Verified by Lead Assessor:** | | | | | | |

The MOC for the project dated 21/12/2010 has applied the MOC template issued as Annex 60 to EB 45 meeting.

The following information has been provided

(a) Title of the CDM project activity;

(b) Date of submission (21/12/2010);

(c) List of all project participants;

(d) Clear designation of focal point for each scope of authority(Both PPs are nominated as joint focal point for (a) Authority to instruct the secretariat and communicate with the CDM EB on allocation/forwarding of CERs, (b) Authority to request the addition of project participants and/or to communicate any voluntary withdrawal and to update contact details of project participants (includes changes in company's name and legal status, addresses, etc.) and (c) Communication with the secretariat and CDM EB on matters related to registration and/or issuance. Select this scope if the entity is to be copied on all communication related to the project);

(e) Contact details and specimen signature of each focal point and signing authority (contact details and specimen signature for primary and alternative authorized signatory for the focal point are provided );

(f) Signatures of all project participants confirming their agreement to the terms of the statement of modalities of communication.

**Reasoning for not Acceptance or Acceptance and Close Out:**

The MOC for the project has been provided which is adopting the template from UN as Annex 60 to EB 45 meeting and filled out in compliance with the requirement set out in annex 59 to EB 45 meeting. Finding is closed.

| **Acceptance and Close out by Lead Assessor: Ginger Jiang** | **Date:** 22/12/2010 |
|---|---|

| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | |
|---|---|---|---|---|---|
| Type: | CAR | Number: | CAR #3 | Reference: | Section B4 |
| **Lead Assessor Comment:** | | | **Date:** 02/08/2010 | | |
| In section B.5, the timeline of the project seems not sufficient. Please provide more information to justify how the incentive from the CDM was seriously considered in the decision to proceed with the project activity. | | | | | |

| **Project Participant Response:** | **Date:** 02/11/2010 |
|---|---|

The timeline of events and actions which have been taken to consider seriously during development of the proposed project as a CDM one is demonstrated as following:

| Date | CDM Development Event | Project Implementation Event |
|---|---|---|
| 17/03/2008 | | EIA was finished |
| 30/06/2008 | | EIA was approved |
| 09/10/2008 | | FSR was finished in which CDM was considered. |
| 03/12/2008 | | FSR was approved |
| 06/01/2009 | The Board Meeting was held and decided to investment the project and to develop the project as a CDM one | |
| 02/02/2009 | The Stakeholders Meeting was held and questionaries were sent out. | |
| 16/02/2009 | Notification of CDM development submitted to NDRC | |
| 20/02/2009 | The Notification of CDM development of the project was approved by NDRC | |
| 07/2009 | The CDM Development Agreement was signed | |
| 15/10/2009 | ERPA was signed | |
| 16/11/2009 | | The Wind Turbine Purchase Contract was signed |
| 25/11/2009 | The Notification of the project developed as a CDM project was confirmed by EB[2] | |
| 18/12/2009 | | The Construction Contract was signed. |
| 30/01/2010 | The LOA of the project was issued by NDRC | |
| 02/06/2010 | PDD for GSP finished | |

Before the proposed project, another project owner by Guohua Resourceful (Rongcheng) Wind Power Generation Co., Ltd.has been developed as a CDM project and has been successfully registered[3], so, it can be concluded that, the project owner has been aware of CDM at a very early stage.

The FSR was finished in October of 2008 and found the project was financially unattractive, so CDM was considered in the FSR; In December, FSR was approved by Shandong Province DRC; On 06/01/2009, the Board Meeting of the project owner was held, considering the fact that with revenue from CERs sale, the project would be financially attractive, the Board decided to invest the project and development the project as a CDM one; after the Board Meeting, a series actions were taken to promote the CDM development of the project, such as Stakeholders Meeting and Questionnaires sending dated on 02/02/2009, and Notifications of the CDM development of the project sent to NDRC(China DNA) dated 16/02/2009; after that, the project started to find qualified CDM Development Consultant CERs buyer and finally the CDM Development of the project and ERPA were signed in July and October of 2009 respectively; The Equipment Purchase Contract was signed on 16/11/2009, which was set as the start date of this CDM project, and the Notification of CDM development of the project was confirmed by EB on 25/11/2009; on 18/12/2009, the Construction Contract of the project was signed and the China LOA application related work was conducted and finally got the LOA from China DNA on 30/01/2010.

The above events show that CDM was seriously considered by the project owner and was a key factor for the investment decision on the project, continuous and real actions were taken to secure CDM status for the project in parallel with its implementation.

**Documentation Provided as Evidence by Project Participant:**

The Board Meeting Decision dated 06/01/2009; The CDM Development Agreement between the project owner and CER ERPA has been provided.

**Information Verified by Lead Assessor:**

[2] http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html

[3] http://cdm.unfccc.int/index.html

| |
|---|
| The wind turbine purchase agreement was signed on 16/11/2009 between the project owner and the wind turbine supplier. This date is taken as the project start date according to Glossary of CDM terms version 4.<br><br>The notification informing the DNA of China of the PP's intension to seek CDM status is dated 16/02/2009 and accepted by DNA on 20/02/2009, and the Notification of the project developed as a CDM project was confirmed by EB on 25/11/2009 which is within six months of the project activity start date (16/11/2009). |
| **Reasoning for not Acceptance or Acceptance and Close Out:** |
| In the revised PDD, the project start date is 16/11/2009. Evidence demonstrating that PPs had informed the Host Party DNA and UNFCCC in writing of the commencement of the project activity and of their intention to seek CDM status has been provided. Hence CAR #3 is closed. |

| | |
|---|---|
| **Acceptance and Close out by Lead Assessor: Ginger Jiang** | Date: 21/12/2010 |

| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | |
|---|---|---|---|---|---|
| Type: | CAR | Number: | CAR #4 | Reference: | Section B4 |
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | |
| Please clarify how the proposed tariff for the project activity has been considered suitable as with the application of the highest tariff issued for similar projects in the province, the IRR crosses the benchmark. And also Please further describe the value of IRR with CERs income in the registered PDD. | | | | | |

| **Project Participant Response:** | **Date:** 02/11/2010 |
|---|---|

**1. The tariff trend of Shandong wind farm projects**

The approved tariffs of all Shandong wind farm projects since the Power Sector Reform in March 2002 are listed in Table below.

| Time (wind turbine installed) | Projects | CDM status / Note | Registered date | Approved tariff RMB/kWh(including tax) |
|---|---|---|---|---|
| 2006 | Rongcheng Dongchudao Wind Farm | Ref No. 1008 | 2007-05-17 | 0.61[4] |
| 2006 | Qixia Tangshanpeng Windfarm Project | Ref No.1019 | 2007-06-09 | |
| 2008 | Laizhou Diaolongzui Wind Farm | Ref No.1010 | 2007-07-27 | |
| 2006 | Shandong Changdao 27.2 MW Wind Power Project | Ref No.1090 | 2008-01-21 | |
| 2008 | Shandong Haiyang Qiuershan Wind Power Project | Ref No.2021 | 2009-02-08 | |
| 2007 | Shandong Weihai 69 MW Wind Power Project | Ref No.1128 | 2008-02-27 | |
| 2006 | Shandong Tuoji Island Windfarm Project | Ref No.1789 | 2008-11-20 | |
| After 2008 | Shandong Luneng Dongying 48MW Wind Power Project | Ref No.2019 | 2008-12-16 | 0.61[5] |
| 2007 | Roncheng Wind Power Project, 48.75MW | Ref No.1755 | 2009-02-23 | 0.61[6] |
| After 2008 | Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1) | Ref No.2438 | 2009-06-04 | 0.61[7] |
| | Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1) | Ref No.2442 | 2009-06-13 | |
| | Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1) | Ref No.2436 | 2009-07-03 | 0.61[8] |
| | Shandong Penglai Pingdingshan Wind Farm Project | Ref No.2397 | 2009-07-21 | 0.61[9] |
| 2008 | Shandong Laizhou phase I Wind Power Project | Ref No.2530 | 2009-10-16 | 0.61[10] |
| After 2008 | Shandong Dongying 1st phase Wind Power Project | Ref No.2584 | 2010-03-12 | 0.61[11] |

[4] http://www.ndrc.gov.cn/jggl/zcfg/t20080218_193008.htm Fa Gai Jia Ge[2008]1876 issued on July 23 2008 by NDRC
[5] Lu Jia Ge Fa [2009]250 issued on December 30 2009 by Shandong Pricing Bureau
[6] Fa Gai Jia Ge [2008]1876 issued on July 23 2008 by NDRC
[7] Lu Jia Ge Fa [2009]250 issued on December 30 2009 by Shandong Pricing Bureau
[8] Lu Jia Ge Fa [2009]238 issued On December 11 2009 by Shandong Pricing Bureau
[9] Lu Jia Ge Fa[2009]50 issued on March 13 2009 by Shandong Pricing Bureau
http://law.baidu.com/pages/chinalawinfo/1707/80/b0d3cea1af16e2595d10fb157273 fd8_0.html
[10] Fa Gai Jia Ge [2008]1876 issued on July 23 2008 by NDRC.
http://www.ndrc.gov.cn/jggl/zcfg/t20080218_193008.htm
[11] Lu Jia Ge Fa [2009]50 issued on March 13 2009 by Shandong Pricing Bureau
http://law.baidu.com/pages/chinalawinfo/1707/80/b0d3cea1af16e2595d10fb157273efd8_0.html

| | | | | |
|---|---|---|---|---|
| After 2008 | Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I | Ref No.2764 | 2010-03-21 | 0.61[12] |
| | Shandong Huaneng Shouguang 49.5MW Wind Farm Project | Ref No.3391 | 2010-07-19 | |
| 2008 | Huadian Laizhou Wind Farm Project | Ref No.2831 | 2010-08-30 | |
| After 2008 | Yantai Dongyuan 25.5 MW Wind Farm Project Phase I | Ref No.3616 | 2010-09-11 | 0.61[13] |
| | Huaneng Changyi Phase I Wind Farm Project | Ref No.3353 | 2010-09-17 | |
| | Shandong Huaneng Hekou Phase I Wind Farm Project | Ref No.3718 | 2010-10-07 | 0.61[14] |
| | Shandong Laizhou Phase 2 | Ref No.2730 | Rejected | 0.61[15] |
| | Datang Wendeng | | Under validation | |
| | Shandong Penglai Wind Farm Phase II Project | | Under validation | |
| | Malanshan 1.65MW Wind Farm project | | Not CDM | 0.61[16] |
| | Huaneng Shandong Binhai Wind Farm | | Under validation | 0.61[17] |
| | The proposed project | | Under validation | 0.61[18] |

As shown in the table above, all projects since the Power Sector Reform have received the same tariff: 0.61 RMB/kWh(including tax). Prior to the Power Sector Reform, there was one wind project, Shandong Jimo Qingdao Huawei wind farm, which received a tariff of 0.76 RMB/kWh, which had been approved in January 2001 by Shandong Pricing Bureau[19]. This is the tariff listed in the "Information note on the highest tariffs applied by the Executive Board in its decisions on registration of projects in the People's Republic of China" (version 01).

This project was an early demonstration project, which was implemented at an early stage of the industry development in China and was funded by ODA20. Also this project was implemented prior to the power sector reform, when the market was vertically integrated, and is therefore not comparable with the proposed project. In comparison with different policy and economic environment, the tariff of the Jimo Wind Farm approved before 2002 is not applicable to the proposed project.

[12] Lu Jia Ge Fa [2009]50 issued on March 13 2009 by Shandong Pricing Bureau http://law.baidu.com/pages/chinalawinfo/1707/80/b0d3cea1af16e2595d10fb157273efd8_0.html
[13] Lu Jia Ge Fa [2009]238 issued on December 11 2009 by Shandong Pricing Bureau http://www.sdwj.gov.cn/ggfw/jggl/zls/index.shtml Lujiagefa [2009]238/Lujiagefa [2009]250/ Lujiagefa[2010]90/ Lujiagefa [2010]32/
[14] Lu Jia Ge Fa [2010]32 issued on February 8 2010 by Shandong Pricing Bureau
[15] Lu Jia Ge Fa [2009]250 issued on December 30 2009 by Shandong Pricing Bureau
[16] Lu Jia Ge Fa [2010]32 issued on February 8 2010 by Shandong Pricing Bureau
[17] Lu Jia Ge Fa [2010]90 issued on April 26 2010 by Shandong Pricing Bureau
[18] Lu Jia Ge Fa [2010]168 issued on August 23 2010 by Shandong Pricing Bureau

[19] Liu Jia Ge Fa [2001]12.
[20] Shandong Jimo Qingdao Huawei project received ODA support from DEG (part of KfW Bankengruppe), see page 22 in: http://www.deginvest.de/EN_Home/Service/Online_library/PDFs_Online-Library/Klimaschutzbroschuere_EN.pdf.

**2 . The comparison of the proposed project and Shandong Huaneng Shouguang 49.5MW Wind Farm Project**

1) Besides above mentioned Shandong Jimo Qingdao Huawei wind farm, there is another wind farm project (Shandong Huaneng Shouguang 49.5MW Wind Farm Project) employs the tariff of 0.76 RMB/kWh(including tax) in the registered PDD. So, the critical financial parameters of the proposed project are compared with those of Shandong Huaneng Shouguang 49.5MW Wind Farm Project ( reference No 3391 ) . Please refer to the following table:

| Project | Installed Capacity( MW) | Annual power delivered( MWh) | Average annual operation hours ( h ) | Static total investment (million) | Average unit investment (RMB/kw) | Average annual O&M cost(million) | Tariff(RMB /kWh, including tax) |
|---|---|---|---|---|---|---|---|
| Shandong HUaneng SHouguang 49.5MW Wind Farm Project | 49.5 | 96,478.8 | 1949.07 | 541.76 | 10945 | 12.33 | 0.76 |
| The proposed project | 49.5 | 102,337 | 2067.41 | 535.954 | 10827 | 8.0152 | 0.61 |

Data source: from registered PDD of Shandong Huaneng Shouguang 49.5MW Wind Farm Project ( http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1265792990.64/view ) and the FSR of the proposed project.

2)From the above table it can be seen that those two projects are with the same installed capacity, and Shandong Huaneng Shouguang 49.5MW Wind Farm Project is with higher tariff of 0.76RMB/kWh(including tax), however, this project is also with higher investment and low annual operation hours compared with the proposed project. If the proposed project is with the same level of investment, annual operation hours and tariff, the project IRR is 7.28%, which is also below the benchmark and the project is still additional. Please refers to the hypothetic IRR of the proposed project which is calculate with the same level of investment, annual operation hours and tariff of Shandong Huaneng Shouguang 49.5MW Wind Farm Project.

3) Though the tariff of 0.76 RMB/kWh(including tax) is employed in the registered PDD of Shandong Huaneng Shouguang 49.5MW Wind Farm Project, this tariff is sourced from the FSR of the project, and the actual approved tariff of the project by Shandong DRC is 0.61 RMB/kWh(including tax)[21].

**3. The actual tariff of the proposed project**

At last, the tariff of the proposed project has been approved by Shandong DRC, which is actual 0.61RMB/kWh (including tax).

In conclusion, the tariff of the proposed project is considered suitable.

The value of IRR with CERs income in the registered PDD has been described.

**Documentation Provided as Evidence by Project Participant:**

The evidence for Shandong Jimo Qingdao Huawei wind farm as an ODA project is provided. And the tariff approval of the proposed project is also provided.

**Information Verified by Lead Assessor:**

The evidence for Shandong Jimo Qingdao Huawei wind farm as an ODA project is provided. And the tariff approval of the proposed project is also provided.
The revised PDD

**Reasoning for not Acceptance or Acceptance and Close Out:**

[21] http://law.baidu.com/pages/chinalawinfo/1707/80/b0d3cea1af16e2595d10fb157273efd8_0.html

Based on studies, it is confirmed by the assessment team that the Jimo project was an early demonstration project, which was implemented at an early stage of the industry development in China and was funded by ODA. Also this project was implemented prior to the power sector reform, when the market was vertically integrated, and is therefore not comparable with the proposed project. In comparison with different policy and economic environment, the tariff of the Jimo Wind Farm approved before 2002 is not applicable to the proposed project. With regard to the Shandong Huaneng Shouguang 49.5MW Wind Farm Project, although the highest tariff was only sourced in FSR, the actual approved and applied tariff is still 0.61RMB/kWh, quantative analysis still made by the assessment team with reference the factors.

If considering the proposed project faces the same financial environment with the target project Shandong Huaneng Shouguang 49.5MW Wind Farm Project, parameters may have significant impact listed below

| Project | Installed Capacity (MW) | Annual power output(MWh) | Average annual operation hours ( h ) | Static total invest-ment(million) | Average unit investment (RMB/kW) | Average annual O&M cost(million) | Tariff(RMB/kWh, incl. VAT) |
|---|---|---|---|---|---|---|---|
| Shandong Huaneng Shouguang 49.5MW Wind Farm Project | 49.5 | 96,478.8 | 1949.07 | 541.76 | 10945 | 12.33 | 0.76 |
| The proposed project | 49.5 | 102,337 | 2067.41 | 535.954 | 10827 | 8.0152 | 0.61 |

From the above table it can be seen that these two projects are with the same installed capacity, and Shandong Huaneng Shouguang 49.5MW Wind Farm Project is with higher tariff of 0.76RMB/kWh(Incl. VAT), however, this project is also with higher investment and lower annual operation hours compared with the proposed project. If the proposed project is with the same level of investment, annual operation hours and tariff, the calculated project hypothetical IRR is 7.28%, which is also below the benchmark and it can still get to the conclusion that the project is still additional. Please refers to the hypothetic IRR of the proposed project which is calculate with the same level of investment, annual operation hours and tariff of Shandong Huaneng Shouguang 49.5MW Wind Farm Project.

The tariff applied for the proposed project is appropriate as it is approved by the Shandong Development and Reform Commission. Therefore, the validation team considers that the application of the tariff for the IRR calculation as has been done in the PDD version 02.1 is appropriate.

Moreover, the validation team checked the website of the National Development and Reform Commission (NDRC), which is the authority responsible for setting the tariff policy in China. Information from the NDRC, Notice on the tariff policy for wind power project (NDRC price[2009] No. 1906) (http://www.ndrc.gov.cn/jggl/jgqk/t20090724_292635.htm) confirms that the tariff applied in the PDD of the project is appropriate. **Thus CAR #4 is closed out.**

| **Acceptance and Close out by Lead Assessor: Ginger Jiang** | **Date:** 02/12/2010 |
|---|---|

| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | | |
|---|---|---|---|---|---|---|
| Type: | CL | Number: | CL #5 | | Reference: | Section B4 |
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | | |
| Please further clarify in the PDD that the proposed project is not common practice. | | | | | | |
| **Project Participant Response:** | | | | **Date:** 02/11/2010 | | |

| |
|---|
| The common practice analysis has been further clarified in the PDD, please refers to revised PDD.<br><br>In line with the EB guidance on the additionality tool, the common practice analysis is carried out on similar projects in the same region and taking place in a comparable environment with regards to regulatory framework, investment climate etc.<br><br>In China, the wind resource, grid structure, geological and transportation conditions, regulatory framework and investment climate for wind farm projects are only similar and comparable in the same Province/Autonomous Region, the former two factors of which have the effect on the estimated average annual power output and the rest of which affect the total investment, O&M cost and project operation pattern. Moreover, as per the Decision of the State Council on Reforming the Investment System issued by the State Council on 16/07/2004, the wind farm projects with the nominal capacity of no less than 50MW shall be approved by the National Development and Reform Commission while the wind farm projects with the installed capacity of less than 50MW shall be approved by the local authorities. Therefore, the common practice analysis of the proposed project activity covers the projects with the nominal capacity of no less than 50MW within Shandong Province.<br><br>As per Statistics of domestic wind farm installation capacity in 2007 published by Shipengfei, all wind power projects with the installed capacity of no less than 50MW that are operational within the aforementioned geographical boundary have been being underway for the application of CDM financing. Other CDM project activities registered and having been published on the UNFCCC website for global stakeholder consultation as part of the validation process are not to be included in this analysis as per "Tool for the demonstration and assessment of additionality" (version 05.2). Therefore, no similar project is included in this common practice analysis. |
| **Documentation Provided as Evidence by Project Participant:** |
| The revised PDD<br><br>Statistics of domestic wind farm installation capacity in 2007 published by Shipengfei |
| **Information Verified by Lead Assessor:** |
| The information provided in the revised PDD has been checked against Statistics of domestic wind farm installation capacity in 2007 published by Shipengfei, the UNFCCC website. It is validated that the project is not common practice. |
| **Reasoning for not Acceptance or Acceptance and Close Out:** |
| Relevant information has been provided in the revised PDD for Common practice analysis. CL #5 is closed. |
| **Acceptance and Close out by Lead Assessor: Ginger Jiang Yuan** — **Date:** 21/12/2010 |

| | | | | | |
|---|---|---|---|---|---|
| Date: | 02/08/2010 | | Raised by: | Ginger Jiang and Yuan Xue | |
| Type: | CAR | Number: | CAR #6 | Reference: | B.13.3 under table 2 |
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | |
| Please clearly provide a schematic diagram of the position of meters of the project. | | | | | |
| **Project Participant Response:** | | | | **Date:** 02/11/2010 | |
| The schematic diagram of the position of meters of the project has been added in the Section B.7.2 of PDD.. | | | | | |
| **Documentation Provided as Evidence by Project Participant:** | | | | | |
| The revised PDD<br>The schematic diagram of the project | | | | | |
| **Information Verified by Lead Assessor:** | | | | | |
| The information provided in the revised PDD has been checked by onsite visiting and document review against the schematic diagram of the position of meters. It is confirmed by the assessment team. | | | | | |
| **Reasoning for not Acceptance or Acceptance and Close Out:** | | | | | |
| Relevant information has been provided in the revised PDD and validated as such. Hence CAR #6 is closed out. | | | | | |
| **Acceptance and Close out by Lead Assessor: Ginger Jiang** — **Date:** 21/12/2010 | | | | | |

| | | | |
|---|---|---|---|
| Date: | 02/08/2010 | Raised by: | Ginger Jiang and Yuan Xue |

| Type: | CAR | Number: | CAR #7 | Reference: | B.13.7 under table 2 |
|---|---|---|---|---|---|
| **Lead Assessor Comment:** | | | | **Date:** 02/08/2010 | |
| Emergency plan is not prepared for the project as presented in section 7.2 of B.7.2 of the PDD. | | | | | |
| **Project Participant Response:** | | | | **Date:** 02/11/2010 | |
| Emergency plan is prepared for the project as presented in section B.7.2 of the PDD. | | | | | |
| **Documentation Provided as Evidence by Project Participant:** | | | | | |
| The revised PDD<br>CDM Manual of the project | | | | | |
| **Information Verified by Lead Assessor:** | | | | | |
| The information provided in the revised PDD has been confirmed by document review of the CDM Manual that such emergency plan is in place. | | | | | |
| **Reasoning for not Acceptance or Acceptance and Close Out:** | | | | | |
| Relevant information has been provided in the revised PDD and validated as such. Hence CAR #7 is closed out. | | | | | |
| **Acceptance and Close out by Lead Assessor: Ginger Jiang Yuan** | | | | **Date:** 21/12/2010 | |

## A.4 Annex 4: Team Members Statements of Competency

# Statement of Competence

Name: Jiang, Ginger

**Status**

| | | | | | |
|---|---|---|---|---|---|
| - | Lead Assessor | x | - | Expert | |
| - | Assessor | x | - | Financial Expert | |
| - | Local Assessor | China | - | 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: 29/09/2010

# Statement of Competence

Name: Yuan, Xue

**Status**

| | | | | | |
|---|---|---|---|---|---|
| - | Lead Assessor | x | - | Expert | x |
| - | Assessor | x | - | Financial Expert | |
| - | Local Assessor | x 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: 16/11/2010

# Statement of Competence

Name: Huang, Richard.

**Status**

| | | | | | |
|---|---|---|---|---|---|
| - | Lead Assessor | x | - | Expert | |
| - | Assessor | x | - | Financial Expert | x |
| - | Local Assessor | Taiwan | - | 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: 27/11/2010

# Statement of Competence

Name: Chen, Elton.

**Status**

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

**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: 29/09/2009

# Statement of Competence

Name: Jack Xing

**Status**

| | | | | | |
|---|---|---|---|---|---|
| - | Lead Assessor | | - | 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: 16/11/2010