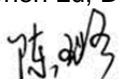




**Validation report form for renewal of crediting period for CDM project activities**  
(Version 01.0)

**VALIDATION REPORT FOR RENEWAL OF CREDITING PERIOD (RCP)**

<b>Title of the project activity</b>	CECIC Zhangbei Dayangzhuang Wind Farm Project
<b>Reference number of the project activity</b>	1855
<b>Number and duration of the next crediting period</b>	2 <sup>nd</sup> crediting period, 27/10/2015 to 26/10/2022
<b>Version number of the validation report for RCP</b>	Version 01.0
<b>Completion date of the validation report for RCP</b>	29/05/2015
<b>Version number of PDD to which this report applies</b>	Version 04.0
<b>Project participant(s)</b>	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd. Vitol SA
<b>Host Party</b>	China
<b>Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)</b>	Sectoral scope 01, Energy Industries (Renewable / non-renewable sources)  ACM0012, Grid-connected electricity generation from renewable sources, version 16.0.0
<b>Estimated annual average GHG emission reductions or net anthropogenic GHG removals in the next crediting period</b>	89,652 tCO <sub>2</sub> e
<b>Name of DOE</b>	China Building Material Test & Certification Group Co., Ltd. (CTC)
<b>Name, position and signature of the approver of the validation report for RCP</b>	Chen Lu, Deputy General Manager of CTC 

## SECTION A. Executive summary

The project activity “CECIC Zhangbei Dayangzhuang Wind Farm Project” installed a total capacity of 49.5 MW for wind power generation. It involves installation and operation of 66 sets of wind turbines with a unit capacity of 750 kW each. The project is located in Zhangbei County, Zhangjiakou City, Hebei Province of China. The geographic coordinates of the project site is longitude 114°33’4” East to 114°37’23” East and latitude 41°07’22” North to 41°10’36” North /1/ /8/. Annual electricity generation of 96,530 MWh is expected for the second crediting period of the project activity, the same as it in the first crediting period of the project activity, which is based on the approved FSR. The electricity generated by the project is supplied to the North China Power Grid (NCPG) /1/ /8/.

China Building Material Test & Certification Group Co., Ltd. (CTC) was commissioned by CECIC Wind Power (Zhangbei) Yunwei Co. Ltd. to perform a validation of the request to renew the crediting period of CDM project activity 1855 “CECIC Zhangbei Dayangzhuang Wind Farm Project” in China.

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology ACM0012, Grid-connected electricity generation from renewable sources, version 16.0.0 /13/. The validation was performed in accordance with CDM Project Standard version 09.0 /14/ and the Validation and Verification Standard version 09.0 /15/ and included an assessment of:

- (a) An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant EB guidance with regard to renewal of the crediting period at the time of requesting renewal of crediting period;
- (b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The validation of renewal of crediting period serves as assessment of validity of the baseline of project that has opted for a renewal of the crediting period. The validation is an independent third party assessment of the project's compliance with relevant UNFCCC criteria. In particular, the project's baseline and the monitoring plan (MP) are validated in order to confirm that the project baseline, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Validation is a requirement for all CDM projects seeking renewal of the crediting period and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

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

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using CTC internal procedures. The validation consisted of following three phases:

- i) A desk review of the project design and the baseline and monitoring plan;
- ii) Follow-up interviews with project stakeholders;
- iii) The resolution of outstanding issues and the issuance of the final validation report and opinion.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CLs and CARs), presented in the report. Taking into account this output, the project proponent revised its project design document.

In summary, it is CTC's opinion that the project activity “CECIC Zhangbei Dayangzhuang Wind Farm Project” in China, as described in the updated PDD version 04.0 dated 29/05/2015 meets the relevant UNFCCC requirements for the renewal of the crediting period. Hence CTC requests the renewal of the crediting period of the project activity.

**SECTION B. Validation team, technical reviewer and approver****B.1. Validation team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	IR	Yang	Xiaoshan	CTC Beijing	✓		✓	✓

**B.2. Technical reviewer and approver of the validation report for RCP**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Tan	Ernesto	CTC Beijing
2.	Approver	IR			CTC Beijing

**SECTION C. Means of validation****C.1. Desk review**

The updated PDD version 02 dated 03/04/2015 was sent to the secretariat by the project participant for notification of intention to renew the crediting period of the project activity /5/. In addition to the updated PDD submitted to request a renewal of the crediting period of the project activity /6/, CTC reviewed:

- the registered PDD and the corresponding validation report /1/ /2/
- verification reports and monitoring reports in the first crediting period /3/ /4/
- Electricity Purchase Agreement, IPO Prospectus for the parent company of the PP /8/
- Instructions for filling out the project design document for CDM project activities, CDM PDD Form, version 06.0 /19/
- Methodology ACM0012 version 16.0.0 applied by the project /13/
- Relevant decisions, clarifications and guidance from the CMP and the CDM EB
- Relevant national and sectoral policies

During the desk review, CTC has applied standard auditing techniques to assess the quality of information provided. The following activities were performed:

- A review of the data and information presented to verify their completeness;
- Cross checks between information provided in the updated PDD and information from sources other than other used, paying particular attention to project baseline, emission reduction calculation and monitoring plan.

**C.2. On-site inspection**

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
1.	N/A	N/A	N/A	N/A

The project information provided in the updated PDD for the renewal of crediting period has been verified /5/ /6/. CTC was able to confirm information transferred to the updated PDD is materially the same as that in the registered PDD /1/. The project design, construction, operation and monitoring practice of the project activity were not changed. The baseline scenario information can

also be confirmed as it was defined by the applied methodology ACM0012 version 16.0.0 /13/. Based on above mentioned reasons and all relevant documents available, CTC did not deem necessary to conduct a physical site visit as part of validation process of the crediting period renewal for the registered project activity, which is in conformity with the paragraphs 71-76 of CDM Validation and Verification Standard version 09.0 /15/. Instead, CTC conducted interviews with the project stakeholders by means of email and telephone. Information related to the interviews is presented in the following section.

### C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Lv	Xin	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd. (Project owner)	22/04/2015; 24/04/2015; 29/04/2015	- status of the project; - any changes with respect to the registered PDD; - applicability of the selected methodology; - national and sectoral policies/circumstances and changes; - baseline of the project and updates; - monitoring plan;	Yang Xiaoshan
2	Xu	Hongmei	Goldchina Consultancy International Co., Ltd. (Consultant)	22/04/2015; 24/04/2015; 29/04/2015	Ditto	Yang Xiaoshan
3	Zheng	Zhaoning	Goldchina Consultancy International Co., Ltd.	22/04/2015; 24/04/2015; 29/04/2015	Ditto	Yang Xiaoshan

### C.4. Clarification requests, corrective action requests and forward action requests raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	0	0	0
Application of baseline and monitoring methodology and standardized baseline	0	0	0
Validity of original baseline or its update	1	1	0
Estimated GHG emission reductions or net anthropogenic GHG removals	0	0	0
Validity of monitoring plan	0	0	0
Crediting period	0	0	0
Project participants	0	0	0
Others (please specify)	0	0	0
<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>

## SECTION D. Validation findings

### D.1. Compliance with PDD form

<b>Means of validation</b>	The updated PDD provided by the project participant has been verified against the instructions for filling out the PDD form and the registered PDD.
<b>Findings</b>	N/A
<b>Conclusion</b>	The PDD form used by the project activity for its crediting period renewal is version 06.0, which is valid at the time of submission of the request for the renewal of the crediting period. Information transferred to the updated PDD is materially the same as that in the registered PDD. It is in line with the Project Standard version 09.0.

**D.2. Application of baseline and monitoring methodology and standardized baseline**

<b>Means of validation</b>	<p>The project activity was originally registered based on the methodology “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” ACM0002, version 07. The updated PDD applies the methodology, “Grid-connected electricity generation from renewable sources” ACM0002, version 16.0.0 that was the latest version when the project was submitted for crediting period renewal.</p> <p>The applicability of the methodology was re-assessed based on the knowledge of the project from the initial validation for registration, subsequent verifications, and documents provided by the PPs as well as the confirmation from the project participants in the follow-up interviews.</p> <p>The project activity meets each of the applicability conditions of the methodology. It also meets all the other stipulations and limitations mentioned in the other sections of the methodology.</p> <ul style="list-style-type: none"> <li>• The project activity is a newly-built grid connected renewable power generation activity from wind power.</li> <li>• The project activity does not involve switching from fossil fuels to renewable energy at the site of the project activity.</li> </ul>
<b>Findings</b>	N/A
<b>Conclusion</b>	CTC was able to confirm that, for crediting period renewal, the project activity correctly applied the selected baseline and monitoring methodology.

**D.3. Validity of original baseline or its update**

<b>Means of validation</b>	<p>The following steps stipulated in the methodological tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”, version 03.0.1, were applied by the project activity, which is in line with the Project Standard version 09.0.</p> <p>Step 1.-Assess the validity of the current baseline for the next crediting period</p> <p>As demonstrated in the registered PDD, the baseline scenario for the project activity is the continued operation of the grid-connected power plants and the addition of new generation sources to meet electricity demand as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</p> <p>As per ACM0012 version 16.0.0, the baseline for the project activity remains the same as that in the registered PDD as “electricity delivered to the grid by the project activity would have otherwise been generated by the operation of existing grid-connected power plants and by the addition of new generation sources within the North China Power Grid to which the project is connected”.</p> <p>The validity of the current baseline is assessed using the following sub-steps:</p> <p>Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/sectoral policies</p> <p>Although national policies favour the development of renewable energy, electricity generated by fossil fuel based power plants dominated the electricity supply /11/. There has been no significant change in the relevant national and/or sectoral policies since the date of registered PDD till now. Hence, it was concluded that the current baseline was complied with all relevant national and sectoral policies.</p> <p>Step 1.2: Assess the impact of circumstances</p> <p>The project technical characteristics remain the same. Wind power generated by the project activity will be exporting to the NCPG. After years of development, current conditions like build margin and operating margin of the NCPG’s power generation are not the same as that was determined at the validation of the project activity. Therefore, baseline emissions need to be updated for the subsequent crediting period.</p> <p>Step 1.3: Assess whether the continuation of the use of current baseline</p>
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equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

The baseline is not the continuation of the current practice, as CECIC Zhangbei Dayangzhuang Wind Farm Project is a Greenfield project and consequently there was no equipment installed within the project boundary before the project implementation. Therefore, the sub-step is not applicable to the project activity.

#### Step 1.4: Assessment of the validity of the data and parameters

The emission factors have been updated by the project participants for the second crediting period of the project activity accordingly.

#### Step 2.-Update the current baseline and the data and parameters

##### Step 2.1: Update the current baseline

As per the requirement of the sub-step, the update for baseline emissions of the second crediting period is based on ACM0002 version 16.0.0 that is the latest approved version of the methodology applicable to the project activity at the time of request for renewal of the crediting period.

##### Step 2.2: Update the data and parameters

The emission factors for the project activity have been updated and determined ex-ante as a combined margin consisting of combination of the operating margin and build margin for the second crediting period by the project participants as per the "Tool to calculate the emission factor for an electricity system", version 04.0.

CTC was able to confirm that values applied in the calculation of the updated emission factors were in line with the "2014 Baseline Emission Factors for Regional Power Grids in China" published by the DNA of China on 11/05/2015 /10/.

The updated PDD dated 29/05/2015 was submitted for crediting period renewal of the project activity. The data used in the EF calculation has been verified to be in accordance with data in the China Electric Power Yearbook 2011-2013 (published annually), the Compilation of Statistical Data for Power Industry 2010-2012, the Statistical System for Public Institution 2011, the China Energy Statistical Yearbook 2011-2013, and IPCC 2006. Those data sources were the most available at that moment.

Aggregated generation and fuel consumption data are used due to the fact that more disaggregated data are not available in the NCPG; the total electricity delivered to the NCPG has been used which are obtained from the Compilation of Statistical Data for Power Industry 2010-2012. Country specific data for net calorific value of each type of fossil fuel are obtained from the China Energy Statistical Yearbook from 2009 and the IPCC 2006 default values for the emission factors of each type of fossil fuel are deemed reasonable.

Operating Margin: Simple OM was chosen and this is justified since the low cost /must run resources constitute less than 50% of total grid generation (1.19% in 2008, 2.00% in 2009, 3.13% in 2010 and 3.76% in 2011, 4.93% in 2012).

The OM is calculated to be 1.0580 tCO<sub>2</sub>/MWh. The sources and calculation have been verified by CTC.

Build Margin: Build margin was determined ex-ante for the second crediting period. Because plant specific fuel consumption and electricity generation data are not publicly available in China, the guidance from the CDM Executive Board for a deviation of the baseline methodology of AM0005 has been applied for calculation of the build margin (BM) emission factor for this project:

- Use of capacity additions from the years 2009 to 2012 is chosen and reaches 25.82% of the total installed capacity.
- Use of weights estimated using installed capacity in place of annual electricity generation. Thermal power plant accounts for 71.17% of the total installed capacity additions in this period. Since specific data for each technology is not available, the fraction of fuels (coal 93.97%; natural gas 5.90%; oil 0.13%) was estimated from the CO<sub>2</sub> intensity for the fuels used

	<p>in NCPG.</p> <ul style="list-style-type: none"> <li>Efficiencies of 40.03% for coal power plants and 52.90% for oil- or gas power plants are defined as the best technology commercially available in China by the DNA of China.</li> </ul> <p>With reference to the “Tool to calculate the emission factor for an electricity system”, the Simple OM emission factor (<math>EF_{grid,OM,y}</math>) of NCPG is calculated as 1.0580 tCO<sub>2</sub>e/MWh. Similarly, the build margin emission factor (<math>EF_{grid,BM,y}</math>) of the NCPG is calculated ex-ante as 0.5410 tCO<sub>2</sub>e/MWh.</p> <p>Therefore the combined baseline emission factor is determined ex-ante and will remain fixed during the second crediting period, viz.</p> $EF_{grid,CM,y} = 1.0580 \times 0.75 + 0.5410 \times 0.25 = 0.92875 \text{ tCO}_2\text{e/MWh}$
<b>Findings</b>	One CL and one CAR related to assessment of validity of original baseline and its updates were raised (refer to Appendix 4 of the report). The findings have been satisfactorily closed by the project participant by revising of the PDD and providing supporting materials.
<b>Conclusion</b>	The stepwise procedure provided in the methodological tool was correctly applied by the project activity for assessing validity of original baseline and its update. Validity of original baseline and its update was therefore confirmed.

#### D.4. Estimated GHG emission reductions or net anthropogenic GHG removals

<b>Means of validation</b>	<p>CTC has verified the spreadsheet for the calculation of the emission reductions provided by the PP and was able to confirm the estimated emission reductions are correctly calculated /7/.</p> <p>All assumptions and data used by the project participants are listed in the updated PDD and/or supporting documents, including their references and sources. All documentation used by the project participants as the basis for assumptions and source of data was correctly quoted and interpreted in the updated PDD. All values used in the updated PDD are considered reasonable in the context of the CDM project activity. The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the updated PDD.</p>
<b>Findings</b>	N/A
<b>Conclusion</b>	The estimated amount of GHG emission reductions of the project activity is 627,564 tCO <sub>2</sub> e for the second crediting period (7 years) from 27/10/2015 to 26/10/2022, resulting in estimated average annual emission reductions of 89,652 tCO <sub>2</sub> e.

#### D.5. Validity of monitoring plan

<b>Means of validation</b>	<p>The project applied the approved consolidated monitoring methodology ACM0002 version 16.0.0, Grid-connected electricity generation from renewable sources in combination with the “Tool to calculate the emission factor for an electricity system” version 04.0 for calculation of the grid emission factor.</p> <p>Parameters determined ex-ante:</p> <p>The combined margin emission factor of 0.92875 tCO<sub>2</sub>e/MWh is determined ex-ante based on the most available information available at the time of requesting for the crediting period renewal.</p> <p>Parameters monitored ex-post:</p> <p>The main monitored data of the proposed project is the electricity delivered to the grid by the project activity (<math>EG_{export}</math>) and the power imported from the grid (<math>EG_{import}</math>). The net generation is calculated as exports minus imports. Parameters that will be monitored ex-post are as the following. This is in line with the registered PDD.</p> <p><math>EG_y</math>                      Net electricity supplied to the grid by the project activity.</p> <p>It is calculated from equation</p> $EG_y = EG_{total} \times \frac{E_I}{E_I + E_{II}} - EG_{import}$ <p><math>EG_{export}</math>                      Electricity delivered to the grid by the project activity.</p>
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	<p>It is calculated from the equation</p> $EG_{\text{export}} = EG_{\text{total}} \times \frac{E_I}{E_I + E_{II}}$ <p><math>EG_{\text{import}}</math> Electricity imported from the grid by the project activity.</p> <p>It will be monitored continuously through the main meter installed at the 220 kV sub-station and recorded monthly.</p> <p><math>EG_{\text{total}}</math> Electricity exported to the grid by the project activity and the other project which shares the same main meter with the project activity.</p> <p>It will be monitored continuously through the main meter installed at the 220 kV sub-station and recorded monthly.</p> <p><math>E_I</math> Electricity exported to the grid by the project activity, measured continuously by the <math>E_I</math> meter installed at the onsite substation and recorded weekly as well as monthly.</p> <p><math>E_{II}</math> Electricity exported to the grid by the other project (Gaojialiang project), measured continuously by the <math>E_{II}</math> meter installed at the onsite substation and recorded weekly as well as monthly.</p> <p>The accuracy of the meters will be no less than 0.5, which is in line with the accuracy prescribed in the latest updated PDD as well as that in the registered PDD.</p>
<b>Findings</b>	N/A
<b>Conclusion</b>	The monitoring plan contained in the PDD version 04.0 dated 29/05/2015 is in accordance with the monitoring methodology and the monitoring plan contained in the registered PDD. The monitoring plan will give opportunity for real measurements of achieved emission reductions.

#### D.6. Crediting period

<b>Means of validation</b>	The project activity was registered on 27/10/2008. The current crediting period will be expired on 26/10/2015. On 13/04/2015, the project participants notified the CDM secretariat, by email message attached with the updated PDD version 02 dated 03/04/2015, of their intention to renew the crediting period. The CDM secretariat confirmed receipt of the notification on 13/04/2015 indicating the project activity was available for further processing by DOE selected. The notification was received by the secretariat by 180 days prior to the date of expiration of the current crediting period. As per the Project Cycle Procedure version 09.0, the new crediting period will start on 27/10/2015. The new crediting period will be from 27/10/2015 to 26/10/2022.
<b>Findings</b>	N/A
<b>Conclusion</b>	The crediting period renewal of the project activity met the requirements in the Project Cycle Procedure version 09.0. The new crediting period will be from 27/10/2015 to 26/10/2022 starting on the day immediately after the expiration of the current crediting period.

#### D.7. Project participants

<b>Means of validation</b>	The names of the project participants included in the updated PDD have been checked against the names of the project participants in the registered PDD. It conclude that the same project participants involved in the project activity: CECIC Wind Power (Zhangbei) Yunwei Co. Ltd. (from host party, China) and Vitol SA (from Annex 1 party, Switzerland)
<b>Findings</b>	N/A
<b>Conclusion</b>	As per the VVS, CTC confirmed that the names of the project participants included in the updated PDD are consistent with the names of the project participants in the registered PDD.



**D.8. Post-registration changes**

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	N	N/A	N/A
Corrections	N	N/A	N/A
Inclusion of a monitoring plan to a registered project activity	N	N/A	N/A
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	N	N/A	N/A
Changes to the project design of a registered project activity	N	N/A	N/A
Types of changes specific to afforestation and reforestation project activities	N	N/A	N/A

**SECTION E. Internal quality control**

The validation report underwent an Internal Technical Review (ITR) before requesting for renewal of crediting period of the registered CDM project activity.

The ITR is an independent process, performed by an internal technical review team (a qualified technical reviewer, with assistance from specialists where necessary), to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as CTC's internal procedures.

The Team Leader provides a copy of the validation report to the technical reviewer, including any necessary validation documentation. The technical reviewer reviews the documentation for conformance with the validation scheme and CTC's internal procedures. This is a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the technical reviewer ensures that:

- The validation activities have been performed by the validation team by exercising utmost diligence and complete adherence to the CDM rules and requirements.
- The review encompasses all aspects related to the project activity which includes project design, baseline, monitoring plans and emission reduction calculations, internal quality assurance as well as the closure of CARs and CLs during the validation process, review of sample documents.

The technical reviewer may raise Clarification Requests to the validation team and discuss with the Team Leader.

After the agreement of the responses to the Clarification Requests from the validation team as well as the PP(s), the finalized validation report is accepted for further processing such as reporting approval of report uploading via the UNFCCC interface.

**SECTION F. Validation opinion**

China Building Material Test & Certification Group Co., Ltd. has performed an validation of the request by CECIC Wind Power (Zhangbei) Yunwei Co. Ltd. to renew the crediting period for the registered CDM project activity “CECIC Zhangbei Dayangzhuang Wind Farm Project” in China (UNFCCC registration Ref. No. 1855). The assessment was performed in accordance with the Validation and Verification Standard (Version 09.0) /15/ and the CDM Project Standard (Version 09.0) /14/ and included an assessment of:

- (a) An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant EB guidance with regard to renewal of the crediting period at the time of requesting renewal of crediting period;
- (b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The review of the project design documentation and the subsequent follow-up interviews have provided CTC with sufficient evidence to determine the validity of the original baseline scenario and the update of the baseline through an assessment. The project correctly applies the baseline and monitoring methodology ACM0012 “Grid-connected electricity generation from renewable sources” version 16.0.0.

The total emission reductions from the project are estimated to be on the average 89,652 tCO<sub>2</sub>e per year over the 2<sup>nd</sup> renewable crediting period. The emission reduction forecast has been checked, and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design, and it is CTC's opinion that the project participants are able to implement the monitoring plan.

In summary, it is CTC's opinion that the CDM project activity 1855 “CECIC Zhangbei Dayangzhuang Wind Farm Project” In China meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence CTC requests the renewal of the crediting period of the project.

## Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CL	Clarification Request
CM	Combined Margin
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
DNA	Designate National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
NCPG	North China Power Grid
NDRC	National Development and Reform Commission
OM	Operating Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PS	Project Standard
tCO <sub>2</sub> e	Tonnes of CO <sub>2</sub> equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

## Appendix 2. Competence of team members and technical reviewers

**Mr. Yang Xiaoshan** holds a Bachelor Degree in Material Science and Engineering. He has an overall professional experience of around nine years. Prior to joining CTC, he had about four years experience of cement manufacturing at Lafarge and 3 years experience in Clean Development Mechanism Validation and Verification at DNV.

While working in cement plant, his experience covers cement production, process optimization, quality assurance, waste heat recovery and energy efficiency improvement, alternative fuels, cheap coal, and solid waste disposal in clinker kiln. He had also been actively involved in implementation of Quality Management System, ISO 9001 standard in cement manufacturing industry for more than three years.

He has experience in CDM validation and verification for around 100 projects that applied technologies of renewable energy, waste heat/gas recovery, N<sub>2</sub>O abatement, etc.

His qualification, industrial experience and experience in CDM demonstrate his sufficient sectoral competence in “Manufacturing industries (Cement and lime production)” and “Energy industries (Renewables)”.

**Mr. Ernesto Tan** holds a bachelor degree in Geology and a master degree in Structural Geology. He gained more than 2 years’ technical experience in Petroleum Exploitation and Storage & Transportation sector and more than 7 years experience in Clean Development Mechanism in P.R China. He obtained the certificate of Climate Change Lead Verifier and Auditor for ISO 14001.

He has experience in CDM validation and verification for more than 200 projects that applied technologies of renewable energy, waste heat/gas recovery, energy distribution, energy demand, N<sub>2</sub>O abatement, oil and gas industry, coal mine methane recovery and use, SF<sub>6</sub> capture and destruction, etc. His qualification, industrial experience and experience in CDM demonstrate his sufficient sectoral competence in “Energy industries (Renewables)”.

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	the Registered PDD, version 1.3	25/10/2008	Others
2	Bureau Veritas Certification Holding SAS	the validation report of the project activity, version 02	26/10/2008	Others
3	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	Monitoring Report for the first crediting period	24/03/2013	Others
4	TÜV SÜD South Asia Pvt. Ltd.	Verification Report for the first crediting period	28/03/2013	Others
5	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	the updated PDD, version 02, sent to the secretariat for notification	03/04/2015	PP
6	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	the updated PDD, version 04.0, submitted to request a renewal of crediting period of the project activity	29/05/2015	PP
7	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	Emission reductions calculation spreadsheet	29/05/2015	PP
8	CECIC Wind Power (Zhangbei) Yunwei Co. Ltd.	Power Purchase Agreement and Grid Connection Agreement	21/12/2012	PP
9	CECEP Wind-Power Corporation (parent company of the PP)	the Prospectus for IPO of CECEP Wind-Power Corporation	26/08/2014	Others
10	NDRC	2014 Baseline Emission Factors for Regional Power Grids in China dated on 11/05/2015	<a href="http://cdm.ccchina.gov.cn/Detail.aspx?newsId=51651&amp;TId=3">http://cdm.ccchina.gov.cn/Detail.aspx?newsId=51651&amp;TId=3</a>	Others
11	China Power Yearbook Editing Committee	China Electric Power Yearbook 2009,2010,2011,2012 and 2013	N/A	Others
12	China Energy Yearbook Editing Committee	China Energy Statistical Yearbook 2011, 2012 and 2013	N/A	Others
13	CDM-EB	Large Scale Consolidated Methodology, Grid-connected electricity generation from renewable sources, ACM0012, version 16.0.0	28/11/2014	Others
14	CDM-EB	CDM Project Standard, version 09.0	20/02/2015	Others
15	CDM-EB	CDM Validation and Verification Standard, version 09.0	20/02/2015	Others

16	CDM-EB	CDM Project Cycle Procedure, version 09.0	20/02/2015	Others
17	CDM-EB	Tool to calculate the emission factor for an electricity system, version 04.0	04/10/2013	Others
18	CDM-EB	Assessment of the validity of the current/original baseline and update of the baseline at the renewal of the crediting period, version 03.0.1	02/03/2012	Others
19	CDM-EB	Project design document for CDM project activities, version 06.0	09/03/2015	Others

## Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	01	Section no.	D.5	Date: 29/04/2015
Description of CL				
<p>It is stipulated in the EF tool applied by the project activity, “<i>The simple OM method (Option a) can only be used if low-cost/must-run resources constitute less than 50 per cent of total grid generation (excluding electricity generated by off-grid power plants) in: 1) average of the five most recent years, or 2) based on long-term averages for hydroelectricity production.</i>”</p> <p>In the updated PDD version 02 dated 03/04/2015, it stated that “Low-cost/must-run resources constitute less than 50% of total amount of grid generating output from 2007 to 2012 in the NCPG, ... simple OM was thus selected”.</p> <p>Clarification is sought on data that can justify the selection of simple OM.</p>				
Project participant response				Date: 29/04/2015
<p>The Tool to calculate the emission factor for an electricity system offers four options for the calculation of the Operating Margin emission factor(s):</p> <p>(a) Simple OM; or (b) Simple adjusted OM; or (c) Dispatch data analysis OM; or (d) Average OM.</p> <p>The simple OM method (Option a) can only be used if low-cost/must-run resources constitute less than 50 per cent of total grid generation (excluding electricity generated by off-grid power plants) in: 1) average of the five most recent years, or 2) based on long-term averages for hydroelectricity production.</p> <p>Because low-cost/must run resources constitute less than 50% of total amount of grid generating output from 2008 to 2012 in the NCPG, option (a) Simple OM was thus selected.</p>				
Documentation provided by project participant				
Revised PDD, version 03, dated 29/04/2015; China Electric Power Yearbook 2009-2013				
DOE assessment				Date: 30/04/2015
<p>By reviewing the updated section in the PDD and data source provided by the PP, CTC was able to confirm the data stated in the updated PDD was in accordance with the five most recent years data in China Electric Power Yearbook 2009-2013 (published yearly), and the selection of simple OM was justified.</p> <p><b>CL 1 was therefore closed.</b></p>				

Table 2. CAR from this validation

CAR ID	01	Section no.	D.5	Date:	29/04/2015
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<b>Description of CAR</b>	
<p>The stepwise method as per the “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” was applied by the project participant. For the project activity, data and parameters of baseline emissions were updated for the renewal of crediting period. However, it was seen in the updated PDD version 02 dated 03/04/2015 that “in accordance with above assessment in step 1.1, 1.2 and 1.3, the current baseline need not be updated”. This was contrary to the requirement “If any of the data and parameters that were only determined at the start of the crediting period and not monitored during the crediting period are not valid anymore, the current baseline needs to be updated for the subsequent crediting period.” in the tool.</p> <p>Corrective action request is therefore sought.</p>	
<b>Project participant response</b>	<b>Date:</b> 29/04/2015
<p>For more reasonable explanation, the step 2.1 of B.4 part in PDD was revised: In accordance with above assessment in step 1.1, 1.2, 1.3, and 1.4, the current baseline is still valid for the second crediting period, but data and parameters of baseline emissions were updated for the renewal of crediting period.</p>	
<b>Documentation provided by project participant</b>	
Revised PDD, version 03, dated 29/04/2015	
<b>DOE assessment</b>	<b>Date:</b> 30/04/2015
<p>By reviewing respective sections revised by the PP, CTC was able to confirm that the “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” was correctly applied in the updated PDD version 03 dated 29/04/2015.</p> <p><b>CAR1 was therefore closed.</b></p>	

Table 3. FAR from this validation

<b>FAR ID</b>	xx	<b>Section no.</b>	N/A	<b>Date:</b> DD/MM/YYYY
<b>Description of FAR</b>				
N/A				
<b>Project participant response</b>				<b>Date:</b> DD/MM/YYYY
N/A				
<b>Documentation provided by project participant</b>				
N/A				
<b>DOE assessment</b>				<b>Date:</b> DD/MM/YYYY
N/A				