




**Validation report form for renewal of crediting period for  
CDM project activities  
(Version 03.0)**

*Complete this form in accordance with the instructions attached at the end of this form.*

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the project activity</b>	CGN Dalian Xizhongdao Wind Farm Project (UNFCCC Registration No.:5446)
<b>Number and duration of the next crediting period</b>	The 2 <sup>nd</sup> crediting period From 31/12/2019 to 30/12/2026
<b>Version number of the validation report</b>	01
<b>Completion date of the validation report</b>	29/06/2020
<b>Version number of PDD to which this report applies</b>	07
<b>Project participants</b>	Dalian Changxingdao CGN Wind Power Co., Ltd. (P. R. China) Statkraft Markets GmbH (Germany)
<b>Host Party</b>	People's Republic of China
<b>Applied methodologies and standardized baselines</b>	ACM0002 (Version 20.0), "Grid-connected electricity generation from renewable sources"
<b>Mandatory sectoral scopes</b>	Sectoral scope(s): 01 Energy industries (renewable/non-renewable sources)
<b>Conditional sectoral scopes, if applicable</b>	-
<b>Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period</b>	102,577 tCO <sub>2</sub> e
<b>Name and UNFCCC reference number of the DOE</b>	Shenzhen CTI International Certification Co., Ltd (CTI) (UNFCCC Registration No.:E-0061)
<b>Name, position and signature of the approver of the validation report</b>	Zhou Lu, General Manage 

**SECTION A. Executive summary**

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Dalian Changxingdao CGN Wind Power Co., Ltd. has commissioned Shenzhen CTI International Certification Co., Ltd (CTI) to validate the renewal of crediting period of the proposed CDM project activity "CGN Dalian Xizhongdao Wind Farm Project" in P. R. China (UNFCCC Registration No.: 5446). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The project is a newly built wind farm located in Dalian City, Liaoning Province, China, with geographical coordinates of east longitude from 121.2703° to 121.3332° and north latitude from 39.4236° to 39.4831°. The total installed capacity of the proposed project is 48.6MW, consisting of 27 turbines in type of Vestas V90-1.8MW with the rated output of 1.8MW manufactured by Vestas Wind Technology (China) Co., Ltd. Lifetime of the project activity is 20 years. The electricity generated by the proposed project will be connected to Northeast China Power Grid (NECPG). The annual electricity supplied to the grid is 112,241.7 MWh with load factor of 26.36%. The project put into operation on 04/09/2012. The objective of the project is to produce electricity with clean and renewable wind sources and to displace part of the electricity from fossil fuel-fired plants connected to Northeast China Power Grid. The project activity will generate greenhouse gas (GHG) emission reductions by avoiding CO<sub>2</sub> emissions from electricity generation by connected fossil fuel power plants.

The purpose of the validation of renewal of crediting period is to have an independent third party assess the validity of the project baseline that has opted for a renewal of crediting period. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. The validation of baseline is a requirement for all CDM projects seeking renewal of 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 scope is defined as an independent and objective review of the project design document (PDD), baseline update, monitoring plan and other relevant documents. The report is based on the assessment of the project design document under taken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow-up interviews with project stakeholders, review of the applicable methodology and its underlying formulae and calculations.

In summary, it is CTI's opinion that the project activity "CGN Dalian Xizhongdao Wind Farm Project" in P. R. China, as described in the PDD, version 07 of 11/06/2020, meets all relevant UNFCCC requirements for the renewal of crediting period. Hence, CTI requests the renewal of the crediting period of the project.

**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/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	IR	Zhang	Lei	Shenzhen	√	√	√	√

**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	Lin	Shunrong	Shenzhen
2	Approver	IR	Zhou	Lu	Shenzhen

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

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The PDD and additional background documents related to the project design and baseline were submitted to the validation team for review. The document review in particular includes applicability of selected methodology, baseline determination, monitoring plan, emission reductions calculation. All documentations that were reviewed during the validation can be found in Appendix 3 of this validation report.

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

Duration of on-site inspection: 02/06/2020 to 02/06/2020				
No.	Activity performed on-site	Site location	Date	Team member
1.	- Inspection of project design Confirmation of monitoring plan	Project site	02/06/2020	Lei Zhang

**C.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Xu	Xiansong	CGN Carbon Asset Management (Beijing) Co.,Ltd.	02/06/2020	1. Status of the project activity 2. Applicability of selected methodology 3. Baseline of the project 4. Emission reductions 5. Monitoring plan	Lei Zhang
2	Guo	Fudong	Dalian Changxingda o CGN Wind Power Co., Ltd.	02/06/2020		Lei Zhang

**C.4. Sampling approach**

&gt;&gt; NA

**C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised**

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	1	0	0
Application and selection of methodologies and standardized baselines	0	0	0
Validity of original baseline or its update	0	0	0
Estimated emission reductions or net anthropogenic	0	0	0

removals			
Validity of monitoring plan	0	0	0
Crediting period	0	0	0
Project participants	0	0	0
Post-registration changes	0	0	0
Others (please specify)	0	0	0
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>

## SECTION D. Validation findings

### D.1. Compliance with PDD form

<b>Means of validation</b>	Document review the PDD against the PDD form.
<b>Findings</b>	<p>By checking the PDD, CTI confirmed that the CDM-PDD-FORM version 11.0 has been applied correctly.</p> <p>According to the instructions for completing the PDD form version 11.0, it was found "Section A description of project activity" of the PDD lacks of monitoring equipment and their location in the systems, therefore CL 1 was raised.</p>
<b>Conclusion</b>	<p>The information of monitoring equipment and their location in the systems has been correctly described in the updated PDD (version 07), hence CL 1 is closed.</p> <p>The project is a 48.6MW wind power farm and located in Dalian City, Liaoning Province, P.R.China, with geographical coordinates of east longitude from 121.2703° to 121.3332° and North latitude from 39.4236° to 39.4831°. The project installs 27 turbines in type of Vestas V90-1.8MW with the rated output of 1.8MW. The details of installed turbines with respect to installation and capacity have been verified by CTI through on-site inspection, and checking the wind turbine nameplate and purchase agreement between Dalian Changxingdao CGN Wind Power Co., Ltd. and Vestas Wind Technology (China) Co., Ltd., during the interview and desk review, to be consistent with description indicated in the registered PDD (version 06) and the updated PDD (version 07).</p> <p>CTI has verified the project implementation through interview and by checking the the daily operation and maintenance records, sales receipts, and the power purchase agreement (PPA) from 2012 to 2020, as well the connection diagram and photos of the meters. It was confirmed that the project put into operation on 04/09/2012. The electricity generated by the project activity was supplied to the NECPG. As of the on-site inspection and checking PPAs, it is confirmed that the 220kV Grid Substation has not completed, therefor the gateway meter (M1) and a backup meter (M2) are installed at the high volt side of the 66kV Substation on the project site to measure the electricity supplied to and imported from the grid by the project (<math>EG_{export,y}</math> and <math>EG_{import,y}</math>).</p> <p>CTI can confirm through interview and documents review that the project activity was implemented according to the registered PDD. The monitoring system in operation period is consistent with the description in the monitoring plan. No serious malfunction happened and the plant was under a normal operation as expected during the operation.</p> <p>The implementation status has been described in the updated PDD (version 07), and the project description of the project activity contained in the PDD to be complete and accurate, information transferred to the PDD is materially the same as that in the registered PDD ( version 06).</p>

### D.2. Application and selection of methodologies and standardized baselines

<b>Means of validation</b>	The assessment of the project's compliance with the applicability criteria of ACM0002 (Version 20.0)
<b>Findings</b>	<p>(1) The Project is the installation of a wind power plant.</p> <p>(2) The Project is a Greenfield power plant and does not represent a capacity addition to an existing plant.</p>

	<p>(3) The project is the installation of a new grid-connected wind power plant, which doesn't involve either switching from fossil fuels to renewable energy source at the site of the project activity or biomass fired power generation.</p> <p>(4) The project is connected to the NECPG, and the geographical and system boundaries are clearly identified and information on the characteristics of the grid is available.</p>
<b>Conclusion</b>	The validation team concluded that the project meet all applicability criteria of the methodology ACM0002 (Version 20.0).

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

<b>Means of validation</b>	According to the CDM project standard for project activities (CDM PS), the demonstration of the validity of the original baseline or its update does not require a reassessment of the baseline scenario, but rather an assessment of the GHG emission reductions that would have resulted from that scenario. With reference to the methodology tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period".
<b>Findings</b>	<p><b>Step 1: Assess the validity of the current baseline for the next crediting period</b></p> <p>The CDM PS requires assessing the impact of new relevant national and/or sectoral policies and circumstance on the baseline. The validity of the current baseline is assessed using the following sub-steps.</p> <p><b>Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies</b></p> <p>The current baseline remains the same as it was in the updated PDD. There has been not significant change in the relevant national and/or sectoral policies since the date of PDD registered till now, although national policies favour the development of renewable energy, electricity generated by fossil fuel based plants dominates the electricity supply. Hence, it can be concluded that the current baseline still complies with all relevant policies.</p> <p><b>Step 1.2: Assess the impact of circumstances</b></p> <p>There are not new national/sectoral policies or circumstances that could affect the baseline scenario during the renewal of the crediting period. The validation team confirmed that the current baseline identified in the registered PDD is still valid for the second crediting period.</p> <p><b>Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested</b></p> <p>In absence of the project activity, similar amount of electricity would have been generated by the grid and the continuation of the use of current baseline equipment is considered technically possible. Not any investment needs to be undertaken by the project participants or the third party. Hence, this is not applicable to the project activity.</p> <p><b>Step 1.4: Assessment of the validity of the data and parameters</b></p> <p>According to the requirement of the "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period", 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 and not valid anymore, the current baseline needs to be updated for the subsequent crediting period.</p> <p>The Designated National Authority (DNA) of China issued the notice "2017 Baseline Emission Factors for Regional Power Grid in China" on 20/12/2018, which was the latest grid data available for the project. The emission factors <math>EF_{grid,OM,y}</math> and <math>EF_{grid,BM,y}</math> of the NECPG the project connected have been updated according to the latest data available on 20/12/2018. For the wind project, the values of <math>W_{OM}</math> and</p>

	<p><math>W_{BM}</math> also have been updated for the second crediting period as per the “Tool to calculate the emission factor for an electricity system” version 07.0. The parameters mentioned above were determined at the start of the first crediting period are not valid any more. Thus the baseline emissions need to be updated for the second crediting period with the application of the new data available.</p> <p><b>Step 2: Update the current baseline and the data and parameters</b></p> <p><b>Step 2.1: Update the current baseline</b> The baseline emissions have been updated for the second crediting period, without re-assessing the baseline scenario, based on the latest approved version (Version 20.0) of the methodology ACM0002 applicable to the project activity taking into account the sectoral policies and circumstances that are applicable at the time of request for renewal of the crediting period.</p> <p><b>Step 2.2: Update the data and parameters</b> The “2017 Baseline Emission Factors for Regional Power Grid in China” was issued by DNA of China, which was calculated according to the “Tool to calculate the emission factor for an electricity system”. The values of <math>W_{OM}</math> and <math>W_{BM}</math> are as per the “Tool to calculate the emission factor for an electricity system”, version 07.0. The validation team confirmed that the applied data and parameters are latest available at the time of the project participant requesting renewal of the crediting period and valid for calculation of baseline grid emission factor of the second crediting period.</p>
<b>Conclusion</b>	CTI confirmed that the baseline scenario for the project is continuation for the current practice, namely provision of equivalent amount of annual power output by the grid where the project is connected to.

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

<b>Means of validation</b>	The GHG emission reduction calculations were checked in accordance with the formulae given in the baseline and monitoring methodology ACM0002 (Version 20.0).
<b>Findings</b>	<p>(1) Baseline emissions</p> <p>The baseline is that, in the absence of the project activity, equivalent amount of electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources within the NECPG. Therefore, following ACM0002 (Version 20.0), the baseline emissions (<math>BE_y</math>, in tCO<sub>2</sub>e) are the product of the baseline emissions factor (<math>EF_{grid,CM,y}</math> in tCO<sub>2</sub>/MWh) times the net power delivered to the grid (<math>EG_{facility,y}</math> in MWh):</p> $BE_y = EG_{facility,y} \times EF_{grid,CM,y}$ <p><b>Determination of <math>EG_{facility,y}</math></b></p> <p><math>EG_{facility,y}</math> is equal to the electricity supplied by the project to the NECPG (<math>EG_{export,y}</math>) minus the electricity imported by the proposed project from the NECPG (<math>EG_{import,y}</math>) as below:</p> $EG_{facility,y} = EG_{export,y} - EG_{import,y}$ <p>Where:</p> <p><math>EG_{facility,y}</math> is the quantity of net electricity generation supplied to the Grid by the project activity in year y.</p> <p><math>EG_{export,y}</math> is the quantity of electricity supplied to the grid by the project activity.</p> <p><math>EG_{import,y}</math> is the quantity of electricity imported to the grid by the project activity</p> <p><b>Determination of <math>EF_{grid,CM,y}</math></b></p> <p>The grid emission factor of (<math>EF_{grid,CM,y}</math>) is determined <i>ex-ante</i> as a combined margin of the operating margin (OM) and build margin (BM) (the weighted average <math>w_{OM} = 0.75</math>; <math>w_{BM} = 0.25</math> for the second crediting period) according to the “Tool to calculate the emission factor for an electricity system”.</p> $BE_y = EG_{facility,y} \times EF_{grid,CM,y} = 112,241.7 \times 0.9139 = 102,577 \text{ tCO}_2\text{e}$ <p>(2) Project emissions</p> <p>Project emission is zero. Based on document review, the validation team regards</p>

	this consideration is correct, and in line with methodology ACM0002 (Version 20.0).  (3) No leakage is considered under the methodology ACM0002 (Version 20.0).
<b>Conclusion</b>	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 is correctly quoted and interpreted in the updated PDD. All values used in the updated PDD are considered reasonable in the context of the proposed CDM project activity. The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakages 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.

## D.5. Validity of monitoring plan

Means of validation	<p>Based on review of the documented procedures, interviews with relevant personnel, CTI evaluated the revised monitoring plan for the proposed project to ensure that it is based on the approved monitoring methodology that has been applied, and assessed:</p> <p>(1) Whether the monitoring plan contains all necessary parameters;</p> <p>(2) Whether the parameters are clearly described;</p> <p>(3) Whether the means of monitoring described in the plan complies with the requirements of the methodology;</p> <p>(4) Whether the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions can be reported ex post and verified.</p>																	
Findings	<p>The project applies the approved monitoring methodology ACM0002 (Version 20.0).</p> <p>Based on the interview and checking the connection diagram, PPA and meters, it is confirmed that the 220kV Grid Substation has not completed, therefore the gateway meter (M1) and a backup meter (M2) are installed at the high volt side of the 66kV Substation on the project site to measure the electricity supplied to and imported from the grid by the project (<math>EG_{\text{export},y}</math> and <math>EG_{\text{import},y}</math>).</p> <p>CTI confirms all meters have accuracy of 0.2s complying with monitoring plan in the registered PDD (version 06) and updated PDD (version 07) “at least 0.5s”. Each meter will be annually calibrated according to national regulations.</p> <p>It is confirmed that the monitoring plan in the updated PDD (version 07) is in line with the registered PDD (version 06 ), complies with the requirements of the methodology and reflects the real situation.</p> <p><b>(1) Parameters determined ex-ante</b></p> <p>The following parameters are determined <i>ex-ante</i> and will be kept fixed during the second crediting period, which have been verified by CTI.</p> <table><tr><th>Data and parameter</th><th>Unit</th><th>Ex-ante value</th><th>Data source</th></tr><tr><td>Operating margin of NECPG (<math>EF_{\text{Grid,OM},y}</math>)</td><td>tCO<sub>2</sub>/MWh</td><td>1.1082</td><td rowspan="4">The emission factors of operating margin and build margin are calculated ex-ante based on the most recent information available at the time of requesting for crediting period renewal</td></tr><tr><td>Build margin of NECPG (<math>EF_{\text{Grid,BM},y}</math>)</td><td>tCO<sub>2</sub>/MWh</td><td>0.3310</td></tr><tr><td>Weighting of operating margin emissions factor (<math>W_{\text{OM}}</math>)</td><td>%</td><td>75</td></tr><tr><td>Weighting of build margin emissions factor (<math>W_{\text{BM}}</math>)</td><td>%</td><td>25</td></tr></table> <p>Data and parameters indicated in B.6.2 of the PDD are used to calculate the combined margin <math>1.1082 \times 75\% + 0.3310 \times 25\% = 0.9139</math> tCO<sub>2</sub>/MWh .</p>	Data and parameter	Unit	Ex-ante value	Data source	Operating margin of NECPG ( $EF_{\text{Grid,OM},y}$ )	tCO <sub>2</sub> /MWh	1.1082	The emission factors of operating margin and build margin are calculated ex-ante based on the most recent information available at the time of requesting for crediting period renewal	Build margin of NECPG ( $EF_{\text{Grid,BM},y}$ )	tCO <sub>2</sub> /MWh	0.3310	Weighting of operating margin emissions factor ( $W_{\text{OM}}$ )	%	75	Weighting of build margin emissions factor ( $W_{\text{BM}}$ )	%	25
Data and parameter	Unit	Ex-ante value	Data source															
Operating margin of NECPG ( $EF_{\text{Grid,OM},y}$ )	tCO <sub>2</sub> /MWh	1.1082	The emission factors of operating margin and build margin are calculated ex-ante based on the most recent information available at the time of requesting for crediting period renewal															
Build margin of NECPG ( $EF_{\text{Grid,BM},y}$ )	tCO <sub>2</sub> /MWh	0.3310																
Weighting of operating margin emissions factor ( $W_{\text{OM}}$ )	%	75																
Weighting of build margin emissions factor ( $W_{\text{BM}}$ )	%	25																

	<b>(2) Parameters monitored ex-post</b>	
	According to ACM0002 (Version 20.0), data and parameters monitored for the project are:	
	EG <sub>facility,y</sub>	Quantity of net electricity generation supplied to the Grid by the project activity in year y.
	EG <sub>export,y</sub>	Electricity exported to the grid by the project activity in year y
	EG <sub>import,y</sub>	Electricity imported to the grid by the project activity in year y
	<b>(3) Management system and quality assurance</b>	
	Detailed procedures have been elaborated in the updated PDD, including;	
	<ul style="list-style-type: none"> <li>• Monitoring object</li> <li>• Management structure</li> <li>• Monitoring equipments</li> <li>• Monitoring procedure</li> <li>• Quality assurance and quality control</li> <li>• Data management system</li> <li>• Monitoring report</li> </ul>	
	These will be maintained and implemented to enable subsequent verification of emission reductions.	
<b>Conclusion</b>	CTI confirmed that the project correctly applies the approved monitoring methodology ACM0002 (Version 20.0). The monitoring plan will give opportunity for real measurements of achieved emission reductions. CTI considers the project participants are capable to implement the monitoring plan.	

**D.6. Crediting period**

<b>Means of validation</b>	CTI reviewed the PDD, and registration information in the UNFCCC website to confirm the validity of the second crediting period.
<b>Findings</b>	<p>The project was registered on 29/12/2011 as CDM project and the first crediting period was from 31/12/2012 to 30/12/2019. The renewed second crediting period is from 31/12/2019 to 30/12/2026.</p> <p>As per the Para 272 of the PCP (version 02.0), the renewal request shall be submitted "no earlier than 270 days prior to, but no later than one year after, the expiry of the crediting period". With regard to this registered project activity, its renewal request is no later than one year after the expiry of the crediting period. The validation team confirmed that the request for renewal of crediting period of the project meets the requirements of CDM PCP.</p>
<b>Conclusion</b>	The validation team confirmed that the request for renewal of crediting period of the project meets the requirements of CDM PCP, and the 2 <sup>nd</sup> crediting period is valid.

**D.7. Project participants**

<b>Means of validation</b>	CTI reviewed the PDD, and registration information in the UNFCCC website to confirm the validity of project participants.
<b>Findings</b>	It is confirmed that the project participants are "Dalian Changxingdao CGN Wind Power Co., Ltd." from the host Party China and "Statkraft Markets GmbH" from the Annex I Party Germany, which were verified by CTI by checking the MoC and LoAs. The DNA from China confirmed that the project assists in achieving sustainable development.
<b>Conclusion</b>	The validation team confirmed that the project participant indicated in the updated PDD are consistent with name in the UNFCCC website for the project.

**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,	NA	NA	NA



applied methodologies, standardized baselines or other methodological regulatory documents <sup>1</sup>			
Corrections	NA	NA	NA
Change to the start date of the crediting period	N	NA	NA
Inclusion of a monitoring plan	NA	NA	NA
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	NA	NA	NA
Changes to the project design	NA	NA	NA
Changes specific to afforestation and reforestation project activities	NA	NA	NA

## SECTION E. Internal quality control

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The validation report underwent a technical review performed by a technical reviewer qualified in accordance with CTI's qualification scheme for CDM validation and verification.

## SECTION F. Validation opinion

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Shenzhen CTI International Certification Co., Ltd (CTI) has performed a validation of renewal of crediting period of the project activity "CGN Dalian Xizhongdao Wind Farm Project" in China (UNFCCC Registration No.:5446). The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism as well as criteria given to provide for consistent project operations, monitoring and reporting.

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 interviews with project stakeholders, review of the applicable methodology and its underlying formulae and calculations.

The project participants are "Dalian Changxingdao CGN Wind Power Co., Ltd." from the host Party China and "Statkraft Markets GmbH" from the Annex I Party Germany.

The project correctly applies the baseline and monitoring methodology ACM0002, Version 20.0, "Grid-connected electricity generation from renewable sources".

The project results in reductions on-term benefits to the mitigation of climate change. The total emission reductions from the project are estimated to be on the average 102,577 tCO<sub>2</sub>e per year over the second renewable crediting period. The emission reductions forecast have 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 CTI's opinion that the project participants are able to implement the monitoring plan.

In summary, it is CTI's opinion that the project activity "CGN Dalian Xizhongdao Wind Farm Project" in China, as described in the PDD (version 07 dated 11/06/2020), meets all relevant UNFCCC requirements for the renewal of crediting period. Hence, CTI requests the renewal of the crediting period of the project.

*Zhang Lei*

Ms. Lei Zhang  
Team Leader  
29/06/2020

*Wu Lin*

Mr. Wu Lin  
Technical Reviewer  
29/06/2020

<sup>1</sup> Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

## Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	CDM project cycle procedure for project activities
CDM PS	CDM project standard for project activities
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
CTI	Shenzhen CTI International Certification Co., Ltd
DNA	Designated National Authority
EF	Emission Factor
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of approval
MEE	Ministry of Ecology and Environment of the People's Republic of China
OM	Operating Margin
PDD	Project Design Document
PPA	Power Purchase Agreement
NECPG	Northeast China Power Grid
tCO <sub>2</sub> e	Tonnes of CO <sub>2</sub> equivalents
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Clean Development Mechanism Validation and Verification Standard

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

Mr. Zhang Lei

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation
	TA 1.2: Energy generation from renewable energy sources
SS 4: Manufacturing industries	TA 4.1: Cement and lime production
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu LIN

*Wu Lin*

Technical Competent Manager

Shenzhen, 01/01/2018

Ms. Shunrong Lin

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification					
GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 14: Afforestation and reforestation	TA 14.1: Afforestation and reforestation
SS 15: Agriculture	TA 15.1: Agriculture

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu LIN

*Wu Lin*

Technical Competent Manager

Shenzhen, 01/01/2018

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	PP	Registered CDM-PDD for project activity “CGN Dalian Xizhongdao Wind Farm Project”, version 06	23/11/2011	PP
2	PP	CDM PDD for renewal of crediting period of project activity “CGN Dalian Xizhongdao Wind Farm Project”, version 07	11/06/2020	PP
3	PP	Emission reduction spreadsheet for renewal of crediting period of project activity, version 01	11/06/2020	PP
4	PP	CDM Monitoring Manual	2011	PP
5	Grid company	Power Purchase Agreement (PPA) with grid company	2012-2020	PP
6	PP	Diagram of power connection system of the Project	-	PP
7	PP	Photos of the meters	-	PP
8	PP	Wind turbines connection diagram	-	PP
9	PP	Daily operational and maintenance records	2012-2020	PP
10	PP	Electricity sales receipts	2012-2020	PP
11	PP	Nameplate of installed equipment of the project	-	PP
12	Vestas Wind Technology (China) Co., Ltd.	Wind turbine purchase contract	28/09/2010	PP
13	PP	Internal Training Records and Qualification Certificate of Operation Staff		PP
14	TÜV Rheinland	Validation report, Version 03.1	24/11/2011	PP
15	CTC	1 <sup>st</sup> verification report, version 01.1	29/09/2018	PP
16	Northeast Electric Power Design Institute of China Power Engineering Consulting Group	Feasibility study report (FSR)	12/2009	PP
17	China DNA	LoA for Dalian Changxingdao CGN Wind Power Co., Ltd.	13/06/2012	PP
18	Germany DNA	LoA for Dalian Changxingdao CGN Wind Power Co., Ltd.	20/02/2019	
19	PP	MoC for Dalian Changxingdao CGN Wind Power Co., Ltd.	25/02/2019 23/04/2019 24/04/2019	PP
20	MEE	2017 Baseline Emission Factors for Regional Power Grid in China	20/12/2018	Others
21	China Electric Power Yearbook Committee	China Electric Power Yearbook	2014-2016	Others
22	National Bureau of Statistics of China	China Energy Statistical Yearbook.	2014-2016	Others
23	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2 Energy.	2006	Others
24	CDM Website	Registered information of project activity in the UNFCCC website: <a href="https://cdm.unfccc.int/Projects/DB/TUEV-">https://cdm.unfccc.int/Projects/DB/TUEV-</a>	-	Others

		<a href="https://www.rhein1322203633.02/view">RHEIN1322203633.02/view</a>		
25	National People's Congress	China Renewable Energy Law	01/01/2016	Others
26	Industry standard	DL/T 448-2016 Technical administrative code of electric energy metering	-	Others
27	General Administration of Quality	JJG596-2012 Electrical Energy Meters with Electronics	08/10/2012	Others
28	EB	CDM project cycle procedure for project activities, version 02.0	29/11/2018	Others
29	EB	CDM validation and verification standard for project activities, version 02.0	29/11/2018	Others
30	EB	CDM project standard for project activities, version 02.0.	29/11/2018	Others
31	EB	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.	02/03/2012	Others
32	EB	Baseline and monitoring methodology, ACM0002, Grid-connected electricity generation from renewable sources, Version 20.0	28/11/2019	Others
33	EB	Tool to calculate the emission factor for an electricity system, version 07.0.	31/08/2018	Others

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

**Table 1. CL from this validation**

<b>CL ID</b>	01	<b>Section no.</b>	D.1	<b>Date:</b> 02/06/2020
<b>Description of CL</b>				
According to the instructions for completing the PDD form version 11.0, "Section A description of project activity" of the PDD lacks of information of monitoring equipment and their location in the systems, it is required to be clarified.				
<b>Project participant response</b>				<b>Date:</b> 11/06/2020
<i>The required description has been supplemented in the revised PDD.</i>				
<b>Documentation provided by project participant</b>				
Updated PDD (version 07).				
<b>DOE assessment</b>				<b>Date:</b> 11/06/2020
The information of monitoring equipment and their location in the systems has been correctly described in the updated PDD (version 07), hence CL 1 is closed.				

**Table 2. CAR from this validation**

<b>CAR ID</b>	NA	<b>Section no.</b>	NA	<b>Date:</b> NA
<b>Description of CAR</b>				
NA				
<b>Project participant response</b>				<b>Date:</b> NA
NA				
<b>Documentation provided by project participant</b>				
NA				
<b>DOE assessment</b>				<b>Date:</b> NA
NA				

**Table 3. FAR from this validation**

<b>FAR ID</b>	NA	<b>Section no.</b>	NA	<b>Date:</b> NA
<b>Description of FAR</b>				
NA				
<b>Project participant response</b>				<b>Date:</b> NA
NA				
<b>Documentation provided by project participant</b>				
NA				
<b>DOE assessment</b>				<b>Date:</b> NA
NA				

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"><li>• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN) and version 02.0 of the “CDM project cycle procedure for project activities” (CDM-EB93-A06-PROC);</li><li>• Make editorial improvements.</li></ul>
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.

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Decision Class: Regulatory  
Document Type: Form  
Business Function: Renewal of crediting period  
Keywords: crediting period, project activities, validation report

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