GOLD STANDARD VALIDATION REPORT

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG)

CECIC HKC Danjinghe Wind Farm Project

Report No.: EC09(A)2018002

Report Date: 18 /02/2019

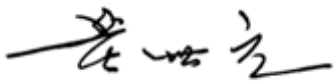
China Classification Society Certification Company

40, Dong Huang Cheng Gen Nan Jie,
Beijing, 100006, P.R.China
www.ccs-c.com.cn

Validation report form for CDM/GS project activities

(Version 03.1)

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

BASIC INFORMATION	
Title of the project activity	CECIC HKC Danjinghe Wind Farm Project
Version number of the validation report	01.1
Completion date of the validation report	18/02/2019
Version number of the PDD to which this report applies	2.1
Date when PDD was submitted to GS for Preliminary Review	06/08/2018
Project participants	CECIC HKC Wind Power Co., Ltd. (Project Owner) Demeter Venture UK Limited (Buyer)
Client	Beijing Ruifang Information Technology Co., Ltd
Host Party	China
Applied methodologies and standardized baselines	ACM0002: "Grid-connected electricity generation from renewable sources", Version 19.0
Mandatory sectoral scopes linked to the applied methodologies	Sectoral Scope 1: Energy Industries – renewable/non-renewable sources
Conditional sectoral scopes linked to the applied methodologies, if applicable	Not Applicable
Estimated amount of annual average GHG emission reductions or GHG removals by sinks	395,001 tCO_2e
Name and UNFCCC reference number of the DOE	China Classification Society Certification (CCSC) E-0046
Name, position and signature of the approver of the validation report	Mr. HUANG Shiyuan, General Manager 

SECTION A. Executive summary

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Beijing Ruifang Information Technology Co., Ltd has commissioned China Classification Society Certification (hereafter CCSC) to perform the GS CER validation for the project: CECIC HKC Danjinghe Wind Farm Project.

CECIC HKC Danjinghe Wind Farm Project was registered as a CDM project and willing to register as GS CER project. This is a wind power generation project, as per PDD, the project adopts 54 wind turbines of 750 kW, 100 wind turbines of 800 kW and 53 wind turbines of 1,500kW. The total installed capacity of the project is 200 MW and the estimated annual net power supply is 438,550 MWh per year with fully capacity. The project activity is a newly built project, located in the northwest of Zhangbei County, which is in Hebei Province in the People's Republic of China.

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 Gold Standard (GS4GG), Kyoto Protocol requirements, UNFCCC rules and associated interpretations; CCSC has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of GS CERs.

In the course of the validation, 1 Corrective Action Requests (CARs), 3 Clarification Requests (CRs) and no Forward Action Request (FAR), were raised for the proposed GS project activity. Until issuance of this version of validation report, the raised findings were successfully closed.

The review of the project design on documentation and the subsequent on-site visit and interviews have provided CCSC with sufficient evidence to determine the fulfillment of all stated criteria. The project would be recommended to the GS Registry for registration as GS CER 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	Interviews	Validation findings
1.	Team Leader/ Technical Expert	IR	ZHANG	Ying	CCSC	x	x	x	x
2.	Trainee	IR	MA	Zhiwei	CCSC	x	x	x	x

B.2. Technical reviewer and approver of the validation report

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	LI	Xingtong	CCSC
2.	Technical reviewer	IR	ZHENG	Ling	CCSC
3.	Approver	IR	HUANG	Shiyuan	CCSC

SECTION C. Means of validation

C.1. Desk/document review

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The Gold Standard PDD submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done.

All reviewed documents and information sources used during desk review are listed in Appendix B to this report.

C.2. On-site inspection

Duration of on-site inspection: 15/08/2018 to 17/08/2018				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Checking the project activity in following aspects: ➢ Status of the project with respect to the registered PDD ➢ Applicability of selected methodology ➢ National renewable energy policies ➢ Baseline of the project ➢ Emission factors; ➢ Monitoring plan. ➢ Stakeholder consultation process and its outcomes ➢ Sustainable indicators change assessment ➢ Sustainable Development Monitoring Plan ➢ The process and participation of the stakeholder consultation ➢ The impact of the project activity ➢ The complaint by local stakeholders and the implementation of the mitigation measures ➢ Sustainable Development Monitoring Plan to accommodate the comments from local stakeholder	Zhangbei County, Zhangjiakou City, Hebei Province, People's Republic of China	15/08/2018 to 17/08/2018	ZHANG Ying MA Zhiwei

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	HUANG	Weixin	CECIC HKC Wind Power Co., Ltd.	15/08/2018 to 17/08/2018	Status of the project with respect to the registered PDD Applicability of selected methodology National renewable energy policies Baseline of the project Emission factors; Monitoring plan. Stakeholder consultation process and its outcomes Sustainable indicators change assessment Sustainable Development Monitoring Plan	ZHANG Ying MA Zhiwei
2.	LI	Ning	CECIC HKC Wind Power Co., Ltd.	15/08/2018 to 17/08/2018		
3.	CHANG	Bo	CECIC HKC Wind Power Co., Ltd.	15/08/2018 to 17/08/2018		
4.	YUE	Xiang	Xiaoshuiquan Village	15/08/2018 to 17/08/2018	The process and participation of the stakeholder consultation The impact of the project activity The complaint by local stakeholders and the implementation of the mitigation measures Sustainable Development Monitoring Plan to accommodate the comments from local stakeholder	ZHANG Ying MA Zhiwei
5.	YU	Wanying	Xiaoshuiquan Village	15/08/2018 to 17/08/2018		

C.4. Sampling approach

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Not applicable.

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

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During the validation of a project activity, to identify issues that need to be further elaborated upon, researched or added to in order to confirm that the project activity meets the GS requirements and can achieve credible emission reductions, the validation team will issue a Corrective Action

Request (CAR), a Clarification Request (CR) or a Forward Action Request (FAR) depending on different situations.

A CAR will be raised if one of the following occurs,

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;

(b) The requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

A CR will be raised if information is insufficient or not clear enough to determine whether the applicable requirements have been met.

A FAR will be raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. However, FARs shall not relate to the requirements for registration.

In the course of the validation, 1 Corrective Action Requests (CARs), 3 Clarification Requests (CRs) and no Forward Action Request (FAR) were raised. To address them, the PP responded by providing additional information or evidence, and/or by revising the PDD. The revised PDD was resubmitted by PP to the validation team for further review. Documents reviewed, and information sources used are also listed in Appendix B to this report.

The final validation conclusion presented in this report is based on the project information as described in the PDD (version 2.1, 20/01/2019). The validation team compiled the validation report and submitted it for technical review, decision making and final approval.

SECTION D. Validation findings

D.1. Demonstration of prior consideration of the CDM

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2. Identification of project type

Means of validation	The validation team has, by means of an on-site inspection and document review, assess that the project type against the requirement of CDM and GS.
Findings	The project activity is identified as a large-scale project in section A.6 applying a large-scale methodology ACM0002 version 19.0. The total capacity of the power project is 200 MW as validated during the onsite visit. Since the design capacity of the project activity is more than 15 MW, which is stipulated limit for large scale projects by GS/CDM, the project is correctly classified as large-scale project. The validation team also checked the requirement of latest applicable methodology ACM0002 version 19.0 and confirms that the project qualifies the requirement of the latest methodology also (i.e. scale, applicability, baseline, additionality and monitoring). Type of project: The project activity involves electricity generation using Wind power to reduce atmospheric CO_2 emission by replacing equivalent amount of electricity from NCPG. The project type is identified as renewable energy project in section A.6 of the GS4GG PDD. The project activity complies with the requirement of 'the generation and delivery of energy services (e.g. electricity) from non-fossil and non-deployable energy sources' as defined in GS4GG requirement. The project activity generates and supplies renewable electricity to the regional grid thereby displacing the electricity which would have generated in fossil fuel-based power plants connected to the grid.

	According to the register CDM PDD and monitoring report and verification reports on CDM website (http://cdm.unfccc.int/Projects/DB/DNV-CUK1218638823.56/view), the first 7-year renewable crediting period for CDM is from 29/12/2008 to 29/12/2015 and second crediting period for CDM is from 29/12/2015 to 29/12/2022. Clearly the project start date has already occurred prior to the first submission of Preliminary Review information to Gold Standard. Therefore, the project is under Retroactive type process.
Conclusion	The validation confirms that the project activity falls under large scale project under CDM requirement, and under Retroactive type process for GS requirement.

D.3. General description of project activity

Means of validation	The validation team has, by means of an on-site inspection and document review, assessed that all physical features (technology, project equipment, and monitoring and metering equipment) and general description of the project activity is in line with PDD and meet the requirement of CDM and GS.
Findings	The proposed project: CECIC HKC Danjinghe Wind Farm Project was registered as a CDM project and willing to register as GS CER project. This is a wind power generation project, as per PDD, the project adopts 54 wind turbines of 750 kW, 100 wind turbines of 800 kW and 53 wind turbines of 1,500kW. The total installed capacity of the project is 200 MW and the estimated annual net power supply is 438,550 MWh per year with fully capacity. The project activity is a newly built project, located in the northwest of Zhangbei County, which is in Hebei Province in the People's Republic of China. The electricity generated will be transmitted to Zhangbei substation of North China Power Grid (NCPG) which is dominant with fossil fuel fired power generation via a newly built 35kV/220kV transformer. The electricity generated from the project will displace an equivalent amount of electricity that would have been supplied from the grid in the absence of the project activity. Based on the site visit, the validation team assessed project operating-related parameters, which confirmed that the project activity is consistent with the design of PDD. The geographical coordinates of the project are listed in the following table: **Latitude** | **Longitude** From 114°16'56" to 114°25'11" East | From 41°05'00" to 41°12'47" North According to the register CDM PDD and monitoring report and verification reports on CDM website (http://cdm.unfccc.int/Projects/DB/DNV-CUK1218638823.56/view), the first 7-year renewable crediting period for CDM is from 29/12/2008 to 29/12/2015 and second crediting period for CDM is from 29/12/2015 to 29/12/2022. Clearly the project start date has already occurred prior to the first submission of Preliminary Review information to Gold Standard. Therefore, the project is under Retroactive type process. As the project is applying for GS CER, according to requirement of GS4GG, GS CER project shall follow the CDM Certification crediting period in these which is 7 years, except for Ongoing Financial Need, which shall follow the GS4GG crediting cycle and be renewed every 5 years. However, as the project is planning to transmit from GS CER to GS VER after the issuance, also according to GS4GG requirement, projects proceeding under the retroactive Project cycle, may be eligible for retroactive crediting for realised emission reductions prior to Gold Standard Design Certification of a maximum period of two years. Then the crediting period will last for only 5 years from 15/02/2017 to 14/02/2022 which is in the second crediting period of CDM. The validation team confirmed that the crediting period of the project meets the Gold Standard-related requirements. Moreover, after checking the ODA declaration and interview through the site visit, it is able to confirm there are no public fund for the project.
Conclusion	The validation team confirms that the general description in the PDD is in line with the actual situation and then meet the requirement of CDM and GS.

D.4. Application and selection of methodologies and standardized baselines

D.4.1. Application of methodologies and standardized baselines

Means of validation	The validation team has, by means of an on-site inspection and document review, assessed that the project activity meets the applicability of methodology and related tools.

Findings

No	Applicability	Explain	Validation Opinion
1	This methodology is applicable to grid-connected renewable energy power generation project activities that (a) install a Greenfield power plant; (b) involve a capacity addition to (an) existing plant(s); (c) involve a retrofit of (an) existing operating plants/units; (d) involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) involve a replacement of (an) existing plant(s) /unit(s).	The Project belongs to grid-connected renewable energy power generation project activities that (a) install a Greenfield power plant.	By site visit, it is able to confirm the project is applicable to (a) install a Greenfield power plant.
2	The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;	The Project is the installation of a new grid connected wind power plant.	By site visit, it is able to confirm the project is newly built wind power project.
3	In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	The Project is the installation of a new grid connected wind power plant. So, this applicability condition does not need to be considered.	By site visit, it is able to confirm the project is newly built wind power project. Therefore, this criterion is not applicable.
4	In case of hydro power plants, one of the following conditions must apply: (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m^2; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m^2; or	The Project is not a hydro power plant, so this applicability condition does not need to be considered.	By site visit, it is able to confirm the project is newly built wind power project. Therefore, this criterion is not applicable.

		(d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m^2, all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m^2; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m^2 shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.		
	5	In the case of integrated hydro power projects, project proponent shall: Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.	The Project is not a hydro power project, so this applicability condition does not need to be considered.	By site visit, it is able to confirm the project is newly built wind power project. Therefore, this criterion is not applicable.
	6	The methodology is not applicable to the following: (e) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (f) Biomass fired power plants/units.	The Project is a newly built of wind power plant, therefore: (e)The Project does not involve switching from fossil fuels to	By site visit, it is able to confirm the project is newly built wind power project. Therefore, this criterion is not applicable.

			renewable energy sources at the site of the project activity; (f) The Project is not a biomass fired power plant.	
	7	In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance.	The Project is the installation of a new grid connected wind power plant. So this applicability condition does not need to be considered.	By site visit, it is able to confirm the project is newly built wind power project. Therefore, this criterion is not applicable.
Conclusion	Therefore, the validation team is able to confirm that the project meets all the applicability of ACM0002 version 19.0.			

D.4.2. Deviation from methodology and/or methodological tool

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.4.3. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.4.4. Project boundary, sources and GHGs

Means of validation	The validation team has, by means of an on-site inspection and document review, assessed that project boundary, sources and GHGs of the project activity against the requirement of CDM and GS.
Findings	As per ACM0002 version 19.0 - "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM/GS project power plant is connected to". The project boundary includes the Wind project, sub-stations, grid and all power plants connected to grid. The proposed project activity will evacuate power to NCPG. Therefore, NCPG and all connected power plants have been considered in the project boundary for the project activity. The same is checked by the validation team during the validation site visit and found correct. DOE also confirms that the project activity complies with the requirement of project boundary in ACM0002 version 19.0, which is the latest applicable methodology available to the project participant. The project activity leads to displacement of electricity generation from fossil fuel-based power plants connected to the regional grid by renewable energy generated using Wind power. The operation of the project activity will result in reduction of carbon-dioxide from the atmosphere due to displacement of electricity in grid by the renewable energy. Hence, the greenhouse gas identified in the PDD is carbon dioxide which is duly validated by the DOE. The GHG emission sources considered for the project boundary and their

explanations are as follows:

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Grid connected electricity generation.	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
Project scenario	Greenfield Wind Power Project Activity.	CO_2	No	The project is a wind power project. Project emissions should not be considered according to ACM0002
		CH_4	No	
		N_2O	No	

Conclusion	The validation team confirm the project boundary, sources and GHGs are correctly indicated in the PDD and in line with the requirement of CDM and GS.

D.4.5. Baseline scenario

Means of validation	The validation team has, by means of an on-site inspection and document review, assessed that baseline scenario of the project activity against the requirement of CDM and GS.
Findings	Being a grid connected Wind energy generation project, PP developed the project based on the Methodology ACM0002 version 19.0. As per methodology version 19.0: "If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system". The project activity involves setting up of wind projects to harness the power of wind to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the NCPG, which is fed mainly by fossil fuel fired plants. In the absence of the project activity, the equivalent amount of power would have been drawn from the NCPG. Hence, the baseline for the project activity is the equivalent amount of power from the NCPG. As the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline and pre-project scenario is same. The combined margin ($EF_{grid,CM,y}$) is the result of a weighted average of two emission factor pertaining to the electricity system: the operating margin (OM) and build margin (BM). Calculations for this combined margin must be based on data from an official source (where available) and made publicly available. The 2015 baseline emission factors for regional power grids in China published by China DNA was the latest available data at the time of PDD submission to GS for preliminary review, hence same is considered for emission factor calculations. The combined margin of the NCPG used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	1.0416 tCO_2/MWh	Combined margin CO_2 emission factor for the project electricity system in year y	Calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from 2015 baseline emission factors for regional power grids in China

	$EF_{grid,OM,y}$	0.4780 tCO_2/MWh	Operating margin CO_2 emission factor for the project electricity system in year y	2015 baseline emission factors for regional power grids in China
	$EF_{grid,BM,y}$	0.9007 tCO_2/MWh	Build margin CO_2 emission factor for the project electricity system in year y	2015 baseline emission factors for regional power grids in China
	The validation team checked the PDD, and confirm the baseline scenario and calculation of combined margin ($EF_{grid,CM,y}$) is correct.			
Conclusion	The validation confirms that baseline scenario of the project activity has been correctly descripted and shown in the PDD and in line with the requirement of CDM and GS.			

D.4.6. Demonstration of additionality

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.4.7. Estimation of emission reductions or net anthropogenic removals

Means of validation	The validation team has, by means of an on-site inspection and document review, assessed that estimation of emission reductions of the project activity against the requirement of CDM and GS.
Findings	The calculations of baseline emissions, project emissions and leakage and emission reductions have been checked by the validation team. The parameters and equations presented in the PDD and further documentation have been compared with the information and requirements presented in applied methodology and respective tools. **BASELINE EMISSION** The calculation of the baseline emissions followed the procedures described in the methodology ACM0002 (version 19.0). Baseline emissions is calculated as: $\mathbf{BE_y = EG_{PJ,y} \times EF_{grid,y}}$ Where BE_y Baseline emissions in year y (tCO_2) 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) Combined margin CO_2 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" (tCO_2/MWh) The project activity is the installation of a Greenfield power plant, according to the methodology ACM0002 (version 19.0) $\mathbf{EG_{PJ,y}=EG_{facility,y}}$ Where: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

Therefore,

$\mathbf{BE_y = EG_{facility,y} \times EF_{grid,y}}$

In the PDD, the calculation of the grid emission factor ($EF_{grid,y}$) is calculated based on the latest data which was available at the commencement of validation. The data used is quoted from China Electric Power Yearbook.

The grid emission factor is determined as Combined Margin (CM), combination of the Operating Margin (OM) and Build Margin (BM), which is for the crediting period following the *"Tool to calculate the emission factor for an electricity system*" Version 07.0.

The validation team has confirmed that the baseline emission factor was appropriate for this GS Project activity from the following steps and viewpoints:

Step 1: Identify the relevant electricity systems

CCSC has confirmed that NCPG is appropriately identified in Step-1 of the PDD as the relevant electricity system in the project boundary.

Step 2: 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.

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

Ex-ante option was selected. Simple OM method was chosen, and this is justified since the low cost/must run resources constitute less than 50% of total grid generation in the average of the five recent years. The Simple OM emission factor is "calculated as the generation-weighted average CO_2 emissions per unit net electricity generation (tCO_2/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units", as per "Tool to calculate the emission factor for an electricity system" version 07.0.

Because (1) the net electricity generation and a CO_2 emission factor of each power unit are not available in China, and (2) the nuclear and renewable power generations are considered as Low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources are known in China, at the same time, (3) off-grid power plants are not included in the calculation. The "Option B - Calculation based on total fuel consumption and electricity generation of the system" is adopted for Simple OM calculation, which is "based 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"

Net calorific values of each fuel type were obtained from the China Energy Statistical Yearbook. IPCC 2006 default values were used for the CO_2 emission factors of each type of fossil fuel. The values used and the calculation of the simple OM is considered to be reasonable, and is in line with official data published by the Government of China.

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

Option B is properly selected in this Step for calculation of the simple OM considering the following conditions of the connecting grid of NCPG:

Necessary data, such as power generation data on each plant required for selecting Option A is not available in NCPG.

Only nuclear and renewable power generations are considered as

low-cost/must–run power sources in NCPG and the quantity of electricity supplied to NCPG by these sources is known.

Off-grid power plants are not included in the calculation.

The renewable crediting period is adopted for the Project and the OM will be fixed for the crediting period as the ex-ante option is selected for the calculation of the simple OM emission factor. CCSC confirms that the calculations are correctly conducted in the PDD according to the latest version "*Tool to calculate the emission factor for an electricity system*" Version 07.0. The data and parameters used are correctly derived from the data sources listed above.

As a result, the simple OM emission factor is estimated to be 1.0416 tCO_2/MWh, as shown in the PDD.

Step 5: Calculate the build margin (BM) emission factor

The Option 1, the ex-ante based option, is selected in Step 5 for the calculation of BM emission factor. As per the latest version "*Tool to calculate the emission factor for an electricity system*" Version 07.0, for the crediting period, the build margin emission factor should be calculated based on the most recent information available on units already built at the time of submission of validation to the DOE. CCSC confirmed that the data used in the PDD to calculate the build margin emission factor is updated based on the information of 2015 which is the most recent information available at the time of submission for validation to DOE.

As none of the procedures specified in the tool can be selected, the deviations are adopted to calculate the BM emission factor in the PDD. First, to calculate the newly added installed capacity and the contribution component of other various power generation technologies, then to calculate of the weight of newly added installed capacity of each power generation technology, and finally to calculate BM emission factor using the commercially optimal efficiency level of each power generation technology.

As a result, the BM emission factor calculation is correctly worked out and is estimated to be 0.4780 tCO_2/MWh, as shown in the PDD, fully complying with the latest version "*Tool to calculate the emission factor for an electricity system*" Version 07.0.

Step 6: Calculate the combined margin emissions factor

According to the latest version of Tool to calculate the emission factor for an electricity system, the combined baseline emission factor will remain fixed during the crediting period calculated as follows:

$$EF_{grid,CM,y}=EF_{grid,OM,y}\times\omega_{OM} + EF_{grid,BM,y}\times\omega_{BM}$$

For this project: w_{OM} = 0.75 and w_{BM} = 0.25 for the crediting period, unless otherwise specified in the approved methodology which refers to this tool.

As validated above, the CM emission factor of the project is 0.9007 tCO_2/MWh. The estimated annual electricity supplied to the NCPG by the project is 438,550 MWh. Thus, the annual baseline emissions in the crediting period are calculated as:

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y} = 438{,}550 \text{ MWh} * 0.9007 \text{ } tCO_2e/MWh = 395{,}001 \text{ } tCO_2e$$

PROJECT EMISSIONS

Project emission is 0. Based on document review, the validation team deems this consideration is correct, and in line with methodology ACM0002, version 19.0

LEAKAGE

	The project does not need to consider leakage. The validation team deems this consideration is correct and in line with methodology ACM0002, version 19.0. **EMISSION REDUCTIONS** According to ACM0002, Version 19.0, emission reductions are calculated as follows: $\mathbf{ER_y = BE_y - PE_y}$ ER_y = Emission reductions in year y (tCO_2) BE_y = Baseline emissions in year y (tCO_2) PE_y = Project emissions in year y (tCO_2) Hence for this project, the estimated amount of GHG emission reductions (ER_y) is 1,975,005 tCO_2e during the crediting period (5 years), resulting in estimated average annual emission reductions of 395,001 tCO_2e. The validation team cross-checked the whole calculation process of emission reductions in the PDD against referenced sources and applied methodology and tools. Based on the information reviewed, it can be confirmed that in the PDD, the sources used are correctly quoted and interpreted, the calculation processes are complete and replicable, and the calculation outcomes are reasonable and accurate.
Conclusion	The validation team confirms that estimation of emission reductions of the project activity is correctly shown in the PDD and in line with the requirement of CDM and GS.

D.4.8. Monitoring plan

Means of validation	The validation team has, by means of an on-site inspection and document review, assess that the monitoring plan against the requirement of CDM and GS.
Findings	As the project has been registered as CDM and renewed. Then the monitoring plan related to CDM part has been validated and presented in the related validation report for renewal of crediting period. Please refer to the validation for detailed description. In this part, the validation on monitoring plan only focus on the part related to GS4GG, for GS4GG, 2 monitoring parameters has been added as below:

SDG Parameter	Indicator	Monitoring
SDG 8: Decent Work and Economic Growth	The revenue from the proposed project, VAT, VAT plus and income tax to show the local county economic growth	The revenue from the proposed project, VAT, VAT plus and income tax to show the local county economic growth would be checked via local county statistics from local government public data. Also, government pubic data and company finance data could be crosschecked to determine the authentic of the data
SDG 8: Decent Work and Economic Growth	The decent work provided by the project activity	The number of work provided by the project activity would be monitored via the payment of the staff by on-site check and finance data annually. Moreover, the employment

	<table><tr><td></td><td></td><td>contracts can be used to cross check the decent work position number also to confirm if the salary of the staff meet the requirement of the local government.</td></tr></table> The validation team confirm the monitoring for ex-post monitor parameter is in place and in line with the requirement of GS4GG. For ex-ante parameters, all parameters are used to determine the emission factor of the project which is confirmed by checking 2015 baseline emission factors for regional power grids in China published by China DNA.
Conclusion	The validation team confirms that monitoring plan of the project activity is correctly indicated in the PDD and in line with the requirement of CDM and GS.

D.5. Start date, crediting period type and duration

Means of validation	The validation team has, by means of an on-site inspection and document review, assess that the start date, crediting period type and duration of project activity against the requirement of CDM and GS.
Findings	The start date of the project is the same under CDM and GS standard which is 11/05/2007 when construction contract was signed. As the project is applying for GS CER, according to requirement of GS4GG, GS CER project shall follow the CDM Certification crediting period in these which is 7 years, except for Ongoing Financial Need, which shall follow the GS4GG crediting cycle and be renewed every 5 years. However, as the project is planning to transmit from GS CER to GS VER after the issuance, also according to GS4GG requirement, projects proceeding under the retroactive Project cycle, may be eligible for retroactive crediting for realised emission reductions prior to Gold Standard Design Certification of a maximum period of two years. Then the crediting period will last for only 5 years from 15/02/2017 to 14/02/2022 which is in the second crediting period of CDM.
Conclusion	The validation team confirms that start date, crediting period type and duration of the project activity is correctly indicated in the PDD and in line with the requirement of CDM and GS.

D.6. Environmental impacts

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.7. Local stakeholder consultation

Means of validation	The same has been descripted in the D.13 of the report.
Findings	The same has been descripted in the D.13 of the report.
Conclusion	The same has been descripted in the D.13 of the report.

D.8. Sustainable development co-benefits

Means of validation	The same has been descripted in the D.13 of the report.
Findings	The same has been descripted in the D.13 of the report.
Conclusion	The same has been descripted in the D.13 of the report.

D.9. Approval

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.10. Authorization

Means of validation	The validation team has, by means of an on-site inspection and document review,

	assess that the authorization of project activity against the requirement of CDM and GS.
Findings	The validation team checked the names of the project participants included in the PDD. Based on site visit, it is confirmed that the project participant from host Party is CECIC HKC Wind Power Co., Ltd. and the project participant is Demeter Venture UK Limited (Buyer). Therefore, the validation team confirmed that the project participants indicted in the PDD are clearly shown and in line with the real situation.
Conclusion	The validation team confirms that authorization of the project activity is correctly indicated in the PDD and in line with the requirement of CDM and GS.

D.11. Modalities of communication

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.12. Global stakeholder consultation

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.13. Eligibility Principles Assessment

Means of validation	The validation team has, by means of an on-site inspection and document review, assess that the Eligibility Principles of project activity against the requirement of CDM and GS.
Findings	**Principle 1. Contribution to Climate Security & Sustainable Development** The baseline scenario and the emission reduction calculations have been performed as per the requirement of the methodology. The emission factor of grid, in the CDM PDD, has been calculated in-line with the provisions of applied methodology ACM0002 version 19.0. The latest applicable version of "Tool to calculate the emission factor for an electricity system" is version 07.0. The applicability criteria for ACM0002 version 19.0 has been addressed and shown in the D.4.1 of the report. **Applicability conditions of "Tool to calculate the emission factor for an electricity system"** OM, BM and CM are estimated using the tool under PDD for calculating baseline emissions. The project activity is grid connected and thus emission factor is calculated and thus OM, BM and CM are estimated using the tool under PDD for calculating baseline emissions. The project activity is located in China, a non-Annex I country. Therefore, this criterion is not applicable for the project activity. The project activity is a grid connected Wind power project and not a hydro power plant. Therefore, this criterion is not applicable for the project activity. The validation team confirms that the application of the baseline methodology is transparent and conservative and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 version 19.0 is applicable to the project activity. The project's contribution towards sustainable development has been addressed based on the following sustainable development aspects: **I. Social well-being:** The project activity provided/provides job opportunity to local people during erection, commissioning and maintenance of the wind machines. Frequency of visiting

villages and nearby areas by skilled, technical and industrialist increase due to installation /site visit/operation and maintenance work related to WTGs. This directly and indirectly positively effects the economy of villages and nearby area.

II. Economic well-being:

The CDM project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

III. Environmental well-being:

The Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus, the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

IV. Technological well-being:

The project activity is step forward in harnessing the untapped wind potential and further diffusion of the wind technology in the region. The project activity leads to the promotion of WTGs and demonstrates the success of wind turbines in the region which further motivate more investors to invest in wind power projects. Hence, the project activity leads to technological well-being.

Principle 2. Safeguarding Principles

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially /no)	Justification of the Validation team	Mitigation measure (if required)
1. Human Rights	a. Shall the Project Developer and the Project not respect internationally proclaimed human rights and be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights	a. No	a. Through site visit, it is able to confirm that from the project design to the project operation, the employment of temporary workers and long-term staff, the project developer fulfils the proclaim human rights. In order to avoid the violations of a state's human right obligations and the core international human rights treaties and fulfil the GS 'requirement, 30 Articles of the Universal Declaration of Human Rights were seriously considered and provided for stakeholder consultation and positive feedback were collected.	a. not required
1. Hum	b. Shall the Project	b. No	Through site visit, it is able to confirm the	b. not required

	an rights	discriminate with regards to participation and inclusion?		participation and inclusion of the project including the bid of the design, EPC and the operation maintenance as well as the employment process is fair and open ways. Every item of the above process does not obey any item of the universal declaration of human rights and has no any discrimination.	.
	2. Gender Equality and Women's Rights	Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits?	No	Through site visit, it is able to confirm the proposed project is located at mountain and rural area, in absent of the project, no specific and special resource is available for women and affect by the construction and operation of the project. And any relevant of the project activity such as work opportunity, supply etc. is fair and open to any quality people.	Not Required
		Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities	No	Based on the common sense of the validation team and site visit, it is able to confirm no evidence to show the construction of wind farm project affect men and women in marginalised or vulnerable communities.	Not Required
		Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)?	No	Through site visit, it is able to that during the decision, designs even operation of the project activity, the project developer employees people base on the principle of open, fair opportunity without the discrimination on men or women.	Not Required
		Does the Project take into account gender roles and	No	By checking the salary information and interview through site	Not Required

		the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)?		visit, it is able to confirm the project developer gives the benefit including salary, social welfare and bonus base on the workload and position and without setting any criteria to specially benefit men or women.	
	2. Gender Equality and Women's Rights	Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities?	No	Based on the common sense of the validation team and on-site interview, it is able to confirm the proposed project does not create any job or have any intention of design to increase the workload or prevent women from engaging in other activities.	Not Required
	2. Gender Equality and Women's Rights	Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits?	No	By checking the statistic and ESG analysis of the construction of the wind farm project, the validation team confirm that it has no evidence to show that -the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits.	Not Required
	2. Gender Equality and Women's Rights	Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits?	No	By checking the statistic and ESG analysis of the construction of the wind farm project, the validation team confirm it has no evidence to show that the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits.	Not Required
	2. Gen	Is there a likelihood that the	No	Through site visit and based on the common	Require

	der Equality and Women's Rights	proposed Project would expose women and girls to further risks or hazards?		sense of the validation team, it is able to confirm there is no likelihood, because the propose project does not change any factor which may expose women and girls to further risks or hazards. Conversely, more gender equality principle and advance knowledges from large cities will bring to the local girl or women that encourages and educate them to protect their right and mitigate the potential risks.	d
	3. Community Health, Safety and working Conditions	Shall the Project adversely affect the health of the workers and the community or not avoid community exposure to increased health risks	No	By checking the labor contract template provided by the Project owner and on-site interview, it is able to confirm the project will strictly comply with Labor Law of the People's Republic of China. The project will recruit professional staff responsible for construction, operation and maintenance of the Project. The labor contract which protects the interest of the labor will be signed between the Project and the staff. Under the protection of Labor Law, it not involved and is not complicit in any form of forced or compulsory labor. The Project unit shall abide by this Law and other laws and regulations concerning work safety and health, redouble their efforts to ensure work safety by setting up and improving the responsibility system such as providing safety training to project staff for work safety and health and improving the conditions for it to guarantee work safety and health. Thus, the Project is not complicit	

					in exposing workers to unsafe or unhealthy work environments. Also according to the EIA Form and its approval for the Project, it is able to confirm the Project is a new wind power project, will not engage in any agriculture-related production activities, could not bring alien species that will endanger and will not produce dangerous chemical substances on the environment, waste generated during the construction and operation process of the Project will be safely disposed. The project does not use any genetical modified organisms and does not involve large mono-culture plantations. As a wind project, the project does not produce hazardous waste. China has ratified all conventions relevant to this Project and has its own credible legislation in place enforcing the principle. China actively enforces the Principle of precautionary approach, in EIA form and EIA approval, the precautionary approach were discussed and directly required in the EIA approval. And the Environment, safety and health management manual, Environment protection, Duties Manual for environmental protection, and rewards and punishments for environmental protection, were issued by the project owner. The project is	

				located in remote mountainous area. The precautionary approach in the Environment, safety and health management manual were adopted during transmission line construction and road construction, the impact was minimized. The blasting was operated by trained staff and the safety protection precautionary approach was adopted; the strict environment and ecosystem management were implemented. During the construction period, no any accidents occurred due to the strict implementation of Environment, safety and health management. So, the Project will not raise any threat of harm to human health or the environment.	
	4. Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)	No	By checking EIA Form and its approval for the Project by Hebei EPA, it is able to confirm most of land occupied by the project here does not include, sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture.	Not required.
		Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	According to the EIA report as well as site visit, it is able to confirm the project does not involve resettlement. The land occupied by the project was local government, not private land. The land expropriation contracts were provided, the land expropriation was compensated based on relevant regulations	Not required.

				and agreed by local forest bureau. and government. So, the proposed project does not cause any physical or economic relocation.	
		Does the Project require any change to land tenure arrangements and/or other rights? For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership?	No	According to the EIA report as well as site visit, it is able to confirm the land occupied by the project was local government, not private land. The land expropriation contracts were provided, the land expropriation was compensated based on relevant regulations and agreed by local forest bureau.	Not required
		Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	According to the EIA report as well as site visit, it is able to confirm the land occupied by the project was local government, not private land. The project does not refer any indigenous people's right, land or territory.	Not required.
	5. Corruption	Does not recognise Projects that engage in, contribute to or reinforce corruption of any kind?	No	Through the interview with project owner, it is able to confirm the Project strictly implements the bidding system, project supervision system and project completion acceptance supervision system. All the Project financials will be available for the project beneficiaries and legal authorities to ensure that the Project does not involve and is not complicit in corruption. Also, the project owner has issued the company's anti-corruption rules, which indicates that the employees are strictly prohibited to be involved or complicit in any kinds of corruption.	
		Shall the Project	No	By checking labor	Not

	Economics Impact	Developer not ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions? Where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard.		contract template provided by the Project owner and on-site visit, it is able to confirm the Project will strictly comply with Law of the People's Republic of China on Work Safety, the Project unit shall abide by this Law and other laws and regulations concerning work safety and health, redouble their efforts to ensure work safety by setting up and improving the responsibility system such as providing safety training to project staff for work safety and health and improving the conditions for it to guarantee work safety and health. Thus, the Project is not complicit in exposing workers to unsafe or unhealthy work environments. An organisation of the project had been built to help individual people protect his or her rights as well as a paper working agreement was signed with each one to fix his or her duties and tasks, working hours, insurance and other rights in Chinese labor law. No child labour is employment in the project. And all the staff will be trained and test before starting their work.	Required
		Shall the Project Developer not demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period? Shall the Projects not consider	No	By checking FSR and on-site visit, it is able to confirm, the project developer considered and gave an analysis for the financial sustainability of the Projects implemented for the whole project life (25 years) which is beyond the project certification period. During the feasibility study stage and preliminary design	Not Required

		economic impacts and not demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, operation and after the Project, Shall particular focus not be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable.		stage, the project demonstrated the potential risks to local economy is zero and confirmed the construction and operation of the project activity would benefit local economics and not affect vulnerable and marginalised social groups.	
	Environmental &Ecological Safeguarding Principles Assessment				
	Climate and Energy	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No.	By checking FSR of the project, it is able to confirm the project activity generates electricity by renewable resources and creates emission reductions comparing to the baseline scenario.	Not Required.
		Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No.	By checking FSR of the project, it is able to confirm the project activity provides clean, sustainable and afford energy to the grid.	Not Required.
		Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	By checking the analysis and assessment of EIA report and approval from government, it is able to confirm the project does not cause additional erosion and/or water body instability or disrupt the natural pattern of erosion.	Not Required.
	Envi	Does the Project	No	By checking FSR and	Not

ron men t, Ecol ogy and Lan use	involve the use of land and soil for production of crops or other products?		Land Use approval, it is able to confirm the project land is grass land and forest and after construction, the land should be recovered by the grass or trees.	Requir ed.
	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development	No	By checking EIA Form and its approval for the Project, it is able to confirm the project does not use any genetical modified organisms, and does not involve large mono-culture plantations	Not Requir ed.
	Could the Project potentially result in the release of pollutants to the environment	No	Based on the site visit, being a wind project, the project does not produce hazardous waste.	Not Requir ed.
	Will the Project involve animal husbandry?	No	By checking EIA report, it is able to confirm husbandry was not affected. During the construction period, the temporary safety measures for cow have been made and applied.	Not Requir ed.

The SDG goals are also described as below:

SDG Goal	Assessment of Methodological choices/approaches for estimating the SDG outcome
SDG 7 – Affordable and Clean Energy	**Measurement Method:** Electricity produced and supplied to the grid is monitored through energy meter. Net electricity will be calculated by project owner the power grid company on monthly basis and provided in the form of monthly meter readings and electricity transaction note. **QA/QC Process:** This parameter is monitored monthly and value of parameter will be cross checked with sales receipt. The meters will be calibrated on regular frequency. **Relevant SDG Target:** By 2030, ensure universal access to affordable, reliable and modern energy services; increase substantially the share of renewable energy in the global energy mix; enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology; expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

SDG 8 – Descent Work and Economic Growth	**Measurement Method:** Checking local county statistics from local government public data, checking the payment of the staff and finance data annually **QA/QC Process:** This parameter is based on records, data and no any QA/QC procedure required. The DOE will confirm this parameter with interview with project owner or checking relevant data from government or project owner. **Relevant SDG Target:** Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries; Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
SDG 13 – Climate Action	**Measurement Method:** The emission reduction parameter is calculated as product of net electricity supplied to grid and grid emission factor. The grid emission factor is ex-ante parameter and determined based on data obtained from "2015 baseline emission factors for regional power grids in China" published by China DNA. This is in line with "Tool to calculate the emission factor for an electricity system, version 07.0". The emission reductions are calculated as per the formula provided by the approved methodology ACM0002 version 19.0 **QA/QC Process:** This parameter is calculated, and no any QA/QC procedure required. **Relevant SDG Target:** Integrate climate change measures into national policies, strategies and planning (395,001 tCO_2 per annum) from the project

Principle 3: Stakeholder Inclusivity

As per the GS requirements, it is necessary to invite the relevant stakeholders, before the validation process starts. The stakeholder consultation meeting took place early of July 2018. All the stakeholders have been invited through public notice to attend the stakeholders meeting. The local stakeholders' consultation meeting was attended by local persons including local villagers, local vendors and technology suppliers.

The stakeholders identified by the project participant were local villagers who are the major population of the particular area, local communities, Wind supplier, project proponent representatives, operation and maintenance Team and other people involved in the project. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirms the stakeholders identified are relevant. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirms the stakeholders identified are relevant. The validation team also verified the minutes of meeting to note that no negative comments were received and the same was cross checked with the information obtained during follow up interviews with the stakeholders.

Thus, Validation team is of the opinion that the stakeholder meeting was adequate and appropriate.

The project activity is a GS CER project and therefore PP was required to conduct a Stakeholder Feedback Round (SFR) covering the issues (if any) related to the project activity. An email dated 22/10/2018 was sent to expert for comments. The sample of the emails is also submitted to the DOE. Also, another stakeholder meeting was held on 20/11/2018, by checking the mail and Summary for stakeholder consultation meeting, it is able to confirm the feedback raised from stakeholder consultation meeting has been taking into account in the mail for Stakeholder Feedback Round. By checking the reply from the expert, it is able to confirm the expert provide positive feedback for the project to help reduce GHGs emissions and other air pollutants and create local employment opportunities for the

local people. The email attachment is also checked by the validation team and found correct. By checking mails and summary for stakeholder consultation meeting, the validation team confirm there are no negative feedback for the Stakeholder Feedback Round.

Following observations are made by the validation team:

Different representative of stakeholders like local villagers, head of village, NGOs, PP employees were invited for their comments via emails during stakeholder's feedback round;

No negative comments were received during the period starting from 20/11/2018 to 2 months' time period and local stakeholders were very satisfied with the project activity implementation and operation in their area.

Assessment team asked following queries to the stakeholders during the validation site visit and concludes that stakeholders are overall happy with the implementation of the project activity.

Some of the questions asked to the stakeholders mentioned in section above of this report are reported below:

Name of the stakeholder	Ms. YU Wanying
Occupation	Villager
QUESTION: Did this Wind power plant cause any pollution? ANSWER: No, the plant does not cause any pollution. QUESTION: Did PP promised employment opportunity? ANSWER: Yes, PP told us that employment will be generated, and the locals will be given priority. The validation team also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work. The validation team also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.	
Name of the stakeholder	Ms. YUE Xiang
Occupation	Villager
QUESTION: Did the power plant discharge any harmful pollutants? ANSWER: NO, the plant does not discharge any harmful pollutants. QUESTION: Did the power plant destroy any crop fields? ANSWER: The plant is implemented in barren land and there were no any fertile land or crop which is damaged. The validation team thus conclude that stakeholders are happy with the implementation of the project activity.	

Principle 4: Demonstration of real outcomes

The Sustainable monitoring plan is described below:

SDG Parameter	Indicator	Monitoring	Estimated Outcome
SDG 7: Affordable and Clean Energy	The net electricity supplied to the grid by the project	The available parameter to Project owner is net electricity supplied to grid and same is mentioned as monitoring parameter. The net electricity generation is calculated based	Through the installation and operation of the proposed project, more skilled workers are trained, and the lower operation cost will be enhanced in wind

			on electricity delivered to the grid by the proposed project (EG_{export}) and the power delivered from the grid (EG_{import}). For electricity delivered to the grid by the proposed project (EG_{export}) and the power delivered from the grid (EG_{import}) are sourced from Monthly Reading Records (MRRs) issued by the project owner, Electricity Transaction Notes (ETNs) issued by power grid company covering monitoring period. The net electricity supplied to the grid by the project ($EG_{facility,y}$) is the difference between electricity delivered to the grid by the proposed project ($E_{Gexport}$) and the power delivered from the grid (EG_{import}): $EG_{facility,y} = EG_{export} - EG_{import}$ For electricity delivered to the grid by the proposed project (EG_{export}) and the power delivered from the grid (EG_{import}) are continuously monitored and monthly recorded by 1 sets of bidirectional meters at project site (one as Main and another as Backup). At 24:00 of the last day of every month, the raw data of meter reading of Main meter are recorded by the power grid company and project owner, the project owner would form Monthly Reading Records (MRRs) based on the meter readings. The	farm sectors, then it encourages more wind farm projects to install and operate. With more wind farm projects operation, it will bring the low price and affordable clean energy and increases substantially the share of renewable energy in the global energy mix as well as promotes investment in energy infrastructure and clean energy technology. The project activity will provide 438,550 MWh renewable energy annually to the power grid.

			power grid company will issue ETNs accordingly. The data for MRRs and ETNs have been sent to the CDM consulting company for reporting of GHG emission reduction. The conservative one would be used for ER calculation. The electricity meters used are tri-vector meters which are of accuracy class no more less than 0.5s and will be calibrated annually. The onsite practice is thus acceptable to the assessment team as the same is as per the requirement of the approved methodology.	
	SDG 8: Decent Work and Economic Growth	The revenue from the proposed project, VAT, VAT plus and income tax to show the local county economic growth	The revenue from the proposed project, VAT, VAT plus and income tax to show the local county economic growth would be checked via local county statistics from local government public data. Also, government pubic data and company finance data could be crosschecked to determine the authentic of the data	Sustain per capital economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.
	SDG 8: Decent Work and Economic Growth	The decent work provided by the project activity	The number of work provided by the project activity would be monitored via the payment of the staff by on-site check and finance data annually. Moreover, the employment contracts can be used to cross check the decent work position number also to confirm if the salary of the staff meet the requirement of the local government.	The project activity will create 40 working positions annually.
	SDG 13: Climate Action	Emission Reductions	The emission reduction calculation	The project activity would achieve

			will be done as per the formula mentioned in the GS4GG PDD. As the parameter is subjected to monitoring the same will be checked during the verification of the project activity.	395,001 tCO_2 emission reduction annually.

Principle 5: Financial Additionality & Ongoing Financial Need

According to Gold Standard CDM FAQ published on the Gold Standard website (https://www.goldstandard.org/project-developers/develop-project), Gold Standard relies on CDM governance to verify additionality and does not check the additionality of CDM-registered projects. The registered CDM project is deemed additionality.

Conclusion	The validation team confirms that Eligibility Principles Assessment of the project activity is correctly indicated in the PDD and in line with the requirement of CDM and GS.

SECTION E. Internal quality control

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CCSC has taken the following quality control measures within the validation team and of the validation process according to relevant CCSC's internal procedures:

The contract review of the validation was conducted and concluded that CCSC has the accredited scope and competence to validate the project with impartiality as well;

The validation team was selected with due considerations given in terms of the competence and impartiality;

The validation team carried out the validation work and compiled a validation report strictly following CCSC's Procedures for Implementation of Validation.

The validation report submitted by the validation team was subjected to a technical review and decision-making process, the technical reviewers and decision-makers are qualified and independent from the validation team. If any issue is raised during technical review and/or decision-making the same is to be discussed between the issue-raiser and the team leader as well as the PP. All issues must be satisfactorily addressed before the submission of the report for final approval. The persons who conducted the technical review and decision-making for the project are shown on the 2nd page of this report and their Certificates of Competence can be found in Appendix 2 of this report.

The report approved by the authorized official of CCSC as a final report together with relevant documents are submitted to the Gold Standard foundation for registration (only if an unconditioned positive validation opinion is concluded).

SECTION F. Validation opinion

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China Classification Society Certification Company (CCSC), commissioned by Beijing Ruifang Information Technology Co., Ltd, has performed a GS CER validation for **CECIC HKC Danjinghe Wind Farm Project** and hereafter referred to as "the project". The validation was performed in accordance with Gold Standard for GS-CERs (GS4GG), the UNFCCC criteria for the Clean Development Mechanism and host country criteria.

The validation scope is defined as an independent and objective review of the Gold Standard Certified Emission Reduction project design document (PDD), the project's baseline, monitoring plan and other relevant documents, and consisted of the following three phases:

1. Desk review of the project design and baseline and monitoring plan;

2. On-site visit and interviews with project stakeholders;

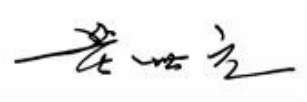
3. Resolution of outstanding issues and the issuance of the final validation report and opinion.

In the course of the validation, 1 Corrective Action Requests (CARs), 3 Clarification Requests (CRs), and no Forward Action Request (FAR), were raised for the proposed GS project activity (PDD version 1.0, dated 15/17/2018). Until issuance of this version of validation report with the PDD (version 2.1, dated 18/02/2019), the raised findings were successfully closed.

The review of the PDD (version 1.0, version 2.0, and version 2.1 inclusive) and additional background documents, the subsequent follow up interviews, together with the review of comments by Parties and Stakeholders, have provided CCSC with sufficient evidence to confirm that the project has satisfied the stated criteria.

The validation covered all project components and issues that need to be validated as a GS project. In our opinion, CCSC hereby confirms that the project correctly applied the latest version of baseline and monitoring methodology ACM0002, Version 19.0 and meets relevant UNFCCC and Gold Standard requirements for GS CER validation. The project would be recommended to the GS Registry for registration as GS CER project.

For and on behalf of CCSC



Authorized Signature Name:
Huang Shiyuan

Date: 18/02/2019

Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CCSC	China Classification Society Certification Company
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CM	Combined Margin
CME	Coordinating/managing entity
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNA	Designated National Authority
EB	Executive Board
EIA	Environmental Impact Assessment
ERPA	Emission Reduction Purchase Agreement
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
GS	Gold Standard
GS CERs	Gold Standard Certified Emission Reductions
GS-TAC	Gold Standard Technical Advisory Committee
GSP	Global Stakeholder Consultation Process
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
OM	Operating Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 2. Competence of team members and technical reviewers

CCS认证公司
Appendix 9

CERTIFICATE OF COMPETENCE

Date of issue: 15/10/2018

Ms. Zhang Ying

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

■ CDM validator for Technical Area(s): TA1.2/TA13.1

■ CDM verifier for Technical Area(s): TA1.2/TA13.1

☐ Technical expert for Technical Area(s):

Huang ShiYuan
CCSC General Manager

CCS认证公司
Appendix 9

CERTIFICATE OF COMPETENCE

Date of issue:15/10/2018

Ms. Ma Zhiwei

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

■ CDM validator for Technical Area(s): TA1.2

■ CDM verifier for Technical Area(s): TA1.2

■ Technical expert for Technical Area(s): TA4.1

Huang ShiYuan
CCSC General Manager

CCS认证公司
Appendix 9

CERTIFICATE OF COMPETENCE

Date of issue: 15/10/2018

Mr. Li Xingtong

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

■ CDM validator for Technical Area(s): TA1.1/TA1.2/TA3.1/TA9.2/TA13.1

■ CDM verifier for Technical Area(s): TA1.1/TA1.2/TA3.1/TA9.2/TA13.1

☐ Technical expert for Technical Area(s):

Huang ShiYuan
CCSC General Manager

CCS认证公司
Appendix 9

CERTIFICATE OF COMPETENCE

Date of issue:15/10/2018

Ms. Zheng Ling

Has been qualified in accordance with *CDM Personnel Competence Requirements and Professional Competence Evaluation Instructions* (CDMI0301) as

■ CDM validator for Technical Area(s): TA1.2

■ CDM verifier for Technical Area(s): TA1.2

■ Technical expert for Technical Area(s): TA13.1

Huang ShiYuan
CCSC General Manager

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Project owner	PDD version 1.0 PDD version 2.1	15/07/2018 20/01/2019	Project participants
2	Project owner	Registered CDM PDD for renewal of crediting period version 2.0	28/05/2015	Project participants
3	China Building Material Test & Certification Group Co., Ltd.	Validation Report for renewal of crediting period	05/06/2015	Project participants
4	UNFCCC	Project information: http://cdm.unfccc.int/Projects/DB/DNV-CUK1218638823.56/view		Project participants
5	Project owner	ODA declaration		Project participants
6	IREC	REC website: http://www.irecstandard.org/		Others
7	China DNA	2015 baseline emission factors for regional power grids in China published by China DNA	06/06/2016	Others
8		Feasibility Study Report		Others
9		Environment Impact Assessment (EIA) Report (Form)		Others
10		EIA Approval		Others
11		Land Use approval		Others
12	Project owner	Emission Reduction Calculation Spreadsheet		Project participants
13	Project owner	Salary information		Project participants
14		Statistic and ESG analysis of the construction of the wind farm project		Project participants
15	Project owner	Labor contract template		Project participants
16	Project owner	Sustainable Development Assessment Questionnaire		Project participants
17	Project owner	List of participants of stakeholder consultation meeting		Project participants
18	Project owner	Summary for stakeholder consultation meeting		Project participants
19	Project owner	Email for Stakeholder Feedback Round (SFR)		Project participants
20		China Energy Statistical Yearbook		Others
21	UNFCCC	Clean development mechanism validation and verification Standard for project activities, Version 02.0		Others
22	UNFCCC	Clean development mechanism		Others

		project cycle procedure for project activities, Version 02.0		
23	UNFCCC	Clean development mechanism project standard for project activities, Version 02.0		Others
24	UNFCCC	ACM0002. Version 19.0		Others
25	UNFCCC	Tool to calculate the emission factor for an electricity system Version 07.0		Others
26	Gold Standard	GS4GG Requirement		Others

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

Table 1. CRs from this validation

CL ID	01	**Section no.**	NA	**Date:** 02/01/2019
Description of CR				
Further explanation should be made for following FAR1 from GS Preliminary Review: The PP shall take into account the following requirements for Stakeholder feedback round: The second consultation is the Stakeholder Feedback Round. This covers all issues raised in the 1st round of consultation meeting and how due account was taken of all stakeholders' comments and suggestions. It may also include a physical meeting although this is not mandatory. All stakeholders invited to participate in the first consultation shall be invited to the Stakeholder Feedback Round. The Stakeholder Feedback Round remains open for a minimum of 2 months before Validation is finalized to allow time for stakeholders to review and comment. Please refer to < GOLD STANDARD FOR THE GLOBAL GOALS STAKEHOLDER CONSULTATION & ENGAGEMENT PROCEDURE, REQUIREMENTS & GUIDELINES > for detailed guidance.				
Project participant response				**Date:** 20/01/2019
The second consultation is the Stakeholder Feedback Round which was held 20/11/2018 according to the procedure of < GOLD STANDARD FOR THE GLOBAL GOALS STAKEHOLDER CONSULTATION & ENGAGEMENT PROCEDURE, REQUIREMENTS & GUIDELINES >. All the stakeholders joined the first-round physical meeting were invited and all comments and suggestions raised during the first meeting and second round meeting were answered and explained. All the stakeholders investigated agreed the proposed project benefited and enhanced three SDGs, respectively SDG7, SDG8 and SDG13 and were noticed that the stakeholders feedback round was still opened. All the documents and records were provided to VVB to validate.				
Documentation provided by project participant				
Updated PDD, Summary for stakeholder consultation meeting				
DOE assessment				**Date:** 21/01/2019
By checking Summary for stakeholder consultation meeting for the second round Stakeholder meeting, the validation team confirm that all the stakeholders joined the first-round physical meeting were invited and all comments and suggestions raised during the first meeting and second round meeting were answered and explained.				

CL ID	02	**Section no.**	NA	**Date:** 02/01/2019
Description of CR				
Please provide feedback from the expert stakeholder investigation is that the wind farm project will help reduce GHGs emissions and other air pollutants and create local employment opportunities for the local people. This refer to the requirement of FAR2 from GS Preliminary Review.				
Project participant response				**Date:** 20/01/2019
The reference documents including the feedback emails are provided to VVB for validation. Emails from two experts confirmed that the wind farm project help reduce GHGs emissions and other air pollutants and create local employment opportunities for the local people.				
Documentation provided by project participant				
Updated PDD, Email for Stakeholder Feedback Round (SFR)				
DOE assessment				**Date:** 21/01/2019

By checking mail loop from the project participants and local, it is able to confirm the local expert confirmed that the wind farm project help reduces GHGs emissions and other air pollutants and create local employment opportunities for the local people.

CL ID	03	**Section no.**	NA	**Date:** 02/01/2019
Description of CR				
Further explanation should be made for following FAR3 from GS Preliminary Review: Certain Safeguarding Principles require the opinion and recommendations of an Expert Stakeholder. These are identified throughout the procedure and/or in the Activity Requirements. The Project Developer shall demonstrate that the Expert Stakeholder has conducted a thorough review (and, if needed, an onsite visit) and that their recommendations have been incorporated into the Project design.				
Project participant response				**Date:** 20/01/2019
The reference documents are provided to GS VVB for validation. The reference evidences include the questionnaire emails and feedback emails. Although the expert stakeholders did not join the physical meetings, their professional recommendations and suggestions were incorporated to the implementation of the GS project process. So, the process of stakeholder consultation is in line with the requirement of Safeguarding Principles.				
Documentation provided by project participant				
Updated PDD, Email for Stakeholder Feedback Round (SFR)				
DOE assessment				**Date:** 21/01/2019
By checking mail loop from the project participants and local, it is able to confirm the local expert confirmed that the wind farm project help reduces GHGs emissions and other air pollutants and create local employment opportunities for the local people.				

Table 2. CARs from this validation

CAR ID	01	**Section no.**	D.4	**Date:** 02/01/2019
Description of CAR				
Latest version of methodology, tools should be applied.				
Project participant response				**Date:** 20/01/2019
The version of methodologies and tools applied in PDD has been updated to the last version.				
Documentation provided by project participant				
Updated PDD				
DOE assessment				**Date:** 21/01/2019
By checking the PDD, it is able to confirm the latest version of methodology, tool has been applied.				

Table 3. FARs from this validation

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY